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INDEX TO VOLUME CXIV.

Abbot, S. L. Cases of pericarditis treated with salicylate of sodium, 49, 60; chorea excited by sudden return of hearing: chorea treated with urethran, 419.

Abbott, S. W. Recent progress in public hygiene, 247.

Abdominal Contractions, Rotch, T. M., 242, 252.

Abdominal Surgery. The indications for laparotomy in penetrating stab and shot wounds of the abdomen, Bryant, J. D., 12; exploratory incisions of the abdomen, Polk, W. M., 47; laparotomy in penetrating stab and shot wounds of the abdomen, 65; laparotomy in the treatment of penetrating and visceral injuries of the abdomen, Dennis, W. S., 207.

Abortion. The advisability of inducing abortion in cases of so-called uncontrollable vomiting of pregnancy, Doe, O. W., 121, 132.

Abscess. Pelvic abscess in the male, Burchard, T. H., 495.

Adulteration of food and drugs in New York, 139.

Ætiology of disease, Haven, A. C., 467.

Age. Hygiene of old age, Wood, H. C., 518.

Air. A sterilized atmosphere, Prince, D., 444.

Albumen. Albuminuria in health, Noorden, C. M., 550.

Allen, H. Two instances of adenoid disease of the roof of the pharynx, which exhibited unusual features, 519.

Altitude. The effect of high altitudes on cardiac disease, Loomis, A. L., 471; a statistical inquiry regarding the relation of high altitudes to nervous diseases, Dana, C. L., 492.

Amalgam. Copper amalgam, Rollins, W. H., 175.

Amyloid Degeneration. Localized amyloid degeneration: amyloid lymphoma, Fitz, R. H., 389.

Anæmia. Cases of anæmia, Whittier, E. N., 57; a case of essential pernicious anæmia, Shattuck, F. C., 107.

Anæsthesia. Ether and chloroform once more, 426.

Anatomy. Recent progress in anatomy, Dwight, T., 224; brain of a porpoise, Spitzka, 375; abnormal artery of the pharynx, Farlow, J. W., 437; the arrangements of museums of anatomy, 474.

Antipyrine. Unpleasant effects following antipyrine, Graham, W., 261.

Appendixcæci. Vermiform appendicitis and general peritonitis complicating the puerperal period, Dearborn, J. G., 295.

Army. Hospital nursing corps for the army, 42.

Arsenical Wall-papers, 233; arsenic in wall-paper, 401.

Ascites. Permanent drainage in ascites, Caille, A. G., 180.

Ayer, J. Acute articular rheumatism, 157.

Ayer, J. B. Poisoning by three drachms of tincture of belladonna, 10; co-existence of scarlet fever and varicella in a child two and a half years old, 108; eclampsia due to fright or to the shock of an injury, 395; case of scarlet fever (second attack) preceded and followed by a scarlet rash, 252.

Bacillus. The staining of the bacillus of tubercle, Cushing, E. W., 268, 277.

Bacteria, Marcy, H. O., 321; exhibition of preparations of septic bacteria with observations on puerperal septicæmia, Cushing, E. W., 346; a consideration of the bacteria of surgical diseases, Ernst, A. C., 443; a sterilized atmosphere, Prince, D., 444.

Baker, H. B. Causation of pneumonia, 490.

Baker, W. H. Imperforate hymen with retention of the menstrual flux, 290, 295; the treatment of cancer of the uterus, 409, 416.

Bancroft, W. B. The Marine Park, South Boston, as a bathing-place, 478.

Beaumetz, D. Lecture on hypnone, 97.

Becker, A. R. Electricity as a therapeutic agency in gynæcology, 22.

Beckwith, (New Haven.) The treatment of lacerations of the cervix uteri, 570.

Belladonna. Poisoning by three drachms of tincture of belladonna, Ayer, J. B., 10.

Beverly, M. Nerve suturing, 190.

Bibliography. American Surgical Association. Transactions. Vol. III., 351; Bell, A. N., climatology and mineral waters of the United States, 350; Bourneville and Bricon, P., manuel de technique des autopsies, 184; Buck, A. H., a reference hand-book of the medical sciences, embracing the entire range of scientific and practical medicine and allied science, by various writers, 255; Buckley, L. D., acne, its etiology, pathology and treatment, 64; Clowes, F., a treatise on practical chemistry and qualitative inorganic analysis, 90; Corning, J. L., brain rest: being a disquisition on the curative properties of prolonged sleep, 64; Corning, J. L., local anæsthesia in general medicine and surgery, 377; Denison, moisture and dryness: or the analysis of the atmospheric humidities in the United States, 350; Fagge, C. H., the principles and practice of medicine, 328; Flint, A., a manual of auscultation and percussion, 137; Frankland, E., inorganic chemistry, 137; Garnier, M. P., dictionnaire annuel des progrès des sciences et institutions médicales, 622; Gubb, A. S., aids to gynæcology, 17; Hartman, J., facts and mysteries of spiritism learned by a seven years' experience and investigation, 210; Harvard College, annual report of the president and treasurer, 211; Hingston, W. H., the climate of Canada and its relations to life and health, 350; Hueppe, F., the methods of bacteriological investigation, 423; Hudson, E. D., the essentials of physical diagnosis of thoracic diseases, 255; Ireland, W. W., the blot upon the brain, 304; Lund, E., Hunterian lectures on some of the injuries and diseases of the neck and head, the genito-urinary organs, and the rectum, 233; Massachusetts General and Boston City Hospitals, annual reports, 547; May, C. H., manual of the diseases of women, 17; Morris, R. T., how we treat wounds to-day, 304; Otis, F. N., practical clinical lessons on syphilis and the genito-urinary diseases, 424; Page, R. C. W., a chart of physical signs of diseases of the heart and respiratory organs, including thoracic aneurism, 137, 497; Palmer, A. B., the temperance teachings of science, 256; Parker, W., cancer, 401; Peyer, A., an atlas of clinical microscopy, 64; Pick, T. P., fractures and dislocations, 352; Ranney, A. L., practical suggestions concerning the varieties of electrical currents and the uses of electricity in medicine, 64; Remsen, I., an introduction to the study of compounds of carbon: or organic chemistry, 94; Rietschel, H., Lüftung und Heizung von Schulen, Ergebnisse im Amtlichen Auftrage Ausgeführter Untersuchungen, 352; Roberts, J. B., field of limitation of the surgery of the human brain, 41; Sajons, C. E., diseases of the nose and throat, 112; Sée, G., diseases of the lungs, 111; Shepard, J. H., elements of inorganic chemistry, descriptive and qualitative, 90; Smith, J. L., a treatise on the diseases of infancy and childhood, 377; Stewart, F. E., Quiz compend of pharmacy, 574; Thompson, H., on the suprapubic operation of opening the bladder for stone and for tumors, 424; Tyson, J., a guide to the practical examination of the urine, 64; Warlomont, E., a manual on animal vaccination, preceded by considerations on vaccination in general, 256; Webber, S. G., a treatise on nervous diseases, 40; Wilson, J., drainage for health, or easy lessons in sanitary science, 352; Weisse, F. D., practical human anatomy: a working guide for students of medicine and a ready reference for surgeons and physicians, 280; Wise, T., Alpine winter in its medical aspects, with notes on Davos Platz, Wiesen, St. Moritz and the Maloja, 40; Wolff, L., applied medical chemistry, 17.

Bidwell, W. B. A case of fractured skull, with autopsy, 294.

Biggs, H. M. The etiology of rabies and the method of M. Pasteur for its prevention, 298.

Biography. Baldwin, W. O., 528; Bethune, G. A., 336; Bochetontaine, 308; Brownell, W. P., 24, 96; Cobbold, E., 308; Codding, G. H., 398; Collins, I. G., 398; Dechambre, A., 140; Dyer, A. D., 360; Farnham, H. P., 577; Flint, A., 259, 264, 286; Goodenough, L., 360; Green, J. O., 24, 120; Griswold, G., 236, 298; Gudden, B. von, 600; Guernsey, D., 398; Hardy, W. L., 428; Hayward, J. McL., 264; Hodgson, G. W., 523; Hutchins, S., 120; Kane, J. H., 308; Lombard, F. H., 168; McCoughlin, J. A., 164; Morse, H. G., 480, 524; Ollier, L. X., 499; Otis, R. M., 288; Parker, D., 456; Pierce, G. W., 480; Post, A. C., 165; Richardson, E. C., 48; Root, O. D., 212; Shepard, W. H. H., 180; Smith, J. H., 216; Trumbull, S., 628; Vanderpoel, S. O., 260; Warner, B. H., 343; Whittemore, J. H., 48, 69, 72, 96, 286; Woodward, R., 24, 46.

Blake, C. J. and Rotch, T. M. Reflex aural symptoms without aural disease: aural disease with reflex symptoms, 419.

Blake, Mary E. Poem at annual dinner of the Massachusetts Medical Society, 567.

Blood. Does the sulphate of quinine, when given in moderate doses, increase the number of the red blood corpuscles? Hare, H. A., 372.

Boardman, W. E. A case of concealed accidental hæmorrhage, 463, 464; tedious labor with remarks on its conduct, 464.

Bone. Tuberculosis of bone, 17.

Boston. The health of Boston for the year 1885, 331.

Bowditch, H. I. Pulmonary œdema rapidly appearing after thoracentesis, 251.

Bowditch, V. Y. Ten months' experience with pneumatic differentiation, 473; homœopathy as viewed by a member of the Massachusetts Medical Society, 584, 605.

Bradford, E. H. Two cases: operation for the cure of spina bifida, and for the radical cure of hernia, 169, 176; the ætiology of lateral curvature, 241, 251; anchylosis of elbow: fracture of elbow: gunshot wound of chest, 252.

Bradford, E. H. and Burrell, H. L. Report of progress in orthopedic surgery, 413.

Brazil. Yellow fever in Brazil; Freire's inoculation, Lane, H. M., 534.

Breast. The prevention of mammary abscess, Edis, 286.

Bremen, L. Essential vertigo, 467.

Brooks, E. The obligation of states and citizens to preserve the health of the people, 517.

Brouardel. Poisoning an infant by its mother's milk, 166.

Brown, F. F. A case of co-existence of scarlet fever and measles, 226.

Brown, W. S. Gynæcological hints and hobbies, 588, 592.

Bryant, J. D. The indication for laparotomy in penetrating stab and shot wounds of the abdomen, 12.

Buckler, T. H. Sparteine at home, 627.
Bullard, W. N. Chronic tea poisoning, 314, 321; a case of lupus erythematosus, 438.
Burchard, T. H. Pelvic abscess in the male, 195.
Burrall, F. A. The treatment of diabetes, 349.
Burrell, H. L. Recent progress in orthopedic surgery, 413.
Butler, R. G. Mitral stenosis, 492.
Cabinet Officers. The health of cabinet officers, 331.
Cabot, A. T. A tumor of the bladder complicated by the presence of a calculus, 7; a case of multiple calculi in the bladder, 8; amputation at the shoulder-joint for sarcoma of the arm, 11.
Caille, A. G. Permanent drainage in ascites, 180.
Calculus. A tumor of the bladder, complicated by the presence of a calculus, Cabot, A. T., 7; a case of multiple calculi in the bladder, Cabot, A. T., 8; urethral calculus, Porter, C. B., 8; pulmonary calculus, Shattuck, F. C., 395.
Canedy, F. J. Post-mortem in a case of measles, with some remarks upon the treatment of pulmonary œdema, 250.
Caput succedaneum, Fifield, W. C. B., 158.
Carbuncle. The treatment of carbuncle, Collins, J., 117.
Carroll, A. L. Case of meningeal extravasation, with remarks on the localization of the superficial lesions, 396.
Causality in disease applied to the phenomenon of vomiting in pregnancy, Kelly, J. E., 337, 345.
Cephalotome, Reynolds, E., 296.
Cerebral Surgery, 41.
Cimball. The mechanical treatment of pleuritic effusion, 381.
Circulatory System. A case of cyanosis, Spring, C. W., 4; pericarditis treated with salicylate of sodium, Abbot, S. L., 49, 60; a case of ulcerative endocarditis, Purser, 141; parietal thrombus of the aorta, Gannett, W. W., 158; report on recent progress in thoracic diseases, Shattuck, F. C., 199; a case of perforating ulcer of the stomach, opening into the left ventricle and causing death by hæmorrhage, Finney, 285; abnormal artery of the pharynx, Farlow, J. W., 437; traumatic aneurism of the internal carotid artery, Prewitt, T. F., 446; the effect of certain physiological principles that have been noticed in aid of the circulation of the blood, 467; the effect of high altitudes on cardiac disease, Loomis, A. L., 471; a preliminary account in regard to circulatory and respiratory changes observed in animals placed in the pneumatic cabinet, Donaldson, F., 472; mitral stenosis, Butler, R. G., 492.
Chaclacayo trephined skull, 412.
Chadwick, J. R. Seven cases of congenital and one of traumatic stenosis or atresia of the female genital canal, 505, 514.
Channing, W. Recent progress in the care of the insane, 291, 318.
Chapin, C. V. Humanized and bovine vaccine virus, 70; humanized virus once more, 143.
Chapin, H. D. Rheumatism of early life, 231.
Chatard, F. E., Jr. Extrusion of fœtal membranes at the seventh month with subsequent retraction, 357.
Cheever, C. A. A case of multiple sarcoma of the skin, 33.
Chemistry. Recent progress in chemistry, Hills, W. B., 272.
Children. A case of tracheotomy in a neonatus, Hanson, H. H., 105; recurrent headache in children and its treatment, Sturgis, R., 128; should infants be nursed at night? Reynolds, J. P., 254; report on diseases of children, Rotch, T. M., 392; artificial feeding of infants, Keating, J. M., 539; rheumatism of early life, Chapin, H. D., 231; the hygiene of the newly-born, 333.
China. Suicide in China, 45.
Chloroform. Ether and chloroform once more, 426.
Chorea excited by sudden return of hearing: chorea treated with urethran, Abbott, S. L., 419.
Clairvoyant doctors and their prescriptions, 354.
Clark, F. C. Preliminary medical education, 298.
Climate. International Congress of hydrology and climatology, 263; recent literature on climatology, 350.
Cocaine. Physiological and therapeutic effects of cocaine, 19.
Coe, H. C. Is disease of the uterine appendages as frequent as it has been represented? 398.
Cohen, J. S. Lupus of the throat, 520.
Coleman, J. S. A case simulating and believed by all consultants to be abdominal pregnancy at full term; laparotomy; cæsarian section and removal of a living child weighing seven pounds, 445.
Collins, J The treatment of carbuncle, 117.
Color Blindness. Physical examination of candidates for the United States naval and military academies, Jeffries, B. J., 407.
" Compound Oxygen," 523.
Conception after curetting of the uterus, 118.
Concussion. A case of concussion followed by paralyses, pointing to hæmorrhage into the fissure of Rolando, Walton, G. L., 3, 11.
Congress. A National Medical Congress, 424.
Contagious Diseases. The cause and cure of contagious diseases, Durgin, S. H., 75, 86.
Cooper Medical College. "God save the Alumni Association of Cooper Medical College," 165.
Craniometry. The Chaclacayo trephined skull, 412.
Cremation: a conservative view, 258.
Crozier, T. How does irreducible hernia affect life insurance? 177.
Curtin, R. G. Rocky-Mountain fever, 489.
Cushing, E. W. The staining of the bacillus of tubercle, 268, 277; exhibition of preparations of septic bacteria with observations on puerperal septicæmia, 346.
Cushing, H. W. Subluxation of the radial head in children, 77, 85.
Cutaneous System. A case of multiple sarcoma of the skin, Cheever, C. A., 33; report on the progress of dermatology, Tilden, G. H., 367; a case of lupus erythematosus, Bullard, W. N., 438.
Cyanosis. A case of cyanosis, Spring, C. W., 4.
Daly, W. H. The simplest and most efficient treatment of diphtheria, 545.
Dana, C. L. Total trigeminal paralysis, with alternate hemiplegia: the nerve of taste, 302; a statistical inquiry regarding the relation of high altitudes to nervous diseases, 492; tea-poisoning, 406.
Davenport, B. F. Pharmaceutical notes, 6.
Davenport, F. H. Report on progress in gynæcology, 105.
Dearborn, J. G. Vermiform-appendicitis and general peritonitis, complicating the puerperal period, 295.
Death from hæmorrhage into the abdominal cavity during menstruation, Penny, E. J., 357.
DeBlois, T. A. Cases of laryngeal œdema, 571.
Delafield, F. Chronic catarrhal gastritis, 581.
Delavan, D. B. Buccal tuberculosis, 543.
Dengue. Researches in the ætiology of dengue, McLaughlin, J. W., 468.
Dennis, F. S. Laparotomy in the treatment of penetrating and visceral injuries of the abdomen, 207.
Dentistry. Copper amalgam, Rollins, W. H., 175; recent progress in dentistry, Rollins, W. H., 511, 536.
Diabetes. Post-partum glycosuria, Minot, F., 254; diabetes and perforating ulcer of the foot, 210; the significance of small quantities of sugar in the urine, McBride, T. A., 348; the treatment of diabetes, Burrall, F. A., 349; a case of diabetes in a child-bearing patient, Warner, E., 436; a study of diabetes mellitus, 570.
Diagnosis. A fatal error in diagnosis, 91.
Digestive System. Vaginal and vulvar enterocele, Thomas, T. G., 38; epithelioma of the œsophagus, Grauer, F., 111; rectal disease of uterine origin, Strong, C. P., 151, 157; operations for the radical cure of hernia, Bradford, E. H., 169, 176; early laparotomy in intestinal obstruction, 186; the surgical treatment of perityphlitis, 257; a case of perforating ulcer of the stomach, opening into the left ventricle of the heart, and causing death by hæmorrhage, Finney, 285; a case of diabetes in a child-bearing patient, Warner, E., 436; diagnostical laparotomy, Johnson, C., 421; recent progress in dentistry, Rollins, W. H., 511, 536; two instances of adenoid disease of the roof of the pharynx which exhibited unusual features, Allen, H., 519; lupus of the throat, Cohen, J. S., 520; artificial feeding of infants, Keating, J. M., 539; chronic catarrhal gastritis, Delafield, 581; the influence of fluids (Boissons) on nutrition and in the treatment of obesity, Robin, A., 602.
Diphtheria. Diphtheria treated by the galvano-cautery, 478; an epidemic of diphtheria traced to its source, Lee, B., 515; the simplest and most efficient treatment of diphtheria, Daly, W. H., 545.
Diseases common to animals and men, 138.
Disinfection. The report of the committee of the American Public Health Association on disinfection and disinfectants, 162.
Dislocations. Subluxation of the radial head in children, Cushing, H. W., 77, 85.
Doe, O. W. The advisability of inducing abortion in cases of so-called uncontrollable vomiting of pregnancy, 121, 132.
Donaldson, F. A preliminary account in regard to circulatory and respiratory changes observed in animals placed in the pneumatic cabinet, 472; the functions of the recurrent laryngeal nerve, 542.
Downes. Action of sunlight on micro-organisms, 166.
Drainage. Permanent drainage in ascites, Caille, A. G., 180; continuous preventive disinfection of house drainage, 517.
Draper, F. W. Recent progress in legal medicine, 129.
Driver, S. W. Treatment of irreducible and strangulated hernia, 178.
Drugs. Adulteration of food and drugs in New York, 139.
Dudley, P. The sanitary significance of sporadic typhoid fever, 540.
Dunn, B. F. Co-existence of scarlet fever and measles, 287.
Durell, T. M. Typhoid fever in Somerville, Mass., 60.
Durgin, S. H. The cause and cure of contagious diseases, 75, 86.
Dwight, T. Recent progress in anatomy, 224.
Ear. Recent progress in otology, Morse, H. L., 154; some of the less common forms of mastoid disease, Green, J. Orne, 341, 348; acute non-suppurative catarrhal inflammation of the middle ear, Sexton, S., 370; chorea excited by sudden return of hearing, Abbot, S. L., 419; reflex aural symptoms without aural disease: aural disease with reflex symptoms, Blake, C. J. and Rotch, T. M., 419.
Edes, R. T. Rapid œdema of the larynx, 108; cases of malignant disease of vertebræ, with " paraplegia dolorosa," 359.
Edis. The prevention of mammary abscess, 286.
Editorials. Tuberculosis of bone, 17; physiological and therapeutical effects of cocaine, 19; a Boston polyclinic, 20; cerebral surgery, 41; contagious ophthalmia in the asylums and residential schools of the city of New York, 42; hospital nursing corps for the army, 42; laparotomy in penetrating stab and shot wounds of the abdomen, 65; the plea of insanity and expert testimony in the Goodwin case, 66; the codex commissioner's report on pepsin, 66, the appointment of surgeons in the Marine Hospital service, 91; the therapeutic inutility of calcic phosphates, 91; the Sloane Maternity Hospital, 91; a fatal error in diagnosis, 91; sewerage and the disposal of sewage in populous places, 113; frozen fruit, 114; raw meat and meat powders, 115; a proposed bureau of public health at Washington, 116; the police and the profession, 138; diseases common to animals and men, 138; adulteration of food and drugs in New York, 139; the report of the committee of the American Public Health Association on disinfection and disinfectants, 162; Venus befriends Æsculapius, 164 ; ptomaines and leucomaines, 185; early laparotomy in intestinal obstruction, 186; diabetes and perforating ulcer of the foot, 210; annual reports of the president and treasurer of Harvard College, 211; the medical examiner system, 212; arsenical wall-papers, 233; the causation of pleurisy, 235; the surgical treatment of perityphlitis, 257; cremation, a conservative view, 258; Dr. Austin Flint, 258; hereditary stature, 281; the signing of petitions, 282; sanitation in workshops and factories, 282; the relative capacity of the bronchus and lungs, 305; the proposed national bureau of public health, 306; poetry and toxicology, 307; the hydrophobia question, 329; the health of Boston for the year 1885, 330; the health of cabinet officers, 331; the health of Providence during the year 1885, 353; indirect fractures of the skull, 353; clairvoyant doctors and their prescriptions, 354; a patient's account of a case of insomnia, 377; the influence of sewerage and water-supply on the death-rates in cities, 379; insanity in Vermont, 379; arsenic in wall-paper, 401; hysteria and spiritism, 403; the infection of malarial fever, 450; the admission of women to the operating theatres of general hospitals, 452; the annual meeting of the American Medical Association, 452; a National Medical Congress, 424; training-schools for nursing the insane, 425; ether and chloroform once more, 426; the arrangements of museums of anatomy, 474; urethran, another new hypnotic, 475; a day's work at a metropolitan hospital, 476; vanilla poisoning, 476; medical heroism, 497; a State Board of Health again in Massachusetts, 499; the strikes from a medical point of view, 521; glass eating, 522; compound oxygen, 523; annual reports of the Massachusetts General and Boston City Hospitals, 547; the annual discourse before the Massachusetts Medical So-

ciety, 548; medicine of the future, 575; the movement cure in China, 576; the Boylston medal prize, 576; military drill and physical training in the public schools, 598; the death of Dr. Bernhard von Gudden, 600: first annual meeting of the Association of American Physicians, 600; the nature of asthma, 623; the New York Society for the Prevention of Contagious Diseases, 623: the therapeutic uses of cus, 623.
Education. A Bostun polyclinic, 20; New York Post-Graduate Medical School and Hospital, 44; annual reports of the president and treasurer of Harvard College, 211; preliminary medical education, Clark, F. C., 298.
Ela, W. Etiology of irreducible and strangulated hernia, 176.
Electricity as a therapeutic agency in gynæcology, Becker, A. R., 22.
Electrodes, Knapp, P. C., 323.
Elliot, J. W. A case of salpingitis with severe symptoms: removal of tubes and ovaries: recovery, 344, 347.
Embryology. Report on histology and embryology, Minot, C. S., 460.
Empyæma. Two cases of empyæma, Rotch, T. M., 242, 252.
Engel, H. A mode of concealing the taste of quinine, 262.
Epidemics. The anticipatory treatment of local epidemics, Storer, H. R., 298.
Epilepsy. Cases of epilepsy treated with borax, Folsom, C. F., 145, 157.
Ernst, H. C. A consideration of the bacteria of surgical diseases, 443.
Ether and chloroform once more, 426.
Expert Testimony. The plea of insanity and expert testimony in the Goodwin case, 66.
Exstrophy of the bladder, Gay, G. W., 6.
Extra-Uterine Pregnancy. A case simulating and believed by all consultants to be abdominal pregnancy at full term, Coleman, J. S., 445; a case of extra-uterine pregnancy of seven years' duration, in which the bones of an adult fœtus were found during an attempt at ovariotomy, Homans, J., 457, 465.
Eye. Recent progress in ophthalmology, Wadsworth, O. F., 31; contagious ophthalmia in the asylums and residential schools of the city of New York, 42; ocular symptoms in renal disease, Williams, H. W., 157; a case of alcoholic paralysis preceded and accompanied by amblyopia ex abusu, with remarks thereon, Standish, M., 361.
Farlow, J. W. Abnormal artery of the pharynx, 437.
Feeding bottle for use in cases of intubation of the larynx, Waxham, F. E., 328.
Fifield, W. C. B. Caput succedaneum: cephalhæmatoma, 158.
Finny. A case of perforating ulcer of the stomach opening into the left ventricle of the heart and causing death by hæmorrhage, 285.
Fischer. Communication of tuberculosis through the food, 358.
Fisher, T. W. Two unusual cases of insanity, probably of syphilitic origin, 488.
Fitz, R. H. Localized amyloid degenerations: amyloid lymphoma, 389.
Flint, A., 259, 286.
Folsom, C. F. Cases of epilepsy treated with borax, 145, 157.
Food. The dietary of the poor, 44; frozen fruit, 114; raw meat and meat powders, 115; adulteration of food and drugs in New York, 139.
Formad, H. F. Tests for organic impurities in water, 515.
Fowler, G. R. The operative treatment of facial neuralgia, 382.
Freire's inoculation: yellow fever in Brazil, Lauc, H. M., 534.
Fruit. Frozen fruit, 114.
Fuller, F. C. Case of median nerve suturing, 493.
Funis. Prolapse of the funis, Richardson, W. L., 254.
Galvano-cautery. Diphtheria treated by the galvano-cautery, 478.
Gannett, W. W. Parietal thrombus of the aorta, 158; enlarged prostate: difficult catheterization: question of cystotomy, 252; pathological specimens, 274; should nurses who are tuberculous be allowed the care of children? 385, 295.
Garland, G. M. Some cases of reflex neurosis, 25; 35.
Garrish, J. P. The physician and the pharmacist: their relative duties, 396.
Gay, G. W. Gun-shot wound of thigh, secondary hæmorrhage, ligature of femoral artery, gangrene, pyæmia, embolic pneumonia, death, 4; sarcoma of rib, removal, recurrence, second operation, 5; a case of extrophy of the bladder, plastic operation, surgical scarlet fever, 6.
General Diseases. Sarcoma of rib, Gay, G. W., 5; the etiology of rachitis, Haven, H. C., 27; cases of pericarditis treated with salicylate of sodium, Abbot, S. L., 49; cases of anæmia, Whittier, E. N., 57; typhoid fever in Somerville, Mass., Durrell, T. M., 60; a case of essential pernicious anæmia, 107; co-existence of scarlet fever and varicella in a child two and a half years old, Ayer, J. B., 108; on the limitation of the contagious stage of syphilis especially in its relations to marriage, Otis, F. N., 147; acute articular rheumatism, Ayer, J., 157; diabetes and perforating ulcer of the foot, 210; a case of co-existence of scarlet fever and measles, Brown, F. F., 224; rheumatism of early life, Chapin, H. D., 231; post-mortem in a case of measles, with some remarks upon the treatment of pulmonary œdema, Canedy, F. J., 250; paralysis of arm in congenital syphilis, Rotch, T. M., 242, 252; the etiology of rabies and the method of M. Pasteur for its prevention, Biggs, H. M., 298; the hydrophobia question, 329; the significance of small quantities of sugar in the urine, McBride, T. A., 348; the treatment of diabetes, Burrall, F. A., 349; the infection of malarial fevers, 450; the treatment of cancer of the uterus, Baker, W. H., 409, 416; rocky mountain fever, Curtin, R. G., 489; and epidemic of diphtheria traced to its source, Lee, B., 515; a study of diabetes mellitus, 570.
Generative System. Vaginal and vulvar enterocele, Thomas, T. G., 38; six successful cases of ovariotomy, Pinkham, J. G., 53; dilatation of phimosis, Harwood, C. W., 85; report of progress in gynæcology, Davenport F. H., 105; conception after curetting of the uterus, 118; rectal disease of uterine origin, Strong, C. P., 151, 157; polypus resembling inverted uterus, Minot, F., 202; a case of retraction of the penis, Ivanoff, A. A., 162; imperforate hymen, with retention of the menstrual flux, Baker, W. H., 290, 295; vermiform-appendicitis and general peritonitis, complicating the puerperal period, Dearborn, J. G., 295; vaginal fibroid tumor, Storer, H. R., 297; epithelioma of the cervix in a case of prolapsus uteri: operation for the removal of the growth, with opening of Douglass's cul-de-sac, and completion of the operation by removal of the whole womb, Goodell, W., 313; laparotomy for pelvic abscess, Jackson, A. R., 323; a case of salpingitis, with severe symptoms, Elliot, J. W., 344, 347; the operation of shortening the round ligaments, with two cases, Harrington, F. B., 390; is disease of the uterine appendages as frequent as it has been represented? Coe, H. C., 398; lipoma testis or a large accumulation of fat in the tunica vaginalis, Park, R., 447; the treatment of cancer of the uterus, 409, 416; acute inversion of the uterus, Weeks, A. P., 418; subcutaneous division of urethral stricture, Mastin, C. H., 465; seven cases of congenital and one of traumatic stenosis or atresia of the female genital canal, Chadwick, J. R., 505, 514; the treatment of lacerations of the cervix uteri, Beckwith, 570.
Gihon, A. L. Economic sanitation, 516.
Gilbert. Pneumonia, 571.
Glands. Enlarged cervical glands, Vickery, H. F. 219, 229.
Glass Eating, 522.
Glottis. Sudden death from œdema of the glottis, Jones, W. J., 117.
"**God** save the Alumni Association of Cooper Medical College," 165.
Goodale, W. Epithelioma of the cervix in a case of prolapsus uteri: operation for the removal of the growth, with opening of Douglass's cut-de-sac, and completion of the operation by removal of the whole womb, 313.
Goodwin case. The plea of insanity and expert testimony in the Goodwin case, 66.
Gouley, J. W. S. Sacculation and perforation of the bladder in consequence of chronic retention of urine, 397.
Graham, W. Unpleasant effects following antipyrine, 261.
Grauer, F. Epithelioma of the œsophagus, 111; primary tuberculosis of the kidney, 111.
Green, C. M. Report on obstetrics, 173.
Green, John O. The action of the Middlesex North District Medical Society on the death of Dr. John O. Green, 118.
Green, J. Orne. Some of the less common forms of mastoid disease, 341, 348.
Grinders Consumption. Specimens from lung of a case of "nailers" or "grinders consumption," Wells, F., 396.
Gruening, E. Reflex symptoms in nasal affections, 135.
Gunn, M. Address before the American Surgical Association, 420.
Gun-shot Wounds. Gun-shot wounds of thigh, Gay, G. W., 4; the indications for laparotomy in penetrating stab and gun-shot wound of the abdomen, Bryant, J. D., 12; laparotomy in penetrating stab and gun-shot wounds of the abodmen, 65.
Gynæcology. Report of progress in gynæcology, Davenport, F. H., 105; gynæcological hints and hobbies, Brown, W. S., 588, 592.
Hæmorrhage. Severe hæmorrhage from anti-partum separation of the placenta, with the infusion of sixty-six ounces of salt solution, Harrington, F. B., 197, 296.
Hallucinations. Unilateral hallucinations, Hammond, W. A. 14.
Hamilton, A. McL. Weighted shoes in locomotor ataxia, 60; the experiences of a sleepless clergyman, 478, 526.
Hammond, G. M. A new thermo-cautery, 492.
Hammond, W. A. Unilateral hallucinations, 14.
Hanson, H. H. A case of tracheotomy in a neonatus, 105.
Hare, H. A. Does the sulphate of quinine, when given in moderate doses, increase the number of the red corpuscles? 372.
Harrington, F. B. The pulmonary complications of typhoid fever, 28, 37; severe hæmorrhage from ante-partum separation of the placenta with the infusion of sixty-six ounces of salt solution, 197, 296; the operation of shortening the round ligaments, with two cases, 390; results of the intra-venous injection of salt solutions, 481, 488; intra-venous injection of salt solution, 594.
Hartshorne, H. Continuous preventive disinfection of house drainage, 517.
Harvard College. Annual reports of the president and treasurer of Harvard College, 211.
Harwood, C. W. Dilatation of phimosis, 85.
Haven, A. C. The ætiology of disease, 467.
Haven, H. C. The ætiology of rachitis, 27.
Hawley, Mrs. A second Florence Nightingale, 261.
Headache. Recurrent headache in children and its treatment, Sturgis, R., 128.
Health Resorts. Some observations on health resorts, Otis, E. O., 221, 227.
Heffenger, A. C. The pavilion in hospital construction, 73, 100.
Hendricks, W. E. The treatment of malarial fevers with tincture of iodine, 333.
Henry, A. Suicide in China, 45.
Hermaphroditism. A suspension of diagnosis in cases of pseudo-hermaphroditism, 358.
Hernia. Vaginal and vulvar enterocele, Thomas, T. G., 38; irreducible and strangulated hernia: anatomy, Wyman, S. E., 176; Smith, W. E., pathology, 176; etiology, Ela, W., 177; differential diagnosis, Nichols, J. T. G., 177; treatment, Driver, S. W., 178; medical selection of lives for life insurance, Crozier, T., 177; operation for the radical cure of hernia, Bradford, E. H., 169, 376; cases of tumor in hernia region, Post, A., 486.
Heroism. Medical heroism, 497.
Herzen, A. Different physiological senses for heat and cold, 214.
Hitchcock, U. G. Gummatous infiltration of the base of the tongue, 572.
Hicks, J. B. On a condition of the inner surface of the uterus, after the birth of the fœtus, of practical importance, 94.
Hills, W. B. Report on medical chemistry, 272.
Histology and Embryology. Report on histology and embryology, Minot, C. S., 460.
Hodges, R. M. Undercurrents of modern medicine, 529, 553.
Hogyes. Two cases of nephritis varicellosa, 291.
Holden, E. A case of gummatous disease of the larynx with spontaneous reopening of the larynx after thyroid laryngotomy, 572.
Holmes, Dr., in England, 626.
Homans, J. A successful case of laparotomy for perityphlitic abscess, 388, a case of extra-uterine pregnancy of seven years' duration, in which the bones of an adult fœtus were found during an attempt at ovariotomy, 457, 465; extreme meteorism relieved by electricity, 464.
Homicide and mutilation, 626.

Homœopathy as viewed by a member of the Massachusetts Medical Society, Bowditch, V. Y., 584, 605.

Hooper, F. H. Adenoid vegetations in the gastro-pharyngeal cavity, 193, 202; concerning the positions of paralyzed vocal bands, 541; recent progress in laryngology and rhinology, 608.

Hospital Construction. The pavilion in hospital construction, Heffenger, A. C., 73, 100.

Huse, R. C. Old remedies, 488.

Huston, F. N. The effect of certain physiological principles that have been noticed in aid of the circulation of the blood, 467.

Hydrophobia. The etiology of rabies and the method of M. Pasteur for its prevention, Biggs, H. M., 298; the hydrophobia question, 329; Pasteur and hydrophobia, 500, 524.

Hygiene, Health and Boards of Health. The cause and cure of contagious diseases, Durgin, S. H., 75, 86; Governor Robinson's recommendations to the Massachusetts Legislature on public health, 45; a proposed bureau of public health at Washington, 116; city and suburban rapid transit from a sanitary point of view, 142; the report of the committee of the American Public Health Association on disinfection and disinfectants, 162; some observations on health resorts, Otis, E. O., 221, 227; recent legislation in Massachusetts on subjects of public health, 237; recent progress in public hygiene, Abbott, S. W., 247; sanitation in workshops and factories, 282; the anticipatory treatment of local epidemics, Storer, H. R., 298; the proposed national bureau of public health, 306; bill to prevent the introduction of contagious and infectious diseases into the United States, 309, the health of Boston for the year 1885, 330; the health of cabinet officers, 331; the hygiene of the newly born, 333; the health of Providence during the year 1885, 353; the influence of sewerage and water-supply on the death-rates in cities, 379; a State Board of Health again in Massachusetts, 497; tests for organic impurities in water, Formad, H. F., 515; importation of foreign rags into American ports, Wilson, F. S., 516; economic sanitation, Gihon, A. L., 516; the obligation of the State and citizens to preserve the health of the people, Brooks, E., 517; continuous preventive disinfection of house drainage, Hartshorne, H., 517; hygiene of old age, Wood, H. C., 518.

Hymen. Imperforate hymen, with retention of the menstrual flux, Baker, W. H., 290, 295.

Hypnone. Beaumetz, D., 97.

Hysteria and spiritism, 403.

Idiot. Education and care of the idiot, Smith, A. G., 364, 373.

Imposter, 577.

Insanity. The plea of insanity and expert testimony in the Goodwin case, 66; recent progress in mental disease, 80; an international committee on a uniform classification of mental diseases, 215; a report of three cases of melancholia, being especially a consideration of the prognosis, Turnbull, F. M., 230; recent progress in the care of the insane, Channing, W., 291, 318; insanity in Vermont, 379; training schools for nursing the insane, 425; two unusual cases of insanity probably of syphilitic origin, Fisher, T. W., 488; the influence of overwork in the production of nervous diseases and insanity, Mills, C. K., 539.

Insomnia. A patient's account of a case of insomnia, 377.

Instruments. Axis-traction appliance for forceps, Kingman, R. A., 593.

Instruments and Apparatus. A new cephalotome, Reynolds, E., 296; normal electrodes, Knapp, P. C., 323; a new thermo-cautery, Hammond, G. M., 492.

International Congress of Hydrology and Climatotogy, 263.

Ivanoff, A. A. A case of retraction of the penis, 262.

Jackson, A. R. Laparotomy for pelvic abscess, 323.

Jackson, H. Letter from Vienna, 142.

Jarvis, W. C. A novel procedure for the removal of subglottic laryngeal growths, 571.

Jeffries, B. J. Physical examination of candidates for the United States Naval and Military Academies, 407.

Johnson, C. Diagnostial laparotomy, 421.

Johnson, H. L. Relation of the spleen to the stomach, 238.

Johnson, S. A case of naso-pharyngeal growth, 573.

Jones, W. J. Sudden death from œdema of the glottis, 117.

Jumpers, The, Thornton, J. D., 190.

Jurisprudence. The plea of insanity and expert testimony in the Goodwin case, 66; recent progress in legal medicine, Draper, F. W., 129.

Keating, J. M. Artificial feeding of infants, 539.

Keen, W. W. Stretching of the facial nerve, 418.

Kelly, J. E. Causality in disease applied to the phenomenon of vomiting in pregnancy, 337, 345.

Kingman, R. A. Axis-traction appliance for forceps, 593.

Knapp, P. C. Normal electrodes, 323.

Knight, F. I. Laryngeal vertigo, 543.

Kober, G. M. Compendium of the Surgical History of the War of the Rebellion, 239.

Lane, E. B. Two cases of cerebral tumor with autopsy, 217, 229.

Lane, H. M. Yellow fever in Brazil: Friere's inoculation, 534.

Laparotomy. The indications for laparotomy in penetrating stab and shot wounds of the abdomen, Bryant, J. D., 12; laparotomy in penetrating stab and shot wounds of the abdomen, 65: early laparotomy in intestinal obstruction, 186; laparotomy in the treatment of penetrating and visceral injuries of the abdomen, Dennis, F. S., 207; laparotomy for pelvic abscess, Jackson, A. R., 323; a successful case of laparotomy for perityphlitic abscess, Homans, J., 388; diagnostitial laparotomy, Johnson, C., 421.

Larynx. Laryngeal spasm in adults, with the report of two cases, one of gouty, the other of undetermined origin, Shattuck, F. C., 1, 9; rapid œdema of the larynx, Edes, R. T., 108; interesting points connected with the larynx, Leidy, J., 540; laryngeal vertigo, Knight, F. I., 543.

Lateral Curvature. The ætiology of lateral curvature, Bradford, E. H., 241, 251.

Lee, B. An epidemic of diphtheria traced to its source, 515.

Legal Medicine. Recent progress in legal medicine, Draper, F. W., 129.

Leidy, J. Interesting points connected with the larynx, 540.

Liberty of discussion in medical meetings, 358.

London. The laying of the foundation-stone of the new examination hall in London, 382.

Loomis, A. L. The effect of high altitudes in cardiac disease, 471.

Louis, I. Letter from Vienna, 238.

Lovejoy, O. S. Four cases of placenta prævia, 84.

Lyman, G. H. Poisoning by nutmeg, 61.

Lymphangioma. A case of congenital cavernous lymphangioma of the back, Porter, C. B., 169.

Mackenzie, J. N. A contribution to the pathology of the respiratory vaso-motor neuroses, 572.

McBride, T. A. The significance of small quantities of sugar in the urine, 348.

McLaughlin, J. W. Researches in the ætiology of dengue, 468.

McNamara, L. J. A study of the etiology of tumors, 109.

Malarial Fevers. The treatment of malarial fevers with tincture of iodine, Hendricks, W. E., 333; the infection of malarial fever, 450.

Mammary Abscess. The prevention of mammary abscess, Edis, 286.

Marcy, H. O. Bacteria, 321.

Marie, P. and Leite, S. Hysterical paralysis without contracture, 45.

Marine Hospital Service. The appointment of surgeons in the Marine Hospital Service, 90.

Martin, S. C. Humanized virus, 22, 94, 167.

Marine Park, South Boston, as a breathing-place, Bancroft, W. B., 478.

Mason, A. P. A case of fracture of the skull followed by abscess, 293.

Massachusetts. Recent legislation in Massachusetts on subjects of public health, 237.

Mastin, C. H. Subcutaneous division of urethral stricture, 465.

Mastoid Disease. Some of the less common forms of mastoid disease, Green, J. Orne, 341, 348.

Materia Medica and Therapeutics. Physiological and therapeutic effects of cocaine, 19; electricity as a therapeutic agency in gynæcology, Becker, A. R., 22; cases of pericarditis treated with salicylate of sodium, Abbot, S. L., 49, 60; the codex commission's report on pepsin, 66; the therapeutic inutility of calcic phosphates, 91; lecture on hypnone, Beaumetz, D., 97; a new source of quinine, 141; a mode of concealing the taste of quinine, Engel, H., 262; the treatment of malarial fevers with tincture of iodine, Hendricks, W. E., 333; does the sulphate of quinine, when given in moderate doses, increase the number of red blood corpuscles? Hare, H. A., 372; chorea treated with urethran, Abbot, S. L., 419; ether and chloroform once more, 426; use of so-called antipyretic doses of quinine, Schultz, O. S., 468; urethan: another new hypnotic, 475 old remedies, Huse, R. C., 488; how the therapeutical value of our mineral waters may be increased, Rice, C. C., 489; physic tippling and medicine bibbing, Woodbury, F., 517; observations on the use of some of the newer remedies in diseases of the upper air passages, Shurley, E. L., 545; the simplest and most efficient treatment of diphtheria, Daly, W. H., 545.

Maternity Hospital. The Sloane Maternity Hospital, 91.

Measles. A case of co-existence of scarlet fever and measles, Brown, F. F., 224; post-mortem in a case of measles, with some remarks upon the treatment of pulmonary œdema, Canedy, F. J., 250; the co-existence of measles and scarlet fever, Dunn, B. F., 287.

Meat. Raw meat and meat powders, 115.

Mediastinal Tumor, Whittier, E. N., 289.

Medical Examiners. Report of the committee of the Medical Improvement Society on medical examiners in Massachusetts, 203; the medical examiner system, 212; the Improvement Society's report on the Massachusetts medical examiner system, Stevens, G. B., 238.

Meningitis. A series of cases of tubercular meningitis, Musser, J. H., 356.

Mental Diseases. An international committee on a uniform classification of mental diseases, 215.

Meteorism. Extreme meteorism relieved by electricity, Homans, J., 464.

Micro-organisms. Action of sunlight on micro-organisms, Downes, 166.

Microscope. The microscope in its relation to disease, Wright, 570.

Military Drill as a means of physical training for boys, 433, 438.

Mills, C. K. The influence of over-work in the production of nervous diseases and insanity, 539.

Mind. Recent progress in the care of the insane, Channing, W., 291; education and care of the idiot, Smith, A. G., 364, 373; training school for nursing the insane, 425.

Mineral Waters. How the therapeutical value of our mineral waters may be increased, Rice, C. C., 489.

Minot, C. S. Report on histology and embryology, 460.

Minot, F. Chronic disease of the kidneys and bladder, 108; polypus resembling inverted uterus, 202; post-partum glycosuria, 254.

Mirror-writing, another pathological chirography of nervous origin, Peckham, G., 183.

Mitchell, S. W. Tendon-jerk and muscle-jerk in disease, 596.

Morgan, E. C. The question of hæmorrhage after uvulotomy, with the description of an instrument for its arrest, 546.

Morse, H. L. Recent progress in otology, 154.

Mortality of the medical profession, 334.

Museums. The arrangement of museums of anatomy, 474.

Musser, J. H. A series of cases of tubercular meningitis, 356; suggestions regarding the prevention of phthisis in mill-hands, 492.

Myxœdema, Putnam, J. J., 10.

Nailers Consumption. Specimens from lung of a case of "nailers" or "grinders consumption," Wells, F., 396.

Nephrectomy on a patient twenty-three months old, Park, R., 448.

Nephritis. Two cases of nephritis varicellosa, Högyes, 261.

Nervous System. A case of concussion followed by paralyses, pointing to hæmorrhage into the fissure of Rolando, Walton, G. L., 3, 11; unilateral hallucinations, Hammond, W. A., 14; some cases of reflex neurosis, Garland, G. M., 25, 35; cerebral surgery, 41; weighted shoes in locomotor ataxia, Hamilton, A. McL., 60; cases of functional and organic injury to the central nervous system caused by trauma, Walton, G. L., 102, 109; hysterical paralysis without contracture, Marie, P. and Leite, S., 45; recurrent headache in children and its treatment, Sturgis, R., 128; reflex symptoms in nasal affections, Gruening, E., 135; cases of epilepsy treated with borax, Folsom, C. F., 145; operation for the cure of spina bifida, Bradford, E. H., 169, 176; a case of pistol-shot wound of the head resulting in abscess of the brain, with a report of the autopsy. Whitman, R., 170, 175; the intra-cerebral tracts, their physiology and its bearing on the diagnosis of lesions of the centrum semiovale, Starr, M. A., 180; a case of softening of the corpora striata, with specimen, Shaw, J. C., 182; mirror-writing and other pathological chirography of nervous origin, Peckham, G., 183; tubercular meningitis cured by iodoform, Nilsson, E., 190; nerve suturing, Beverly, M., 190; the jumpers, Thornton, J. D., 190; two cases of cerebral tumor, with autopsy, Lane, E. B., 217; paralysis of arms in congenital syphilis, Rotch, T. M., 242, 252; a case of fracture of the skull, followed by abscess, Mason, A. P., 293, a case of fractured skull, with autopsy, Bidwell, W. B., 294; total trigeminal paralysis with alternate hemiplegia: the nerve of taste, Dana, C. L., 302; vaso-motor neuroses, Starr, M. A., 303; neuropathic œdema, 334; a series of cases of tubercular meningitis, Musser, J. H., 356; a case of alcoholic paralysis preceded and accompanied by amblyopia ex abusu, with remarks thereon, Standish, M., 361; brain of a porpoise, Spitzka, 375; a case of neuro-gliomatous hypertrophy of the pons oblongata, Spitzka, 375; a patient's account of a case of insomnia, 377; the operative treatment of facial neuralgia, Fowler, G. R., 382; eclampsia due to fright or to the shock of an injury, Ayer, J. B., 395; case of meningeal extravasation, with remarks on the localization of the superficial lesions, Carroll, A. L., 396; stretching of the facial nerve, Keen, W. W., 448; chorea excited by sudden return of hearing: chorea treated with urethran, Abbot, S. L., 419; sarcoma of brain, Putnam, J. J., 420; essential vertigo, Bremen, L., 467; the diagnostic value of the knee phenomenon or the patellar-tendon reflex in diseases of the nervous system, Zener, P., 468; a statistical inquiry regarding the relation of high altitudes to nervous diseases, Dana, C. L., 492; a case of median nerve suture, Fuller, F. C., 493; preliminary report of a case (with autopsy) of tubercular disease of the spinal cord, Sachs, B., 493; alleged organic disease of the brain following moderate concussion, Nichols, A. H., 509; the influence of overwork in the production of nervous diseases and insanity, Mills, C. K., 538; the functions of the recurrent laryngeal nerve, Donaldson, F., 542; laryngeal vertigo, Knight, F. I., 543; cases of malignant disease of vertebræ, with "paraplegia dolorosa," Edes, R. T., 359; a contribution to the pathology of the respiratory vaso-motor neuroses, Mackenzie, J. N., 572; a case of delirium tremens caused by chewing tea, Slayter, W. B., 578; tendon-jerk and muscle-jerk in disease, Mitchell, S. W., 596.

Neuralgia. The operative treatment of facial neuralgia, Fowler, G. R., 382.

Neuropathic Œdema, 334.

New York Post-Graduate Medical School and Hospital, 44.

Nichols, A. H. Alleged organic disease of the brain following moderate concussion, 509.

Nichols, J. T. G. Differential diagnosis of irreducible and strangulated hernia, 177.

Nightingale. A second Florence Nightingale, 261.

Nilsson, E. Tubercular meningitis cured by iodoform, 190.

Noorden, C. von. Albuminuria in health, 550.

North Carolina epidemic, Wing, C. E., 279.

Nursing. Should nurses who are tuberculous be allowed the care of children? Gannett, W. W., 385, 395; training schools for nursing the insane, 425; hospital nursing corps for the army, 42.

Nutmeg. Poisoning by nutmeg, Lyman, G. H., 61.

Obstetrical Society of Boston, twenty-fifth anniversary, 61.

Obstetrics. Report on obstetrics, Green, C. M., 173.

Œdema. Neuropathic œdema, 334.

Ogle, W. Suicides in England and Wales in relation to age, sex, season and occupation, 357.

Old Remedies, Huse, R. C., 488.

Oleomargarine. The composition and manufacture of oleomargarine, 334.

Ophthalmia. Contagious ophthalmia in the asylums and residential schools of the city of New York, 42.

Orthopraxy. The ætiology of lateral curvature, Bradford, E. H., 241, 251; recent progress in orthopedic surgery, Bradford, E. H. and Burrell, H. L., 413.

Otis, E. O. Some observations on health resorts, 221, 227.

Otis, F. N. On the limitation of the contagious stage of syphilis especially in its relations to marriage, 147.

Ott, D. O. Intravenous injection of saline solution, 262.

Ovariotomy. Six successful cases of ovariotomy, Pinkham, J. G., 53.

Oxygen. "Compound oxygen," 523.

Pancreas. The surgery of the pancreas as based upon experiments and clinical researches, Senn, N., 444.

Paris. Paris letter: Pasteur and hydrophobia, 500, 524.

Park, R. Lipoma testis, or a large accumulation of fat in the tunica vaginalis, 347; nephrectomy on a patient twenty-three months old, 448.

Pasteur. The etiology of rabies and the method of M. Pasteur for its prevention, Biggs, H. M., 298; the hydrophobia question, 329; Pasteur and hydrophobia, 500, 524.

Pathology and pathological anatomy. Recent progress in pathology and pathological anatomy, Whitney, W. F., 483.

Pau. Letter from Pau, 405, 428.

Peckham, G. Mirror-writing and other pathological chirography of nervous origin, 183.

Pelvic Abscess. Laparotomy for pelvic abscess, Jackson, A. R., 323.

Penny, E. J. Sudden death from hæmorrhage into the abdominal cavity during menstruation, 357.

Pepper, W. The causes and distribution of consumption in Pennsylvania, 470.

Pepsin. The codex commission's report on pepsin, 66.

Perforating Ulcer. Diabetes and perforating ulcer of the foot, 210.

Pericarditis. Cases of pericarditis treated with salicylate of sodium, Abbot, S. L., 49, 60.

Perityphlitis. The surgical treatment of perityphlitis, 257.

Perityphlitic Abscess. A successful case of laparotomy for perityphlitic abscess, Homans, J., 388.

Petitions. The signing of petitions, 282.

Pharmacist. The physician and the pharmacist: their relative duties, Garrish, J. P., 396.

Pharmacy. Pharmaceutical notes, Davenport, B. F., 76.

Pharynx. Abnormal artery of the pharynx, Farlow, J. W., 437.

Phimosis. Dilatation of phimosis, Harwood, C. W., 85.

Phosphates. The therapeutic inutility of calcic phosphates, 9[illegible].

Phthisis. The causes and distribution of consumption in Pennsylvania, Pepper, W., 470.

Physicians and pathologists, association of, 214.

Physiology. Different physiological senses for heat and cold, Herzen, A., 214; relation of the spleen to the stomach, Johnson, H. L., 238; hereditary stature, 281; does the sulphate of quinine, when given in moderate doses, increase the number of red blood corpuscles? Hare, H. A., 372; the nerve of taste, Dana, C. L., 302; the effect of certain physiological principles that have been noticed in aid of the circulation of the blood, Huston, F. N., 467.

Placenta Prævia. Four cases of placenta prævia, Lovejoy, O. S., 84.

Platt, I. H. The physics and physiological action of pneumatic differentiation, 473.

Pleurisy. The causation of pleurisy, 235.

Pilo-nidal sinus, Porter, C. B., 9.

Pinkham, J. G. Six successful cases of ovariotomy, 53.

Pneumatic Cabinet. A preliminary account in regard to the circulatory and respiratory changes observed in animals placed in the pneumatic cabinet, Donaldson, P., 472; a clinical report of cases treated by pneumatic differentiation, Williams, H. F., 473; ten month's experience with pneumatic differentiation, Bowditch, V. Y., 473; the physics and physiological action of pneumatic differentiation, Platt, I. H., 473.

Pneumonia and its treatment, Stockman, C. W., 265; an analysis of 412 cases of lobar pneumonia, occurring at the Massachusetts General Hospital between January 1, 1870 and December, 31, 1885, Townsend, C. W., 274; causation of pneumonia, Baker, H. B., 490; pneumonia, Gilbert, 577.

Poetry and Toxicology, 307.

Poisons. Poisoning by three drachms of tincture of belladonna, Ayer, J. B., 10; poisoning by nutmeg, Lyman, G. H., 61; poetry and toxicology, 307; chronic tea-poisoning, Bullard, W. N., 314, 321; chronic tea-poisoning, Dana, C. L., 406; vanilla poisoning, 476; a case of delirium tremens caused by chewing tea, Slayter, W. B., 578.

Police and the profession, 138.

Polk, W. M. Exploratory incisions of the abdomen, 47.

Polyclinic A Boston polyclinic, 20.

Polypus resembling inverted uterus, Minot, F., 202.

Porcher, F. P. Typhoid fever, 596.

Porpoise. Brain of a porpoise, Spitzka, 375.

Porter, C. B. Urethral calculus, 8; caries of tarsus, amputation, 8; excision of knee, 9; pilo-nidal sinus, 9; an uncommonly large fatty tumor, 61; a case of congenital cavernous lymphangioma of the back, 169.

Porter, F. E. Clinical memorandum, 612.

Pousson, A. Two rare varieties of rupture of the bladder, 577.

Post, A. Cases of tumor in hernia region, 486.

Post-Graduate Medical School and Hospital, New York, 44.

Power, W. H. Scarlet fever from the cow, 601.

Precocity. A case of extraordinary sexual precocity, 376.

Pregnancy, affections connected with. Prolonged gestation with anencephalous fœtus, 70; labor during hypnosis, 70; four cases of placenta prævia, Lovejoy, O. S., 84; on a condition of the inner surface of the uterus after the birth of the fœtus, of practical importance, 94; the advisability of inducing abortion in cases of so-called uncontrollable vomiting of pregnancy, Doe, O. W., 121, 132; caput succedaneum: cephalhæmatoma, Fifield, W. C. B., 258; report on obstetrics, Green, C. M., 174; a case of protracted pregnancy, Thompson, A., 190; severe hæmorrhage from ante-partum separation of the placenta, with the infusion of sixty-six ounces of salt solution, Harrington, F. B., 197; prolapse of the funis, Richardson, W. L., 254; vermiform-appendicitis and general peritonitis complicating the puerperal period, Dearborn, J. G., 295; causality in disease applied to the phenomenon of vomiting in pregnancy. Kelly, J. E., 337, 345; extrusion of fœtal membranes at the seventh month, with subsequent retraction, Chatard, F. E., Jr., 357; a case of diabetes in a child-bearing patient, Warner, E., 436; a case simulating and believed by all consultants to be abdominal pregnancy at full term, Coleman, J. S., 445; a case of extra-uterine pregnancy, Homans, J., 457, 465; a case of concealed accidental hæmorrhage, Boardman, W. E., 463, 464; tedious labor with remarks on its conduct, Boardman, W. E., 464; results of the intravenous injection of salt solutions, Harrington, F. B., 481, 488.

Prewitt, T. F. Traumatic aneurism of the internal carotid artery, 446.

Prince, D. A sterilized atmosphere, 444.

Pritzl, E. Labor during hypnosis, 70.

Prizes. Astley Cooper prize, 312; the Boylston medical prize, 576; Fiske fund prize, 594.

Providence. The health of Providence during the year 1885, 353.

Ptomaines and leucomaines, 185.

Purser. A case of ulcerative endocarditis, 141.

Putnam, J. J. Myxœdema, 10; sarcoma of brain, 420.

Quinine. A new source of quinine, 141; does the sulphate of quinine, when given in moderate doses, increase the number of the red blood corpuscles, Hare, H. A., 372; a mode of concealing the taste of quinine, Engel, H., 262; use of so-called antipyretic doses of quinine, Schultz, O. F., 468.

Rabies. The etiology of rabies and the method of M. Pasteur for its prevention, Biggs, H. M., 298; the hydrophobia question, 329.

Radius. Subluxation of the radial head in children, Cushing, H. W., 77, 85.

Rags. Importation of foreign rags into American ports, Wilson, F. S., 516.

Rapid transit from a sanitary point of view, 142.

Recent Progress. Eye, Wadsworth, O. F., 31; mental diseases, Stedman, H. R., 80; legal medicine, Draper, F. W., 129; Ear, Morse, H. L., 154; obstetrics, Green, C. M., 173; thoracic diseases, Shattuck, F. C., 199; anatomy, Dwight, F., 224; public hygiene, Abbott, S. W., 247; chemistry, Hills, W. B., 272; care of the insane, Channing, W., 291, 318; diseases of children, Rotch, T. M., 392; orthopedic surgery, Bradford, E. H. and Burrell, H. L., 413; histology and embryology, Minot, C. S., 460; pathology and pathological anatomy, Whitney, W. F., 483; dentistry, Rollins, W. H., 511, 536; recent progress in laryngology and rhinology, Hooper, F. H., 608.

Reflex Neurosis. Some cases of reflex neurosis, Garland, G. M., 25, 35.

Reflex symptoms in nasal affections, Gruening, E., 135.

Respiratory System. Laryngeal spasm in adults, with report of two cases, one of gouty, the other of undetermined origin, Shattuck, F. C., 1, 9; the pulmonary complications of typhoid fever, Harrington, F. B., 28, 37; rapid œdema of the larynx, Edes, R. T., 108; sudden death from œdema of the glottis, Jones, W. J., 117; reflex symptoms in nasal affections, Gruening, E., 135; adenoid vegetations in the naso-pharyngeal cavity, Hooper, F. H., 193, 202; report on recent progress in thoracic disease, Shattuck, F. C., 199; causation of pleurisy, 235; post-mortem in a case of measles, with some remarks upon the treatment of pulmonary œdema, Canedy, F. J., 241; pulmonary œdema rapidly appearing after thoracentesis, Bowditch, H. I., 251; two cases of empyæma, Rotch, T. M., 242, 252; double pleuritic effusion at thirteen years, Rotch, T. M., 242, 252; pneumonia and its treatment, Stockman, C. W., 265; the staining of the bacillus of tubercle, Cushing, E. W., 268; an analysis of 412 cases of pneumonia, occurring at the Massachusetts General Hospital between January 1, 1870, and December 31, 1885, Townsend, C. W., 274; the relative capacity of the bronchus and lungs, 305; feeding bottle for use in cases of intubation of the larynx, Waxham, F. E., 328; the mechanical treatment of pleuritic effusion, Cimbali, 381; pulmonary calculus, Shattuck, F. C., 395; specimens from lung of a case of "nailers" or "grinders consumption," Wells, F., 396; the causes and distribution of consumption in Pennsylvania, Pepper, W., 470; a preliminary account in regard to the circulatory and respiratory changes observed in animals placed in the pneumatic cabinet, Donaldson, F., 472; causation of pneumonia, Baker, H. B., 490; suggestions regarding the prevention of phthisis in mill-hands, Musser, J. H., 492; two cases of adenoid disease of the roof of the pharynx which exhibited unusual features, Allen, H., 519; lupus of the throat, Cohen, J. S., 520; interesting points connected with the larynx, Leidy, J., 540; concerning the positions of paralyzed vocal bands, Hooper, F. H., 541; functions of the recurrent laryngeal nerve, Donaldson, F., 542; observations on the use of some of the newer remedies in diseases of the upper air passages, Shurley, E. L., 545; the simplest and most efficient treatment of diphtheria, Daly, W. H., 545; the question of hæmorrhage after uvulotomy, with the description of an instrument for its arrest, Morgan, E. C., 546; pneumonia, Gilbert, 571; a novel procedure for the removal of subglottic laryngeal growths, Jarvis, W. C., 571; cases of laryngeal œdema, DeBlois, T. A., 571; a case of gummatous disease of the larynx with spontaneous reopening of the larynx after thyroid laryngotomy, Holden, E., 572; gummatous infiltration of the base of the tongue, Hitchcock, U. G., 572; a contribution to the pathology of the respiratory vaso-motor neuroses, Mackenzie, J. N., 572; a case of naso-pharyngeal growth, Johnston, S., 573; what cases of nasal catarrh require surgical treatment, Rice, C. C., 574; recent progress in laryngology and rhinology, Hooper, F. H., 608; the nature of asthma, 623.

Reynolds, E. A new cephalatome, 296.

Reynolds, J. P. Should infants be nursed at night? 254.

Rheumatism. Acute articular rheumatism, Ayer, J., 157; rheumatism of early life, Chapin, H. D., 231.

Rice, C. C. How the therapeutical value of our mineral waters may be increased, 489; what cases of nasal catarrh require surgical treatment, 574.

Richardson, W. L. Prolapse of the funis, 254.

Rickets. The etiology of rachitis, Haven, H. C., 27.

Robin, A. The influence of fluids (Boissons) on nutrition and in the treatment of obesity, 602.

Robinson, Gov. Recommendation to the Massachusetts Legislature on public health, 45.

Rocky-Mountain Fever, Curtin, R. G., 489.

Rollins, W. H. Copper amalgam, 175; recent progress in dentistry, 511, 537.

Rosse, I. C. The Chaclacayo trephined skull, 412.

Rotch, T. M. Six cases occurring in practice, 242, 252; report on diseases of children, 392.

Roth. An old anatomical preparation, 118.

Royal Operation, 358.

Sachs. Preliminary report on a case (with autopsy) of tubercular disease of the spinal cord, 493.

Salem Hospital, 70.

Salpingitis. A case of salpingitis, with severe symptoms, Elliot, J. W., 344, 347.

Salt Solution Severe hæmorrhage from ante-partum separation of the placenta, with the infusion of sixty-six ounces of salt solution, Harrington, F. B., 197, 296; intravenous injection of saline solution, Ott, D. O., 262; results of the intra-venous injection of salt solutions, Harrington, F. B., 481, 488.

Sarcoma of rib, Gay, G. W., 5.

Scarlet Fever. Co-existence of scarlet fever and varicella in a child two and a half years old, Ayer, J. B., 108; a case of co-existence of scarlet fever and measles, Brown, F. F., 224; case of scarlet fever (second attack) preceded and followed by a scarlet rash, Ayer, J. B., 252; the co-existence of measles and scarlet fever, Dunn, B. F., 287; scarlet fever from the cow, Power, W. H., 601.

Shultz, O. F. Use of so-called antipyretic doses of quinine in pneumonia, 468.

Senn, N. The surgery of the pancreas, as based upon experiments and clinical researches, 444.

Sewerage. Sewerage and the disposal of sewerage in populous places, 113; the influence of sewerage and water-supply on the death-rates in cities, 379.

Sexton S. Aural clinic of New York Eye and Ear Infirmary, acute non-suppurative catarrhal inflammation of the middle ear, 370.

Shaw, J. C. A case of softening of the corpora striata, with specimen, 182.

Spleen, Relation of the spleen to the stomach, Johnson, H. L., 239.

Shattuck, F. C. Laryngeal spasm in adults, with the report of two cases, one of gouty, the other of undetermined origin, 1, 9; a case of essential pernicious anæmia, 107; report on recent progress in thoracic disease, 199; pulmonary calculus, 395.

Shattuck, G. B. Acute miliary tuberculosis, 156.

Shoes. Weighted shoes in locomotor ataxia, Hamilton, A. McL., 60.

Shurley, E. L. Observations on the use of some of the newer remedies in diseases of the upper air passages, 545.

Skull. A case of fracture of the skull followed by abscess, Mason, A. P., 293; a case of fractured skull with autopsy, Bidwell, W. B., 294; indirect fracture of the skull, 353.

Slayter, W. B. A case of delirium tremens caused by chewing tea, 578.

Sleep. A patient's account of a case of insomnia, 377.

Sloane Maternity Hospital, 91.

Smart, C. Water-supply of towns and cities, 539.

Smith, A. G. Education and care of the idiot, 364, 373.

Smith, W. E. Pathology of irreducible and strangulated hernia, 176.

Societies. American Climatological Association, 470, 489; American Laryngological Association, 454, 519, 540, 571; American Medical Association, 429, 449, 452, 467; American Medical Editor's Association, 468, 529; American Surgical Association, 420, 443, 465; Association of American Physicians, 595, 600, 613; Boston Society for Medical Improvement, 7, 60, 107, 156, 202, 203, 251, 395, 418; Boston Society for Medical Observation, 85, 252, 347, 488; Boston Medico-Psychological Society, 230, 373; Cambridge Society for Medical Improvement, 206; Chicago Gynæcological Society, 323; Connecticut Medical Society, 568; Essex North District Medical Society, 488; Massachusetts Medical Society, 159, 227, 321, 437, 529, 548, 553, 562, 590; Massachusetts Medico-legal Society, 254, 574; New York Academy of Medicine, 12, 38, 135, 180, 231, 348, 398, 495, 616, New York County Medical Association, 109, 207, 298; New York, Medical Society of the State of, 159; New York Neurological Society, 14, 182, 302, 375, 492; New York State Medical Association, 396; New York State Medical Society, 618; Obstetrical Society of Boston, 61, 158, 254, 295, 464; Philadelphia, Pathological Society of, 89; Rhode Island Medical Society, 297, 594; Pennsylvania State Sanitary Convention, 515, 537; Suffolk District Medical Society, 11, 35, 132, 175, 274, 345, 416, 514, 592.

Somerville. Typhoid fever in Somerville, Mass., Durell, T. M., 60.

Specialists, 310.

Spina bifida Operation for the cure of spina bifida, Bradford, E. H., 169.

Spitzka. Brain of a porpoise, 375; a case of neurogliomatous hypertrophy of the pons oblongata, 375.

Spring, C. W. A case of cyanosis, 4.

Standish, M. A case of alcoholic paralysis preceded and accompanied by amblyohia ex abusu, with remarks thereon, 361.

Stanton. "O Tempora! O Mores!" 570.

Starr, M. A. The intra-cranial tracts, their physiology and its bearing on the diagnosis of lesions of the centrum semi-ovale, 180; vaso-motor neuroses, 303.

Stature. Hereditary stature, 281.

Stedman, H. R. Recent progress in mental disease, 80.

Stevens, G. B. The Improvement's Society's report on the Massachusetts medical examiner system, 238.

Stockman, C. W. Pneumonia and its treatment, 265.

Storer, H. R. Vaginal fibroid tumor, 297; the anticipatory treatment of local epidemics, 298.

Stricture. Subcutaneous division of urethral stricture, Mastin, C. H., 465.

Strikes from a medical point of view, 521.

Strong, C. P. Rectal disease of uterine origin, 151, 158.

Sturgis, R. Recurrent headache in children and its treatment, 128.

Suicide in China, Henry, A., 45.

Suicides in Great Britain, 357.

Surgery. Caries of tarsus, amputation, Porter, C. B., 8; excision of knee, Porter, C. B., 9; amputation at the shoulder-joint for sarcoma of the arm, Cabot, A. T., 11; the indications for laparotomy in penetrating stab and shot wounds of the abdomen, Bryant, J. D., 12; cerebral surgery, 11; American Surgical Association, 420, 443; a consideration of the bacteria of surgical diseases, 443; surgery of the pancreas, Senn, N., 444.

Syphilis. On the limitation of the contagious stage of syphilis, especially in its relations to marriage, Otis, F. N., 147.

Tarsus. Caries of tarsus, amputation, Porter, C. B., 8.

Taste. The nerve of taste, Dana, C. L., 302.

Tea. Chronic tea-poisoning, Bullard, W. N., 314, 321; chronic tea-poisoning, Dana, C. L., 406; a case of delirium tremens caused by chewing tea, Slayter, W. B., 578.

Thermo-cautery, new, Hammond, G. M., 492.

Thomas, T. G. Vaginal and vulvar enterocele, 38.

Thompson, A. A case of protracted pregnancy, 190.

Thornton, J. D. The jumpers, 190.

Tilden, G. H. Report on the progress of dermatology, 367.

Townsend, C. W. An analysis of 412 cases of lobar pneumonia, occurring at the Massachusetts General Hospital between January 1, 1870 and December 31, 1885, 274.

Toxicology. Poetry and toxicology, 307.

Tracheotomy. A case of tracheotomy in a neonatus, Hanson, H. H., 105.

Training-Schools for nursing the insane, 425.

Tubercle. The staining of the bacillus of tubercle, Cushing, E. W., 268, 277; should nurses who are tuberculous be allowed the care of children? Gannett, W. W., 385, 395.

Tuberculosis. Tuberculosis of bone, 17; acute miliary tuberculosis, Shattuck, G. B., 156; buccal tuberculosis, Delavan, D. B., 543.

Tumors. An uncommonly large fatty tumor, Porter, C. B., 61; a study of the etiology of tumors, McNamara, L. J., 109; two cases of cerebral tumor, with autopsy, Lane, E. B., 217; a mediastinal tumor, Whittier, E. N., 289, 395; vaginal fibroid tumor, Storer, H. R., 297; cases of tumors in hernia region, Post, A., 486.

Turnbull, F. M. A report of three cases of melancholia, being especially a consideration of the prognosis, 230.

Tyndall. Theory of vaccination, 381.

Typhoid Fever. The pulmonary complications of typhoid fever, Harrington, F. B., 28, 37; typhoid fever in Somerville, Mass., Durell, T. M., 60; the sanitary significance of cases of sporadic typhoid fever, Dudley, P., 540; typhoid fever, Porcher, F. P., 596.

Undercurrents of modern medicine, Hodges, R. M., 529, 553.

Urethran. Chorea treated with urethran, Abbot, S. L., 419; urethran, another new hypnotic, 475.

Urinary System. A case of extrophy of the bladder, Gay, G. W., 6; a tumor of the bladder, complicated by the presence of a calculus, Cabot, A. T., 7; a case of multiple calculi in the bladder, Cabot, A. T., 8; urethral calculus, Porter, C. B., 8; dilatation of phimosis, Harwood, C. W., 85; chronic disease of the kidneys and bladder, Minot, F., 108; primary tuberculosis of the kidney, Grauer, F., 111; ocular symptoms in renal disease, Williams, H. W., 157; enlarged prostate; difficult catheterization: question of cystotomy, Gannett, W. W., 252; simulated vesical and renal calculus at ten years, Rotch, T. M., 242, 252; two cases of nephritis varicellosa, Högyes, 261; the significance of small quantities of sugar in the urine, McBride, T. A., 348; sacculation and perforation of the bladder as consequences of chronic retention of urine, Gouley, J. W. S., 397; nephrectomy on a patient twenty-three months old, 448; subcutaneous division of urethral stricture, Mastin, C. H., 465: albuminuria in health, Noorden, C. von, 550; morbus brightii, Wright, 570; two rare varieties of rupture of the bladder, Pousson, A., 577.

Vaccination. Humanized virus, Martin, S. C., 22. 94; humanized and bovine vaccine virus, Chapin, C. V., 70; humanized virus once more, Chapin, C. V., 143; Tyndall's theory of vaccination, 381; vaccination, Welch, W. M., 539; the care of animals in the propagation of vaccine, Zuill, W. L., 540.

Vanilla poisoning, 476.

Varicella Co-existence of scarlet fever and varicella in a child two and a half years old. Ayer, J. B., 108.

Veer, V. The water-supply of cities and villages, 160.

Vermont. Insanity in Vermont, 379.

Vertigo. Essential vertigo, Bremen, L., 467.

Vesalius. An old anatomical preparation, Roth, 118.

Vickery, H. F. Enlarged cervical glands, 219, 229.

Vienna. Letter from Vienna, Jackson, H., 142; letter from Vienna, Louis, I., 238.

Virus. Humanized virus, Martin, S. C., 22, 94, 167; humanized and bovine vaccine virus, Chapin, C. V., 70; humanized virus once more, Chapin, C. V., 143.

Vomiting in Pregnancy. Causality in disease applied to the phenomenon of vomiting in pregnancy, Kelly, J. E., 337, 245.

Wadsworth, O. F. Recent progress in ophthalmology, 31.

Walton, G. L. A case of concussion followed by paralyses, pointing to hæmorrhage into the fissure of Rolando, 3, 11; cases of functional and organic injury to the central nervous system caused by trauma, 102, 109.

Warner, E. A case of diabetes in a child-bearing patient, 436.

Water-Supply of cities and villages, Veer, V., 160.

Water. The influence of sewerage and water-supply on the death-rate in cities, 379; how the therapeutical value of our mineral waters may be increased, Rice, C. C., 489; tests for organic impurities in water, Formad, H. F., 515; water-supply of towns and cities, Smart, C., 539.

Waxham, F. E. Feeding-bottle for use in cases of intubation of the larynx, 328.

Weeks, A. P. Acute inversion of the uterus, 418.

Welch, W. M. Vaccination, 539.

Wells, F. Specimen from lung of a case of "nailers" or "grinders consumption," 396.

Whitman, R. A case of pistol-shot wound of the head resulting in abscess of the brain, with a report of the autopsy, 170, 175.

Whitney, W. F. Localized amyloid degeneration, 158; recent progress in pathology and pathological anatomy, 483.

Whittemore, J. H. The late Dr. J. H. Whittemore, 69.

Whittier, E. N. Cases of anæmia, 57; a mediastinal tumor, 289, 395.

Williams, H. F. A clinical report of cases treated by pneumatic differentiation, 473.

Williams, H. W. Ocular symptoms in renal disease, 157.

Withington, C. F. Military drill as a means of physical training for boys, 433, 458.

Wilson, F. S. Importations of foreign rags into American ports, 516.

Wing, C. E. Epidemic in North Carolina, 279.

Women. The admission of women to the operating theatres of general hospitals, 452.

Wood, H. C. Hygiene of old age, 518.

Woodbury F. Physic tippling and medicine bibbing, 517.

Woodward, R. Action of the Worcester District Medical Society on the death of Rufus Woodward, M.D., 46.

Worcester Medical Improvement Society. Action on the death of Rufus Woodward, M.D., 46.

Workshops. Sanitation in workshops and factories, 282.

Wright. The microscope in its relation to disease, 570; morbus brightii, 570.

Wyman, M. Complimentary dinner to Dr. Morrill Wyman, 206.

Wyman, S. E. Anatomy of irreducible and strangulated hernia, 176.

Yellow Fever in Brazil: Friere's inoculation, Lane, H. M., 534.

Zeuner, P. The diagnostic value of the knee phenomenon or the patella tendon reflex in diseases of the nervous system, 468.

Zuill. The care of animals in the propagation of vaccine, 540.

Original Articles.

LARYNGEAL SPASM IN ADULTS, WITH THE REPORT OF TWO CASES, ONE OF GOUTY, THE OTHER OF UNDETERMINED ORIGIN.[1]

BY FREDERICK C. SHATTUCK, M.D.

The irritation which gives rise to laryngeal spasm may be seated within the larynx itself, as in the case of a foreign body, tumor, ulceration, etc.; in the course of the laryngeal nerves, as by the pressure of an enlarged thyroid or bronchial glands; or in the central nervous system, as in locomotor ataxia. In all the above cases, there are definite and localized anatomical changes; but we also meet with spasm of the glottis in cases where an explanation for the symptom is not so easily given, and we are compelled to suppose the existence of a peculiarly irritable condition of the nervous system, depending on defective nutrition, or the presence in the blood of some toxic agent. Spasm occurs, for instance, though rarely, in children apparently free from any other manifestation of rickets; and, when such manifestations are present, we do not know how often enlargement of the bronchial glands may or may not be regarded as the exciting cause. Gueneau de Mussy went so far as to maintain that in swelling of these glands lies the chief, if not invariable, cause of the spasms of whooping-cough, but his views have never won anything like general acceptance.

That the affection which forms the subject of my remarks is much more common in children, and that in childhood — leaving pertussis out of consideration — the largest contingent of cases occurs in connection with rickets, are facts which will not be disputed. For these facts, moreover, the great functional activity of the sympathetic system during the period of most rapid growth, and the consequent unstable equilibrium, seem to afford an adequate explanation.

In adults, apart from foreign bodies and intra-laryngeal tumors, hysteria, or pressure on the recurrent sufficient to excite, but insufficient to abolish the function of the nerve, laryngeal spasm is rare. Its connection with posterior spinal sclerosis has been made out only comparatively recently. That it should occur so seldom in cases of laryngitis, which, in every grade, is so common an affection, is as remarkable as it is fortunate, considering the great discomfort and alarm to which the symptom is apt to give rise. Fatal cases are very rare, but are recorded.

In 1876, Charcot first described, and up to 1879 saw four cases, to which he applied the term laryngeal vertigo. The striking feature of these cases is loss of consciousness following cough, which, in its turn, follows a burning or tickling sensation in the region of the larynx. McBride, in the Appendix to his translation of Gottstein's "Diseases of the Larynx," has collected six other cases, one of which came under his own observation. Charcot is inclined to consider the affection the analogue of Menière's disease, the irritation being conveyed through the superior laryngeal, the sensitive nerve of the larynx, stimulation of which produces spasm of the glottis. McBride and Krishaber, however, seem to think the cases are really simply spasmodic.

In the two cases which I shall now briefly report, laryngeal spasm is the most prominent symptom. In the first case, there certainly seems to be no sufficient cause in the larynx itself, and careful physical examination fails to detect anatomical changes elsewhere at the door of which the symptom can be laid. Lead was found in the urine by a most competent analyst, and this agent is mentioned by Steffen, in his contribution to "Ziemssen's Cyclopædia," as a cause of laryngeal spasm. It has, unfortunately, not been possible to follow up the case, and whether the cause lies really in plumbism, or in functional disturbance of the central nervous system, I cannot determine. In the second case, the spasm seems to be clearly of gouty origin.

January 12th, 1883, Mr. A., forty-eight years of age, a shopkeeper, came to my office, referred to me by Dr. W. H. Workman, of Worcester, and gave the following history. A grandfather had paralysis at the age of sixty, but lived for ten years afterward. No special hereditary tendency to disease was detected. He is the third of a family of eleven, eight of whom are alive and well. Has never used alcohol or tobacco, is moderate with tea and coffee, and eats only twice a day — at 7 A. M. and 2 P. M. — and then rather sparingly. His occupation necessarily involves a good deal of confinement in poor air. The right arm is ill-developed and nearly useless, the result, apparently, of infantile paralysis: he uses the left hand in writing. Twelve years ago, he started in business in Boston, had up-hill work and much anxiety about his affairs until a year or two ago, but kept his worries entirely to himself, not speaking about them even to his wife. Within the last six years or so, has had four attacks of pain in the right hypochondrium, not attended by jaundice; the pain was severe enough to demand morphia subcutaneously, and with each attack, he was laid up for a short time. His physician, a homœopath, pronounced the attacks bilious colic.

Somewhere about the time of the first of the above attacks, he was troubled with hoarseness, and he also noticed that talking fatigued him, sometimes more, sometimes less: these symptoms he attributed to excessive singing, a practice of which he had been very fond. He has never been specially subject to colds, nor does he now take cold easily. His voice has remained more or less hoarse ever since, and talking is a great fatigue to him; so much so, that he generally remains silent at home on returning from his store, and at the store, acts as cashier, in order to avoid, as far as possible, being compelled to talk. He has his good days and bad days, but the use of his voice is seldom unattended by discomfort.

About four years ago he experienced, for the first time, an attack of "choking," a sensation as if he were grasped by the throat, or as if something he had eaten had gone the wrong way. The attack was very distressing while it lasted, and left him very weak for twenty-four hours. He can assign no satisfactory cause for the spasm other than his hoarseness. Very soon after this, he consulted Drs. Bowditch and Knight, who, he reports, detected nothing wrong with him other than a laryngitis. Again, two years ago, he consulted these gentlemen, with a like result. He has now had four of these "choking spells," the last, and by far, the most severe, a few nights since. He went to bed about nine o'clock, as usual, after a day marked by no noteworthy occurrence, and at eleven was awakened out of a sound sleep by a strangling sensation: before he fairly knew what he was doing, he was on his feet, went to the window, opened it, struggled across the room and back to the window before the spasm relaxed and air could enter his chest. He was very much alarmed by this attack, from which he began to fear he should not recover, and he did not dare to sleep again that night. He felt extremely weak, and kept the house all the next day, as he has done after each attack of the kind. His general health he reports as excellent, but he does not wish a recurrence of the spasm. On laryngoscopic examination, I was surprised to find the evidences of only a slight chronic laryngeal catarrh, no greater than I have often seen in persons not notably hoarse, or otherwise suffering from decided symptoms. A careful examination of the chest and throat externally, failed to detect anything abnormal. The pulse was 84, regular, and the artery felt normal. The left naso-labial fold was less distinct than the other, and the angles of the mouth were not symmetrical, a change which was remarked upon by a friend and noticed by himself perhaps six months ago. The muscles, however, moved properly, and I could detect no other modification of any of the other facial or of the ocular muscles, or of the tongue. The laryngeal changes were so slight it seemed to me not improbable that the source of the spasm lay in some distant part, and I advised the patient to consult Dr. Webber, and have a thorough examination of his nervous system. Dr. Webber reported to me that he found nothing additional, except total deafness of the left ear, but he was inclined to suspect that the attacks of so-called bilious colic might be due to lead. Mr. A. had always taken special pains about his drinking water — he lived out of town — which he was sure was above suspicion; but he was put upon potassic iodide for a week, and the urine was then examined by Dr. Wood, who reported that he found a small amount of lead.

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[1] Read before the Boston Society for Medical Improvement, December 28, 1885.

Meantime, the patient used some mild inhalations, and found marked relief to his hoarseness from Wyeth's pellets of chloride of ammonium and chlorate of potash, and one or two other remedies. The relief was, however, only intermittent: February 9th, he reported that he had a slight threatening of spasm that morning, and February 22d, he wrote that he was no better, and has not consulted me since.

In reply to a letter of inquiry from me a few days ago, he says he has had no spasm since February, 1883; his general health is good; there is a constant sensation in his throat as if water were trickling down it; he is obliged to sleep in almost a sitting posture and upon his back — the moment he gets on his side, "that dreadful feeling" comes on. He further reports that talking is quite as painful and difficult for him as it was — to use his own words — "I am never introduced or go into company, if I can possibly avoid it. Some time ago, wife and I went to a friend's birthday party; I was introduced and seated by a lady I never saw before; I could not speak a loud word, and was so mortified, that as soon as I could, I bid our friends good bye, and said I would never go into company again. No one can know how hard it is to bear, except those who are afflicted. I have not had any treatment since I saw you."

The following are Dr. Bowditch's notes of this case: Aged forty-four; consulted me February 1, 1879. (He says that, many years before he had consulted me, and that paralysis of one vocal cord was found. I could find no record of this in my notes). When four years old, he had a fall, striking the back of the head, followed by severe paralysis of the right arm, and partial paralysis since two years after the accident. At the time of visit, this arm was weaker than the other; since the fall, he had had some deafness of the left ear. For three or four months before my seeing him, he had, occasionally, at night, sudden attacks of dyspnœa, from which he would recover easily on sitting up in bed. He had some difficulty in speaking clearly. At times during the day, was hoarse and unable to utter certain words.

Three or four weeks before his visit, had been suddenly seized, while writing at his desk, with a feeling as if he could not breathe. No wheezing, but a croupy, hoarse sound in speaking. He was greatly distressed and thought he was going to die, and as if his heart would cease to beat. During the paroxysms, he became red in the face. Frequent milder attacks in the day, since. Two of the severest paroxysms having occurred the two nights before he called on me. I found that he had no cough nor dyspnœa ordinarily. The thorax was large and vesicular murmur good everywhere. Perhaps a slight difference in lower part of the left back. Percussion everywhere good. No abnormal heart phenomena noticed. He had, in conversation, apparently, severe labor in speaking. Digestion and other functions perfect.

Dr. Knight reported catarrh of the pharnyx, and a few enlarged follicles. There was congestion of the mucous membrane of the arytenoid cartilages and epiglottic folds, quite moderate congestion, also, of the edges of the vocal cords, considerable of the laryngeal surface of the epiglottis. Motion of vocal cords on phonation, but voice altered by mucus between them. Our diagnosis was "Nervous Laryngeal Trouble." No further record made, as the patient did not return.

CASE II. Mr. B., a bachelor of about forty, inherits gout, and has had several acute attacks during the last fifteen years or so. Since he became openly gouty, he has had a number of attacks of laryngeal spasm which come on at night without any obvious exciting cause, wake him from a sound sleep, and are, to use a mild expression, intensely disagreeable.

January 13, 1883, he felt a severe cold coming on, but, having accepted an invitation to a sleighing party, betook himself to the appointed place for starting. His cold was so decided, however, that he withdrew, dined at the Club, went home, and was in bed by ten, taking a hot drink. He soon fell asleep, but towards morning, his brother-in-law, who occupied the room below, was wakened by a heavy fall on the floor, hastened up stairs, and found Mr. B. struggling for breath: the spasm soon relaxed somewhat and he was got to bed, but he suffered much from great oppression in the chest, as well as from recurrent milder attacks of spasm. About 6 A. M., Dr. F. B. Greenough was summoned, and I will make some quotations from a letter he wrote that day, failing to find me at home when he called to ask me to take charge of the case, he confining himself now strictly to special practice.

"The most distressing symptom when I was called was an evident spasm of the larynx, which caused a strident, choking, gasping for breath. The sputa, while I was there, was clear, pure, bright-red blood, without, apparently, any mucus, and there was none of that harassing cough which I have always seen in cases of violent congestion. There were no positive abnormal physical signs in the chest, the pulse was rather small and over 100; he was not blue, nor was his respiration very hurried, but there was this catch in the larynx, which made it hard for him to draw his breath. He had a feeling of nausea, and I should have given him an emetic had I not feared that vomiting might aggravate the spasm, and that if undigested food were thrown up, it might get down into the trachea. He did throw up a little bilious fluid while I was there, and it gave him an awful spasm of strangling, that was overcome only by a whiff of ether. At one time, I felt that if the symptoms of congestion did not clear up, as they did, it would be a question of the propriety of venesection."

The patient himself reported that the symptoms of congestion were much worse before Dr. Greenough saw him, that the laryngeal spasm alone was, by far, the most severe he had ever had, and that the combination was one which he hoped never again to experience. I saw him first at 2 P. M., January 14, when he was comparatively comfortable. The pulse was 84, full and strong, respiration, 20; temperature, 99.5. The voice was hoarse, and talking was painful; there was marked substernal soreness, but no pain elsewhere in the chest, the examination of which gave negative results. In a cup, was a small amount of sputum, very similar to that of pneumonia. The urine had a density of 1030, was free from albumen, but loaded with lithates. At 9 P. M., the pulse, respiration, and temperature remained the same.

January 15. He reported a fair night, without anodyne, and felt better; he had raised half a dozen bloody sputa during the night. Pulse, 66; respiration, 20; temperature, 98.5. January 16. Further improvement. Pulse, 50; rather small for so large a man. Complained of pain in the back, and of acute pain in the heel, such as he had had in previous gouty attacks. The urine was scanty, with high specific gravity and deposited lithates. Under alkalies and other suitable treatment, the pain in the heel and other symptoms soon cleared up, and in a week, he was in usual health, and there was no recurrence of the spasm. In the following June, the very night after his return from three weeks in the Maine woods, he had his next spasm; this was Thursday night, and Saturday he sailed for Europe, en route for Carlsbad. On reaching London, he was laid up a fortnight with the worst bout of gout he ever has had, but struggled on to the Continent as quickly as he could. He was greatly benefited by his stay in Carlsbad, returned home in September, and ever since, a period of more than two years, has been very well. He has had, during this time, one mild attack of spasm, with several threatenings. He believes that he has found a sure cure for the spasm in a small quantity of pure gin, a flask of which he now invariably keeps at his bedside. With the exception of the attack which has been described in detail, the spasm has never been connected with taking cold.

— The Natural History Museum at Vienna, has just been presented with 708 skulls collected through a series of years by Dr. Weissbach, who was for a long time Director of the Austro-Hungarian Hospital at Constantinople, and was a very distinguished anthropological investigator. Of the collection, 195 are pure Turkish skulls, 131 Greek, 96 Servian or Croat, 48 Hungarian, 43 Armenian, 29 old Byzantine. There are also skulls of Maronites, Albanians, Koords, Asiatic Jews, etc.

A CASE OF CONCUSSION FOLLOWED BY PARALYSES, POINTING TO HÆMORRHAGE INTO THE FISSURE OF ROLANDO.[1]

BY G. L. WALTON, M.D.

The surgical interest of this case lies in the fact that the region of the cortex invaded is an important site for operative interference through the guidance of cerebral localization. Whatever doubt remains regarding the functions of other parts of the brain, the fact is practically established that the motor centres for the opposite side of the body are congregated about the fissure of Rolando, although this conclusion may seem sometimes contradicted through commissural connections and secondary changes in brain structure, incident to inflammatory processes. The symptoms in this case point to a primary circumscribed lesion in this region, without misleading complications.

The patient (admitted to Massachusetts General Hospital, in the service of Dr. Porter), a man of twenty-three, was struck about six weeks ago, while standing on the ice of a stream, by a tree which fell from the bank. One branch struck him on the vertex to the right of the median line, another on the left shoulder. Unconsciousness of some hours followed, on recovery from which he found his left leg powerless. He could not move his left arm, whether simply from pain or from paralysis, he cannot tell. His face was not, at that time, he says, drawn to one side. When brought to the hospital the next day, he was very restless and noisy, complained of headache, had frequent outbursts of crying, seemed, at times, hardly accountable for his actions, answered questions, as a rule, coherently, though in a rather silly manner. He is said to have bled from the nose and left ear after the injury, but nothing of the sort appeared at the hospital. The left shoulder was greatly swollen, front and back, but careful examination revealed nothing beyond severe contusion and considerable ecchymoses (Dr. Porter). The patient, when admitted, could not use the left arm nor leg, and the face was drawn to the right. When I first saw the patient (a week after admission), the face was decidedly drawn to the right, through paralysis of the left facial nerve (of which the lower branches alone were affected). There was almost complete motor paralysis of the left arm, without atrophy. In the left leg was found only paralysis of the peroneal muscles, exaggerated knee-jerk and ankle-clonus. There was no sensory paralysis nor loss of any special sense. The pupils were alike and reacted normally. The patient was still restless, noisy, and emotional. The treatment consisted in ice to the head, bromide of potassium, chloral and ergot, cathartics, and low diet. Improvement has been steady. The leg is now practically well, although a trace of clonus remains. The mental condition is fair; the intelligence is still below par, whether lower than before the accident we have no means of ascertaining. The facial paralysis has persisted, and that of the arm, all motions being possible, but weak. Tendon reflexes are marked at the wrist.

The most probable diagnosis is that of concussion, followed by hæmorrhage (of the common variety into the cavity of the arachnoid) in the fissure of Rolando, on the right. That laceration of the cortex also took place, both locally and by contre-coup, is probable, as evidenced by the extreme restlessness. The paralyses must, however, have resulted from hæmorrhage. The principal seat of pressure, at present, if the hæmorrhage is cortical, which seems most probable, must be regarded as the lower part of the fissure of Rolando, involving the centres for movements of the opposite arm and side of the face. Whether this was the original seat of the hæmorrhage, and the paralysis of the leg was due merely to extension of pressure, or whether it gradually worked its way down the fissure, involving arm and leg centres at first, and the face only later, we cannot judge, for the patient's statement that his face was not drawn until after the arm and leg were paralyzed, can hardly be relied on.

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[1] Shown at a meeting of the Surgical Section of the Suffolk District Medical Society, April 1st, 1885.

A CASE OF CYANOSIS.

BY CLARENCE W. SPRING, M.D., OF FITCHBURG.

LOUIS S., a boy, seven months old, of German parentage, was brought by his mother for treatment of a gastro-intestinal disturbance. The peculiar appearance of the child led to my obtaining the following history. The father and mother had always been well, and there were five other children in good health. Nothing bearing on the present condition was found in the family history. The child was born at full term, and nothing was noticed wrong, the mother said, until it was seven days old. The child then began to have attacks of dyspnœa, and "got blue" about the ears, nose, and the extremities. This condition increased in severity, and at times the breathing would stop, and the child appear as though dead. Dyspnœa soon became continuous, though frequently increased by these severe paroxysms. The child could not nurse and was bottle fed.

Examination showed the child to be fairly well nourished. The ears, nose, and portions of the face together with the hands and feet were deeply cyanosed, and the rest of the body, though only to a comparatively slight extent. The dyspnœa was extreme. Auscultation though difficult, showed the lungs to be apparently well filled with air. A loud murmur was heard over the whole front of the chest, but was most distinct over the middle of the sternum. The time could not be definitely determined. Percussion did not show any enlargement of cardiac area.

About a week after the first visit, the child died in one of these paroxysms of dyspnœa, there being no convulsions.

I performed an autopsy twenty hours after death. Rigor mortis was well marked. On removing the sternum the lungs were found well distended and filling the thorax. Subsequent examination of a portion from the upper lobes showed the anterior part in a condition of atelectasis. Nothing further was observed until the heart was removed, which showed some interesting points. The organ was enlarged, of firm consistency, and somewhat pale in color. There was only one opening into the right auricle; both inferior and superior cavæ evidently joining before they entered as a common trunk. There was but one vessel, the aorta, arising from the ventricles, there being no pulmonary artery nor any evidence of a rudimentary vessel in its place. The aorta came off from the base of the ventricles corresponding in position of origin with the inter-ventricular septum. Internal examination showed an open foramen ovale, and an opening also at the base of the septum ventriculorum which would easily admit the end of the finger. This was continuous above, with the opening of the aorta, which thus freely and equally communicated with both ventricles. The left ventricle was hypertrophied, and its walls thickened. The right ventricle was considerably dilated, and the right auriculo-ventricular opening would admit the thumb easily. Cut sections of the walls showed a pale surface but no fatty degeneration was detected. Owing to the fact that I was not able to complete the autopsy the distribution of the vessels to the lungs could not be determined, nor the other organs thoroughly examined.

This pathological condition, though not extremely rare, is of exceptional interest in this case from the junction of both cavæ before entering the auricle; the perfectly symmetrical arrangement of the aorta over both ventricles; and its complete development, while there was the entire absence of any sign, even rudimentary, of a pulmonary vessel arising from the heart.

The admixture of venous and arterial blood was rendered most perfect in this case by the arrangement above given, and in this fact probably lay the cause of the cyanosis, as well as in the fact that the obstruction in the pulmonary circuit made complete decarbonization of the blood impossible. The fact was illustrated in this instance that cyanosis dependent on cardiac malformation may not begin at birth, though in the majority of cases it begins within the first week. It would seem remarkable that the child lived as long as it did, though on looking at the statistics of Aberle, I find that of one hundred and eighty-six cases, only fifty died before the age of seven months. The nature and extent of the malformation obviously determines the completeness of the compensation and the rapidity of death.

Hospital Practice and Clinical Memoranda.

GUN-SHOT WOUND OF THIGH—SECONDARY HÆMORRHAGE — LIGATURE OF FEMORAL ARTERY—GANGRENE—PYÆMIA—EMBOLIC PNEUMONIA — DEATH.

BOSTON CITY HOSPITAL.

SERVICE OF GEORGE W. GAY, M.D., VISITING SURGEON.

REPORTED BY J. B. BRAINERD, M.D., FORMER HOUSE SURGEON.

WILLIAM C., a healthy, robust Scotchman, eighteen years old, was a seaman on board the British Steamer *Colonsay*. In the afternoon of February 28th, 1884, he was brought to the City Hospital in a Police ambulance. There had been a row on board the vessel that day, and, in attempting to wrench a loaded revolver from the boatswain, he received the discharge full in the right thigh.

Examination showed a rounded punctate wound on the extensor surface of the thigh, five inches above the inner condyle of the femur. The clothes and skin about the wound were scorched. There was no hæmorrhage, and the dorsalis pedis pulsated. The knee joint was not implicated, but there was a point of tenderness at the upper part of the popliteal space. The wound was washed with a solution of corrosive sublimate, 1 to 1,500, and dressed with corrosive gauze.

The following day the patient was etherized, and the track of the bullet explored by the little finger down to the sheath of the vessels, which was found to have been opened, but the femoral was felt pulsating. A counter opening was now made over the popliteal space, and the bullet extracted with dressing forceps. It had pierced Hunter's canal without apparent injury to the vessels.

The bullet was of thirty-two calibre, and slightly flattened at the head. Corrosive dressing. For five days he did well. There was no unusual rise of temperature, and the dressings were not disturbed. That night there were two slight hæmorrhages, easily checked by pressure. The following day he was comfortable, but again in the night, he had two very severe secondary hæmorrhages, which necessitated the use of the tourniquet. A few hours later, the femoral artery was tied, by Dr. Gay, at Scarpa's triangle. This did not control the bleeding. The vessel was now sought for in the wound, and raised on a curved aneurism needle. It showed a complete perforation through the wall about the size of a split pea. The artery was ligated above and below this perforation. Leg was wrapped in cotton batting. He passed a comfortable night. His morning temperature was 101° F. At noon he began to have severe rigors, which continued at short intervals for the next two days. They were accompanied by vomiting, rise of temperature, profuse cold sweats, and great prostration. His foot showed some discoloration, which rapidly extended until the whole leg was gangrenous and sloughing. The line of demarcation formed just above the knee.

March 18th. His general condition having improved somewhat, he was given a very little ether, and the leg was rapidly amputated by Transfixion at the level of the original wound. He rallied somewhat after operation, but in a few days began to fail again. The granulations became pale and watery; the flaps were thick and infiltrated; sinuses riddled the stump in all directions, and pus burrowed freely up the thigh. The appetite failed, diarrhœa was constant, and the urine contained about one-fourth per cent. albumen. His mind, however, remained clear through all. On the 9th of April, a double pneumonia set in, undoubtedly of metastatic origin, which he withstood for three days. He died at midnight April 12th.

Autopsy by Dr. F. W. Draper, medical examiner, thirty-six hours after death. The body was much emaciated, and the skin presented a pale sallow hue. The right thigh had been amputated in its lower third; the end of the stump was ulcerated. The left thigh was not swollen or otherwise altered.

Internal Examination. The left pleural cavity contained sixty-six fluid ounces of red, turbid, sero-purulent fluid, with many flakes of firm lymph. The pleura, both costal and pulmonary, was roughened, reddened, and thickened, by recent inflammation. The right pleural cavity contained eight fluid ounces of clear red fluid, without other indications of pleurisy.

The heart was pale, but otherwise was not remarkable.

The upper lobe of the left lung was compressed and carnified; the lower lobe was in a condition of gray hepatization throughout. Upon its inferior surface appeared the base of a recent embolic infarction; it was dark red, slightly raised, and its diameter was five-eighths of an inch. Section of this showed a conical-shaped nodule, occupying a lobule of the lung, three-quarters of an inch in depth, dark red in color, and of firm consistence. The lower lobe of the right lung was œdematous, but not engorged. Upon its posterior and inferior surfaces were counted five infarctions, varying in size at their base from that of a nickel to that of a split pea.

The pulmonary artery and its branches were examined, but nothing abnormal was detected.

The spleen weighed thirteen and a half ounces; it was very soft, and light red in color. No infarctions were found.

The kidneys were moderately enlarged, very pale in color, and of dense consistence. Their capsules were adherent.

The liver, stomach, and intestines were normal.

The right iliac and femoral artery was of normal appearance till the origin of the profunda was reached. At this point began a firm discolorized clot, occupying the entire lumen of the vessel, closely adherent to the intima, conical at its upper end, and completely occluding the artery, from the profunda downward. The point of ligature was found about three inches below the profunda, and the artery was nearly separated by ulceration under the ligature.

Just below the junction of the two common iliac veins, the *right* iliac vein displayed a broken, friable, nearly decolorized thrombus, occupying nearly its entire lumen, and measuring about an inch in length; its inferior end was pointed. Beyond this, as the external iliac and femoral vein was dissected towards the stump, fragments of coagula were found, mingled with laudable creamy pus. The inner coat of the vein was thick and rough.

The *left* common iliac, external iliac, and femoral veins, from the junction of the iliac outward, contained a decolorized clot like that in vein on the right side, except that it was better formed, more firmly adherent to the intima, and with less inflammation of that coat. In the femoral portion of the vein, the clot tapered into a long, dark red, ribbon-like clot, easily detached. There was not complete occlusion of either the right or the left iliac veins, although very little would be required to make the obstruction complete.

The brain was pale, anæmic, and sodden. Nothing wrong was observed about the meninges or sinuses.

SARCOMA OF RIB.

REMOVAL — RECURRENCE — SECOND OPERATION.

Annie L., a Stout Irishwoman of forty, came to Hospital September 28th, 1883. She had a tumor under the right breast, of one year's duration. It came on after lifting a heavy tub of water. She felt as if something had given way at the time, and soon after discovered a little nodule, at a point which had always been tender to touch. Its growth has been gradual since; she thinks it has just about doubled its size in the last six months. There has not been much pain.

Examination showed a rounded, smooth-surfaced tumor about the size of an orange, located over the fifth rib, just beneath the breast. It was firmly attached to the ribs below, and to the skin over it.

Operation by Dr. Gay. An incision was made, under ether, through the tumor. It contained about an ounce of thick, glairy fluid. It was easily peeled out from the surrounding tissues, but had to be cut and scraped from the rib.

A specimen of the growth was sent to Dr. Gannett, who reported: "Tumor sent is a fine specimen of a new growth made up of hyaline cartilage. It is, therefore, a 'chondroma,' and started, in all probability, from the cartilage of the rib."

The patient made a rapid, uninterrupted recovery, union by first intention, and was discharged October 17th, 1883.

Eleven months later, she returned, looking very poorly. She had lost some flesh, and was much reduced in strength. Four months after the first operation, the disease returned, and has increased gradually since, attended by more pain. There are two nodules in the old cicatrix, and a third over the ensiform cartilage. Patient was etherized, and the nodule, together with the old cicatrix, removed. The rib was well scraped with a curette. The nodule over the ensiform cartilage was not attached, and was easily removed. The convalescence was tedious, wound healed by granulation, but in six weeks she was able to go home, October 25th, 1884.

A CASE OF EXSTROPHY OF THE BLADDER.

PLASTIC OPERATION — SURGICAL SCARLET FEVER.

Robert M., nine years old, born in Boston, of Irish parents, has been afflicted since birth with a congenital deformity due to failure of complete development of his genito-urinary system. The pubic bones have failed to form the pubic arch for the support of his abdominal organs. There are large double herniæ extending into partially formed inguinal canals. On the perineum is a patch of scrotal integument, but no scrotal sac or tunica vaginalis. The testes can be felt in the inguinal canals just in front of the herniæ. Between these two herniæ is the exposed bladder, its dark red mucous membrane presenting in three folds or lobes, between which are seen the courses and openings of the ureters. At the base of the bladder is a large, well-formed glans penis, without corpora cavernosa or corpus spongiosum. There is no urethra proper, but on either side of the glans penis is a small opening from which the urine dribbles. The folds of the groin and front of the thighs are constantly bathed in the urine, rendered ammoniacal from the constant cystitis which the exposed bladder is subject to.

November 9th, 1883, the patient was operated on, under ether, by Dr. Gay. A longitudinal flap from the umbilical region, and hingeing on its lower border, was brought down like an apron over the exstrophied bladder, the epidermal surface in apposition with the bladder. Two flaps were now taken from the inguinal regions, their pedicles near the perineum. These were brought up over the "apron flap," and united in the median line. Shirt-button sutures were passed from side to side to prevent stretching of the flaps. Drainage tubes were inserted on either side of the glans penis for the discharge of urine.

Patient did well after the operation, but on the third day he had an attack of surgical scarlet fever, which lasted ten days. A fine erythematous rash appeared over his chest and abdomen, which was preceded by vomiting and loss of appetite. The next day the rash had extended on to the shoulders, and down about the wounds and flaps. The wounds were now covered by grayish sloughs, with thickened edges; the rash extended on to the thigh. In four days the slough had cleared off, leaving healthy granulations beneath. The rash also disappeared without further extension, and unattended by desquamation. No sequelæ followed the attack, and the child improved rapidly.

At the end of two weeks, the flaps were generally adherent to each other, the sutures were removed, but the urine continued to leak from the sides, and through sinuses between and under the flaps. There was a phosphatic deposit formed on the under side of the apron flap, which blocked up the drainage openings, but, by careful daily irrigation with warm water, the incrustation was removed. The glans penis was amputated to give a freer outlet for the urine, and the condition of the boy improved. The flaps healed down, leaving a solid abdominal wall, and the urine all escapes through the aperture. He was fitted, by Messrs. Leach & Greene, with a metalic cap, which catches his urine, and conducts it through a rubber tube into a reservoir suspended between his legs.

The peculiar method of making the flaps adopted in this operation is worthy of special attention, from the fact that, owing to the position of the pedicles, one being above, and two below the exposed mucous membrane, as the tissues contracted, the flaps were not displaced, and the interior of the bladder was not exposed, as is apt to be the case, if the pedicles are all situated above or on the sides of the viscus. It is now over two years since the operation was performed, and the boy's condition is entirely satisfactory. He is fat and rosy, and the urinal catches the water, so that he is not a nuisance to himself and to every one about him. There is no cystitis, and no gravel; in short, the urine is normal, and it all escapes from a small opening in the center of the prominent flaps over which rests the urinal.

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Pharmaceutical Memoranda.

PHARMACEUTICAL NOTES.

BY B. F. DAVENPORT, M.D.

A SUBSTITUTE FOR IODOFORM.[1]

Iodol is a dark powder, obtained from "Dippel's Animal Oil." It has but little smell, and is soluble in three parts of absolute alcohol, but only in five thousand parts of water. More than two hundred observations on various diseases, have been made with it in the Royal Surgical Institute in Rome. It was used suspended in glycerine, dissolved in alcohol and glycerine, and as an ointment. Chancres were washed with water, dried, and then sprinkled with iodol powder, and covered with silk-protective, the dressing being changed daily. In six days' time, the base of the chancre began to granulate, and the edges to show signs of commencing cicatrization. Under like treatment, open buboes soon improved and healed up. With single indolent ulcers, it proved equally valuable.

DEODORIZATION OF IODOFORM.[2]

Dr. Stout finds the best effect, without altering the therapeutic effect, are to be obtained from coumarin, vanillin, and cinnamic acid. Combined with one-fifth part of its weight of cinnamic acid, it can be used as a fine powder, the acid acting both as a deodorizer and as an antiseptic. One-ninth part of coumarin covers the odor the best. Dr. Stout recommends that mixture of the fine powders be made, and kept in a stoppered bottle one or two months before use.

GERHARDT'S PLUMBUM CAUSTICUM.[3]

Gerhardt, of the Würzburg Syphilitic Clinic, finds a caustic composed of caustic potash and lead oxide, the best means of removing condylomata, as it does not penetrate deeply, yet will destroy a condyloma in a single sitting. It produces a blackish slough where it has been applied.

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[1] Lancet, November 28, 1885.

[2] Therapeutic Gazette, August, 1885, page 511.

[3] Lancet, November 1, 1885.

PARALDEHYDE AS A HYPNOTIC.[4]

Paraldehyde has been used in the Insane Hospital, at Norristown, Pa., in doses from m. fifty to seventy-five, whereby, in the majority of instances, a quiet sleep of two to seven hours, have been induced in ten to fifteen minutes after its absorption. It seems to have no particular action upon either heart or respiration, as in natural sleep, the subject is easily aroused, but soon drops off again when let alone. No convulsive effect or dreamy stimulation of the mind has been observed, its first effect being apparently upon the cerebral hemispheres. The only undesirable feature thus far observed is the disagreeable odor of the breath, which lasts twelve to twenty-four hours. It does not act as an anodyne.

Dr. Hodgson finds it especially useful over chloral in gout, as it helps to maintain the excretion of urine, well charged with its usual solid constituents. It is, however, objectionable in irritable or inflamed condition of the throat or stomach, being liable to aggravate these. It should be well diluted when taken, and the following is a good preparation for it:

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Spts. Chloroform	mxv
Paraldehyde	ʒj
Syr. Aurant.	ʒiv
Mucilag. Acaciæ	
" Tragacanth āā q.s. ad.	℥iij

S. Take the above at bed-time. It may be repeated in an hour or two, if necessary.

It has been found better to repeat a small dose than to give it in single larger doses.

PHENYLMETHYLACETONE.[5]

This compound acetone Messrs. Dujardin-Beaumetz and Bardet have found to possess very intense hypnotic properties. They claim it to be superior in action to chloral, and even to paraldehyde. Given in doses of 0.05 to 0.15 grams, mixed with a little glycerine and enclosed in a gelatine capsule, it determines a profound sleep, and is especially useful in cases of alcoholism. Like paraldehyde, however, it gives a disagreeable odor to the breath, but this may be an advantage over chloral, in that it will prevent its use being concealed. It has not thus far been found to produce intolerance.

THE AVERAGE COMPOSITION OF MILK[6]

As Reported by the Leading Authorities of the World.

The accompanying tabulated statement, compiled by Professor James F. Babcock, Boston, showing the average composition of milk from the reports of the leading authorities of the world, abundantly fortifies the ground taken in relation to the fixing of a standard of quality for milk. It is this standard against which the milk dealers rebel, claiming that it is much higher than any known facts regarding pure and wholesome milk will warrant. This statement completely refutes their persistent assertions, and leaves them absolutely no ground to stand upon.

Authority.	Solids.	Fat.	Not Fat.	Ash.
Average proposed by M. Boudet and adopted at Paris, 1857.	13.00	4.00	9.00	70
Average of a number of farms near Paris, Five districts (Adam)	13.10	4.10	9.00	70
Report of the (1885) Paris Municipal Laboratory — Average of all authorities quoted	13.30	4.00	9.30	70
Babcock — Milk Inspector Boston, 1885. 80 samples as delivered by milkmen.	13.30	3.50	9.80	70
Wurtz (leading French authority) Average of large number of analyses.	13.50	4.00	9.50	60
J. Carter Bell. Average of 181 cows.	13.60	3.70	9.90	76
New York Diary Commissioner's Report 1885 — Average of 296 cows	13.73	4.21	9.52	71
New Jersey State Board of Health — Average of 85 diaries.	13.80	4.22	9.58	65
Davenport — Average of 18 Native Cows.	13.82	3.84	9.98	64
Poggiale — Average of 10 analyses.	14 00	4.30	9.70	70
Average of a large number of analyses by Bouchardat.	13.30	4.10	9.20	70
Davenport, Milk Inspector of Boston, 1884, Average of 31 cows (Grade Ayshire)	13.32	3.70	9.62	
Cameron — Average of 100 cows of the Russell Farm (England)	13.40	4.40	9.00	70
Cameron — Average of 42 cows at the Agricultural Institute, Dublin.	13.40	4.00	9.40	70
Davenport — Average of 3 diaries of 56 cows.	13.45	3.79	9.66	66
Sharples — Report of American Academy of Sciences — Average of 19 cows.	14.49	4.83	9 66	66
Average of the above 16 authorities.	13.53	3.91	9.62	68

During the month of November, 100 samples of milk, from as many milkmen in the city of Boston, were analyzed at the Milk Inspector's office. Of these, 10 proved to be adulterated, and were complained of in the Municipal Court.

The average of these samples, including the adulterated samples, was as follows: —

Total Solids	13.01
Fat	3.37
Solids not fat	9.64
Ash	.62

If milk, of which 10 per cent. of the samples was known to be adulterated, averages 13 per cent. of solids, does not this show conclusively that 13 is a fair standard for any honest milkmen, or milk producer?

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

December, 28, 1885, the president, Dr. F. W. Draper in the chair.

Dr. A. T. Cabot showed the specimens and read the notes of two cases, the first case being

A TUMOR OF THE BLADDER, COMPLICATED BY THE PRESENCE OF A CALCULUS.

The patient, a woman of seventy-three, first noticed ten months ago, that her water was thick and brownish. Within the last four months she has at times noticed blood in the urine, and during the past three months she has been suffering more or less from pain during and after micturition. The pain in the bladder has been very severe during the last three weeks, and the frequency of urination has increased until within the last week she has emptied the bladder about once in every hour during the night, and every two hours in the daytime.

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[4] Philadelphia Medical Times, May 16, 1885. British Medical Journal, July 18, 1885.

[5] Comptes Rendus, ci., 960.

[6] Massachusetts Ploughman, December 19, 1885.

She applied at the Massachusetts General Hospital in the middle of this month (December) and Dr. F. B. Harrington, who saw her in the out-patient room, passed a sound and detected a stone in the bladder.

By his advice she entered the hospital for operation December 24th. Dr. Cabot operated as follows: a lithotrite was introduced under ether, and the stone, which measured only about a half inch in diameter, was seized and crushed.

After the first crushing no fragments could be found by the lithotrite and the tube and pump did not succeed in removing any. The urethra was accordingly dilated, the finger was introduced, and a tumor was readily detected projecting from near the site of the right ureter. It was a fungus-like mass with a broad base and was perhaps as large as two English walnuts. The tissue beneath this tumor was hard, and suggested the probability of its carcinomatous character.

A vesico vaginal opening was made close to the neck of the bladder. Through this, nipping forceps and a sharp spoon were introduced, and the growth was removed till it was level with the bladder wall. The vesico vaginal opening gave the great advantage that the sharp spoon could be freely used under the guidance of the finger introduced through the urethra, and the growth could thus be removed much more quickly and intelligently than can be done when but one opening is used. Then the finger has to be withdrawn to make way for the instrument, which gropes for the tumor which the finger has just felt.

In the débris which came away was a fragment of calculus that seemed to be about one-half of a small stone, the other half of which had been crushed off with the lithotrite. Very little hæmorrhage followed the operation, and the patient was relieved of much of the pain in her bladder.

On the following day she complained of pain in the right side of the abdomen, the origin of which was uncertain, whether in the bowels, in the peritoneum, or in the kidney.

In regard to the latter organ it was to be remembered that the position of the tumor close to, if not over the bladder opening of the ureter made it possible that the escape of urine might be obstructed, either by the pressure of the growth itself or in consequence of some interference with the ureter, during the operation. There was, however, no definite sign of such obstruction.

The specimen of the tumor, which was shown, had the ordinary appearance of a tolerably firm papillomatous growth.

A CASE OF MULTIPLE CALCULI IN THE BLADDER.

The second case was that of a man aged fifty, with the following history: —

In 1876 he first began to notice the occasional passage of small stones through the urethra. He was operated upon at that time in Hartford, where he was then living. The stones were crushed at many sittings, the débris passing by the natural efforts of urination. He was then free from trouble until 1883, when he again began to pass small stones, and he was operated upon by Dr. Caswell, of Providence, who at one sitting with litholapaxy apparatus, removed a number of calculi, some of which were so large as to require crushing. His troubles returned in 1884, and Dr. Caswell again operated and again removed a number of calculi.

He was now free from trouble until about two months ago when he again began to pass small calculi, at first about the size of canary seed and gradually increasing until within the last ten days he has passed three calculi, each of the size of a lemon seed.

When seen, December 25th, he was suffering considerable discomfort from obstruction to urination. He has never had any sharp pain and has never seen any blood in the urine, which is somewhat cloudy.

December 27th. He was etherized and a curved tube, No. 31, French, passed readily into the bladder. When the pump was applied there was much clicking, but nothing passed. The tube presently clogged, was withdrawn, and in the eye was found a biscuit-shaped calculus measuring exactly half an inch in diameter and weighing eleven and a half grains.

The lithotrite was introduced and another somewhat larger calculus was crushed and pumped out. The bladder was then found to be clear.

The operation was followed by no reaction. The calculi, which were shown, were dark reddish brown in color and apparently composed mainly of uric acid. They were oval and biscuit-shaped, and of very regular forms.

Dr. C. B. Porter showed the specimens and reported the history of four cases as follows: —

URETHRAL CALCULUS.

The patient entered the hospital service of Dr. J. Mason Warren in 1865, at the age of four and a half, his parents having noticed frequent micturition for eighteen months, twelve times in twenty-four hours. There were increasing difficulty and pain in the passage of urine, which had contained blood for three months. There was no steady stream but the urine dripped. He drew continually upon the end of the penis, which was large and inflamed. A stone was detected by sounding under ether, and the urethra was found to be unusually capacious. The stone was removed by Dr. Warren through a perineal incision; a lateral incision being made into the prostate, and a stone the size of a filbert was removed by stone forceps.

Twenty years later he returned with a stone in a pocket in the membranous, or the anterior part of the prostatic urethra, and this was removed by Dr. Porter last month.

CARIES OF TARSUS, AMPUTATION.

The patient, fifteen years old, had sprained his ankle two years before, and entered the Massachusetts General Hospital on crutches, in the summer, with a sinus just below and to the front of the inner malleolus of the left foot. From this there was a discharge. Dr. M. H. Richardson enlarged the opening to admit a finger, removed a small fragment with dressing forceps and curetted the wound. After this he went home but returned September 2d, with the sinus still discharging. The foot was placed upon a posterior wire splint. December 17th, the sinus was discharging freely. The foot had not been used since September 2d, and Dr. Porter amputated. Besides the bones of the tarsus, a section through the tibia showed that to be diseased.

EXCISION OF KNEE.

L. B., aged five years, first entered hospital, September 29th, 1884, with a history of having had trouble with the knee for one year. He was discharged October 27th, his knee having, during this time, been straightened. under ether, and a dextrine and plaster bandage applied.

Re-entered hospital, May 29th, 1885, to have plaster bandage removed. The knee was found enlarged, bent, and could not be straightened. It was again straightened, under ether, and he went home July 4th, wearing a plaster bandage. November 27th, the plaster bandage was removed, and the knee was found to be swollen, painful, and considerably inflamed. He was unable to walk, and the temperature was slightly raised. December 12th, Dr. Porter straightened the knee and put it on a wire splint. On the 19th, he excised the joint. The cartilages of the joint were disorganized, and the patella was united to the femur.

PILO-NIDAL SINUS.

Two years ago, a small swelling appeared over the sacrum, and then disappeared. Two months ago, a hard lump, as large as an egg, appeared on the left buttock, and gradually increased. It was sore, and was poulticed, causing an abundant discharge. On entering the hospital, there was a well-defined outline of induration over the sacrum, extending upon the left buttock, red, hot, and painful. An incision over the sacrum disclosed a cavity filled with hair, and surrounded by disorganized tissue.

Dr. F. C. Shattuck read a paper on

LARYNGEAL SPASM IN ADULTS, WITH REPORTS OF TWO CASES.[1]

Dr. F. I. Knight said that spasm of the glottis in the healthy adult larynx, was extremely rare. Most cases, even of those reported healthy, would show some local disease. Hyperæsthesia, and great consequent irritability were found in cases where the pathological changes seemed slight. This hyperæsthesia was sometimes seen in the same class of patients, higher in the throat, in those distressing cases of dysphagia from hyperæsthetic inflammation of the pharynx, where the lesions seemed so slight. The prognosis, so far as escape from death was concerned, was certainly good in any case where there was not some serious interference with the pneumogastric or recurrent nerve, reported fatal cases being very rare.

In regard to preventive treatment, any constitutional indications should be met, and morbid conditions of the throat and nose treated. In these cases, not uncommon, where the patient was having a recurrence of spasm every night, during a mild attack of acute laryngeal catarrh, the spasm could usually be prevented by giving a small dose of morphia at bedtime. Sometimes belladonna would answer the purpose, but not so certainly. In many cases, the spasm was developed only by the forced expirations of severe cough, and if any sharp, stinging syrup or candy be taken into the mouth at once, when the patient woke up coughing, it could often be prevented. This kind was often seen in old people, especially old ladies. In those cases where the attack occurred at long intervals, without warning, it was difficult to make efficient provision. If the spasm was prolonged, the subcutaneous injection of morphia, or inhalation of a few drops of chloroform on hot water, should be employed. Nothing in Dr. Knight's experience equalled morphia in allaying the tendency to laryngeal spasm.

Dr. S. W. Langmaid said that he must speak of other apparent causes, somewhat removed from laryngitis. Cases of frightful spasm occur, at times, on applying forceps to a growth, or nitrate of silver to the larynx, and such are certainly largely reflex. Cases like Dr. Shattuck's have come under his notice a number of times. A man may go to bed well and with no cough, may awake, and stagger to a window for breath in great suffering, and may finally get relief. In the speaker's own experience, some such cases have almost no laryngitis, and he believes that the spasm is generally reflex. There is often a pendant uvula to irritate the pharynx, and the patients are almost all gouty. There is some functional trouble with the digestive organs. Cases of laryngeal spasm dependent upon indigestion, are not uncommon in children who have passed the second dentition. He has seen several cases in subjects from eight to eleven years, and in them, has never failed to find the cause in the abdomen. There is still another cause in occlusion of the nostril. In proof of this, the speaker reported the case of a man who was often a sufferer, but who was cured by the removal of an hypertrophied turbinated bone, and cauterization of the base.

Dr. F. G. Morrill said that he had seen two cases of spasm of the larynx, pure and simple. Both patients were women. In the first case, the dyspnœa was promptly relieved by a hyperdermic injection of morphia; but in half an hour there was a return of the trouble and an emetic was given, which proved effective and the respiration afterward remained normal. In the other case the dyspnœa was intense and lasted over five hours. Steam and various other remedies failed to relieve the distress, and tracheotomy seemed imperatively demanded. Before the arrival, however, of the surgeon who was summoned to perform the operation, the spasm relaxed, and the next day no trace of any throat trouble could be detected.

Dr. J. J. Putnam thought that it is likely there are other muscles of respiration, beside those of the glottis that are concerned at the same time, and recalled the observations of Dr. T. B. Curtis on hydrophobia, as reinforcing the reflex theory of laryngeal spasm.

He mentioned a case of spasm occurring at intervals for a long time, in which lead had been found in the urine. Lead is found, however, so often when it is sought for in nervous disease, that the speaker thought either that our methods of analysis must be faulty, or that the presence of lead without symptoms cannot be extremely rare.

Dr. Knight said that he did not deny that the immediate cause was sometimes reflex from indigestion, etc., but said that the irritation was reflected to the larynx because it was diseased, and thereby sensitive, just as we see diseased membrane in the nose swell up from reflex action, responding in a way it could not do if healthy. We see the same thing in bronchial asthma, where we in most cases have a hyperæmia about some old lesion, excited perhaps, by reflex action from the digestive, sexual, or other organs. Local treatment addressed to the diminution of the hyperæsthetic condition of the larynx would often stop the tendency to spasm at once.

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[1] See page 1 in this number of the Journal.

With reference to the spasm produced by introducing instruments and remedies into the larynx, Dr. Knight said that, although well known to laryngologists, the proper method of making applications, when there was danger of spasm, could not be stated too often. The patient should take a deep inspiration and hold his breath while the brush or other instrument was introduced, so that the first respiratory act afterward should be one of expiration. It was better, also, that the next inspiration should be through the nose, and not through the mouth.

DR. T. M. ROTCH remarked that we can often have light thrown on a question of this kind, namely, as to whether these spasmodic attacks in the adult larynx have their origin in the larynx itself or elsewhere, by referring to analogous cases among a class where the disease is especially frequent. As Dr. Knight has observed, and as is generally well-known, a very slight irritation in the larynx, and especially in the child, can produce this spasm, and we must, therefore, eliminate, in our diagnosis, even a suspicion of laryngeal irritation. On the other hand, a neurosis of the larynx from reflex irritation elsewhere is not uncommon where the nervous system is in an especially sensitive condition, both from the age of the patient, and from the combination of bad influences which are brought to bear upon the nervous centres of children among the poorer classes.

Dr. Rotch also said that it so happened that he had for some time had unusual opportunities for studying quite a number of these cases in his clinics at the Boston Dispensary and the City Hospital, where the throat department was directly connected with his own, and where children with this affection in its various phases were examined immediately by the laryngologist in charge, with the result that often nothing abnormal whatever could be detected in the larynx.

Dr. Rotch then mentioned one case of especial interest bearing on this point. A boy eight years old, has for some weeks apparently had spasm of the epiglottis, causing a sound like that of hiccough, recurring every fifteen or twenty minutes. The mother of the child has been so much worried by these attacks, that she has brought the child regularly to both clinics, and the throat has repeatedly been carefully examined. On one day only, was a little redness noticed in the larynx, and on that day the attacks were lessened in frequency, while later, when the spasm was increased in frequency, the larynx appeared perfectly normal. The sound made by the boy during the spasm has lately lost its similarity to hiccough, and is now of a slight gasping or choking character.

The spasm is gradually growing less frequent and less severe as the child's general health improves. No cause, digestive or otherwise, has been discovered beyond a general innervation of the nervous system, resulting in a hypersensitive condition represented by reflex laryngeal spasm.

DR. SHATTUCK in closing the discussion, asked Dr. Knight how often, in this climate, he sees an absolutely normal larynx. In view of the rarity of a perfectly healthy laryngeal mucous membrane, and the small proportion of cases in which one meets with laryngeal spasm, something aside from the catarrh must be the important factor in the production of the spasm. Dr. Morrill's case is a good instance of the hysterical spasm of the glottis. In case I, the anatomical changes are very slight, while the aphasia and spasm are severe, and indicate probably a very excitable and unstable condition of the nervous centres. In case II, the severe cold undoubtedly was a factor, but the gout was a more important one. The patient never had a spasm until after he had his first gouty attack, and stated distinctly that there was usually no connection, which he could detect, between his spasms and any catarrhal condition.

The loss of consciousness does not seem to be an indispensable element in the cases of laryngeal vertigo, so called. In regard to one of Charcot's cases, there is a discrepancy between two of the published reports with reference to this point, and in McBride's case there was no unconsciousness.

MYXŒDEMA.

DR. J. J. PUTNAM reported the case of a lady whose symptoms have lasted five years. They are a puffy face and head, with a dry, rough skin, pallor, feeble pulse of sixty, subnormal temperature, constipation, and mental lethargy.

POISONING BY THREE DRACHMS OF TINCTURE OF BELLADONNA.

DR. J. B. AYER was called to see a girl twelve and a half years old, who had taken three drachms of tincture of belladonna by mistake. It was given at 9.30 P. M., and the mistake was discovered at 10.25. Although the patient seemed comfortable, feeling only dryness of the throat, her mother kept vomiting her with salt water and ipecac for twenty minutes.

At 11, Dr Ayer found the pupils widely dilated, not reacting to light. There was dryness of the fauces; the skin was dry and red; the pulse 135, very feeble and irregular.

Passing an œsophageal tube, he filled the stomach and washed it out by siphoning, and then gave an enema of a gill of strong coffee.

By this time the cerebral symptoms had appeared. The patient was in a state of mild delirium. The eyes could not accommodate; she could not tell whether objects were near or distant, and it seemed to her that there was a white sheet dancing up and down in front of her. Nitrate of pilocarpine ($\frac{1}{4}$ grain subcutaneously), had a decided effect in diminishing the dryness of the throat and skin. Strong coffee was given at frequent intervals, but was not retained.

The cerebral symptoms were less marked at the end of a couple of hours; the pulse was less rapid, 120, and much stronger, and she wished to sleep, but was, however, kept awake without much difficulty. At 7 A.M., the pupils were still enlarged, and did not react to light. Three days later they were still dilated, but reacted readily.

Recovering from the effects of the poison, she found herself cured of the nausea and diarrhœa for which it had, by mistake, been taken. The over-dose had no effect whatever upon a habit of nocturnal incontinence of urine.

This tincture of belladonna was prepared two years ago, (U. S. P. 1870), and the amount taken contained twenty-two grains of belladonna leaf. There is a very great difference in the price and strength of belladonna leaves, and it is impossible to say whether the amount taken would have yielded one-twentieth or one-tenth of a grain of atropia. The therapeutic and toxic character of preparations of belladonna do not depend *entirely* upon the amount of atropia by analysis from them. Most of the belladonna was *probably* absorbed in the course of fifty-five minutes, as the stomach was nearly empty at the time.

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SUFFOLK DISTRICT MEDICAL SOCIETY.
SURGICAL SECTION.

S. J. MIXTER, SECRETARY.

APRIL 1st, 1885. DR. C. B. PORTER, presiding.
DR. G. L. WALTON showed

A CASE OF CONCUSSION FOLLOWED BY PARALYSES POINTING TO HÆMORRHAGE INTO THE FISSURE OF ROLANDO.[1]

He also took the opportunity for demonstrating the use of Broca's Flexible Square, and the measurements were shown, on the skull, by which the course of Rolando's Fissure can be marked out with sufficient accuracy to determine the point for operation, when advisable.

IN the remarks on the communication, Dr. H. P. BOWDITCH stated that he thought some authorities, Exno, for example, did not believe that the centres of movement of the arm and leg were so clearly and sharply defined as Ferrier would make one believe, and that they certainly overlapped each other, if nothing more. He called attention to the experiments of Göltz, of washing away portions of the brain with a stream of water when it was still found that the animal, notably dogs, were able to perform the ordinary reflex movements of walking, but the more complicated ones, as holding a bone in their paws, they were unable to accomplish.

DR. PUTNAM asked whether the depth of the lesion was determinable? He cited a case where the symptoms pointed to the brachial plexus as the seat of the injury, but where two days later an attack supervened which showed conclusively the central origin of the paralysis.

In answer to Dr. Bullard's question regarding the diagnosis of the seat of hæmorrhage as being cortical rather than into the internal capsule, Dr. Walton said that the nature of the injury was an important factor in the diagnosis. The symptoms might certainly be the same in case of hæmorrhage into the internal capsule, but such lesion, he considered, rarely followed trauma, excepting where previous disease of the arteries favored it, whereas it was not at all unlikely that a cortical hæmorrhage under the seat of injury should follow such a blow as the patient received.

In answer to Dr. Bowditch, Dr. Walton said that pathological observations are of necessity too inaccurate to establish exact boundaries, but they corroborate Ferrier's experiments sufficiently to justify us in assuming that the region about the fissure of Rolando is devoted to motion, and in operating under the guidance of this assumption. The fact may further be regarded as established, that the upper part of this region presides over the movements of the opposite arm and leg, the middle part over movements of the opposite arm. and the lower part over those of the opposite side of the face and tongue.

DR. A. T. CABOT reported a case of

AMPUTATION AT THE SHOULDER JOINT FOR SARCOMA OF THE ARM.

The patient is a girl of twenty, tolerably well nourished, though of rather sallow complexion. She entered the Massachusetts General Hospital, February 16th, 1885, with the following history:— Between two and three years ago, she first discovered a small lump upon the inner side of the right forearm. Fifteen months ago, having reached the size of a hen's egg, it was removed. Eleven weeks later another small tumor appeared beneath the skin upon the inner side of the same arm, just above the elbow. When first noticed it was freely movable beneath the skin; it soon, however, became fixed and increased rapidly in size, but was never accompanied by very severe pain. Some weeks before she entered the Hospital a prominent lobe of the tumor ulcerated, and from this there were one or two hæmorrhages of moderate amount. The tumor at the time of admission, was about the size of a child's head, composed of several large lobes which surrounded the arm, and were at one point ulcerated and sloughing.

While awaiting operation in the hospital there was another slight hæmorrhage, which was easily checked by direct pressure. The arm was amputated on February 21st.

To avoid any loss of blood, which might have been serious in her anæmic condition, the arm was raised to empty it by gravitation, and a rubber tube was applied tightly about the shoulder. The limb was then removed by a circular amputation about two inches below the joint, and after securing the vessels the head of the bone was easily shelled out.

This method was adopted for two reasons; first, in order that the upper end of the humerus might afford the turniquet a sure hold until the vessels were secured, and secondly to at once get rid of the heavy sloughing arm which would have been difficult to manipulate during disarticulation.

To test the efficacy of the rubber tube turniquet about the shoulder, I reapplied it through the axilla and over the spine of the scapula and acromial end of the clavicle while disarticulating, and found that after removal of the head of the bone it still thoroughly controlled the circulation. Whether it would remain in place on a thick muscular shoulder or could be dislodged by movements of the patient, I could not judge.

The after history of this case has been uninterruptedly good. Under a dry absorbent antiseptic dressing the wound quickly healed by first intention without fever or disturbance of any kind.

DR. O. K. NEWELL read a translation from Mickaliez, on the value of the transfusion of blood and infusion of salt solution in acute anæmia.

DR. BOWDITCH said that it might be of greater use than the writer seemed to think, in case of poisoning by coal gas, in helping eliminate the poison from the system.

DR. BUCK spoke of the difficulty of finding the saphenous vein in two cases where he had seen this operation attempted. It was urged by Cohnheim that the central end of the artery was the best place from which to make the infusion, as the risk of overloading the heart was very much less, as well as for the accidental admixture of a large bubble of air.

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[1] See page 3 of the Journal.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON SURGERY.

Stated meeting, December 14th, 1885.

THE INDICATIONS FOR LAPAROTOMY IN PENETRATING STAB AND SHOT WOUNDS OF THE ABDOMEN.

After a brief introduction by the chairman, Dr. Stephen Smith, the discussion was opened by Dr. Joseph D. Bryant, who said that he who unconditionally asserted that any operation or method of procedure should be resorted to in all cases, even though it were a measure accepted by the profession generally, took a position that required, in justice to the profession and the patient, that all operators should be competent and well equipped for its performance. Especially was conservatism necessary in the advocacy of an operation, the propriety of which, as yet, was spoken of by many with doubt commingled with dread. But a short time had elapsed since the late Prof. James R. Wood had in this hall opposed laparotomy in the cases under consideration in what were generally recognized at that time as sound practical principles; and though marked advancement in all surgical procedures had taken place since then, a sufficient period had not yet elapsed, nor were the members of the profession well enough informed on the details of the entire operation for any one to proclaim boldly that laparotomy should be performed in all cases. Few indeed were the hospitals in the city of New York which could immediately after the accident offer the recognized theoretical, and many of the practical facilities necessary to despatch and cleanliness in operating; not to mention other circumstances bearing on the success of the operation. How much less properly prepared for the performance of laparotomy would the unfortunate patient find the members composing the great mass of the profession?

There were three questions which he thought it well to consider, namely: 1. Should laparotomy be performed in any case? 2. Should it be performed in all cases? 3. When contemplated, should it be done immediately after the accident? In regard to the first, he went on to say that it could not be denied that laparotomy in connection with various abdominal growths was a fully established operation, and the results attending the invasion of the abdominal cavity by numerous operators both at home and abroad plainly attested the expediency of the measure in connection with such growths. There was no proof, so far as he knew, that the peritoneum of the male was not as tolerant of manipulations as that of the female. The excellent success of Billroth and many others, so far as immediate results were concerned, from operations on the stomach, pylorus, gall-bladder, spleen, kidneys, etc., of both sexes, fully showed that intolerence of the peritoneum to manipulations could not be considered a rational objection to the operation of laparotomy for penetrating abdominal wounds. These operations showed also that neither could the length of time required nor the extent of raw surfaces resulting in this variety of laparotomy be urged as objections to the procedure.

Among the practical elements which at the present time entered into a case of laparotomy for penetrating wounds, but which did not exist, or at all events, exert an equal force, in laparotomy for other common causes might be mentioned the following:

(1) A doubt whether the abdominal viscera were injured. This doubt could exert but little influence, since the signs and symptoms of visceral penetration were as pronounced as those relating to other conditions in which laparotomy was deemed advisable. Moreover, an exploratory laparotomy would enable the operator to settle the question of penetration.

(2) Existing shock. This element was almost unlimited to those cases of laparotomy which were to be done for penetrating wounds. The shock was due either to loss of blood, to injury done the parts, or to both combined. He believed it to be an established fact that when severe shock followed immediately after the injury, it was due in the great majority of cases to loss of blood; and if this were the case, the indication was to check the hæmorrhage at once. An exploratory laparotomy would decide this question.

(3) Unfavorable surroundings of the patient. This element, like the second, was limited to laparotomies for penetrating wounds. It included the surroundings of the patient at the time of the injury, the removal to his home or to a hospital, and the absence of proper preparations for operating in accordance with the best recognized methods of procedure in such cases. It would be impossible to entirely avoid these contingencies; but their dangers could be greatly lessened by caution in moving the patient, by taking him to a suitable hospital, instead of his own home, and by increased familiarity on the part of the profession with all the details pertaining to the operation of laparotomy under the circumstances.

(4) Unskilled operators. By this he said he meant that the surgeon in charge of the case might not have had his attention forcibly drawn to the details of the operation which was recognized as having an important bearing on the prognosis of such cases. More particularly would he find himself in this position if he had previously looked on the operation with a disfavor bred of prejudice, instead of the result of patient toil and observation. This element could be entirely overcome if the members of the profession would but devote an ordinary amount of attention to the matter.

(5) Greater exposure of the abdominal cavity and its contents. The great care necessary in order to find out and to remove from the abdominal cavity all the blood and estravasated intestinal contents, to check hæmorrhage and also to detect all the points of injury, required that the intestines and the omentum should be thoroughly examined by a preconceived method, rather than by the rough handling associated with illogical haste.

(6) Existence of hæmorrhage. In visceral perforation intra-abdominal hæmorrhage was necessarily a constant feature. The vessels of the omentum and of the intestines, especially the former, bled with a pertinacity which was unusual in those of other portions of the body, owing, it was thought, to the walls of the vessels being loosely supported by the surrounding tissues, also to the fact that they seemed to possess in a much less degree the inherent attributes which ordinarily enabled the natural forces of a vessel to check hæmorrhage, namely: contraction and retraction. The suspicion of the existence of much intra-abdominal hæmorrhage was enough to indicate the making, at least, of an exploratory incision, by which means its existence could be positively diagnosticated; when, if necessary, the incision could be extended, bleeding points checked, and blood-clots removed.

(7) Extravasation of intestinal contents. This was

a part of the history of penetrating abdominal wounds, and constituted an occurrence which was most to be dreaded by the surgeon.

Dr. Gross asserted that no case had ever been known to recover in which fœcal matter existed in the abdominal cavity; therefore, fœcal extravasation was the strongest of the indications for laparotomy — offering, as it did, the only means of recovery.

(8) The greater difficulty of cleansing the abdominal cavity. If blood and intestinal contents had been generally diffused, the cleansing of the abdominal cavity was more tedious and difficult, and also of more importance than in laparotomy for other causes, but the thorough performance of this duty, at least so far as the intestinal contents were concerned, appeared to be the only means of saving the patient's life. As to blood, no one could tell the amount that might remain, and yet recovery occur.

In Dr. Bryant's opinion, laparotomy was a justifiable operation, but it was not to be attempted, even in so-called favorable cases, unless the operator could avail himself of many of the recognized means of procedure necessary to control the shock of the operation, and was sufficiently familiar with its steps to accomplish the work with accuracy and despatch.

Leaving the second interrogatory, should laparotomy be performed in all cases, to be discussed by others, he passed on to the third. When contemplated, should laparotomy be done immediately after the accident? Assuming all things to be equal, he thought that it should be done at once, or, at least, as soon as the necessary preparations required to insure a fair prospect of success could be made. There should first be an exploratory incision, followed, if the condition of affairs warranted it, by the actual laparotomy. In the former, the incision was made in the median line, so situated and of sufficient length to expose to view the probable seat of the internal injury. The surgeon could then, in the great majority of instances, determine if penetration of a viscus had taken place, and if hæmorrhage or intestinal extravasation existed. If the patient was in danger from immediate hæmorrhage, the blood in the abdominal cavity could be seen through the incision.

Does the exploratory incision expose the patient to unusual danger? The large number of successful laparotomies, both in this country and abroad, seemed to him to argue this question in the negative, and if this was true, he said, all that was possible was gained, while but little could be lost from the exploratory incision.

Dr. J. W. Wright said that he was not prepared to take the ground that all cases of penetrating wounds of the abdomen were to be treated by laparotomy. As regards gunshot wounds, it would be found that the large or small size of the missile, as well as the velocity of the latter, made a great difference in the severity of the injury. For example, he did not believe that the twenty-two calibre bullet, or the ordinary bullet of about twenty grains' weight, behind which there was but about five grains of powder, was calculated to do much mischief. As a rule, such a bullet lodged in the abdominal walls, but even if it did penetrate the cavity, and pass through a knuckle of intestine, the opening made by it was so small that an erosion of the mucous membrane was caused, which would be sufficient to prevent the extravasation of fœcal matter, while the hæmorrhage would be but trifling. If, then, he were called to such a case, and there were no symptoms specially calling for laparotomy, he certainly would not perform the operation. But if, on the other hand, he was called to a case in which the injury had been inflicted by what is known as an "express charge" — a forty calibre bullet, weighing two hundred and seventy grains, with one hundred and ten grains of powder behind it — he would expect to find abundant indications for its performance. Even in the absence of symptoms, he would consider the case one for immediate laparotomy, for he would feel very sure that if such a missile got into the abdominal cavity at all, it would cut and tear everything that came in its way.

In stab wounds, he said he would not perform laparotomy in many cases, even if he knew that the wound was a penetrating one, or even if the omentum was protruding. In this connection he mentioned the case of a drunken sailor, who stabbed himself in the abdomen, and when a portion of the omentum protruded through the wound, caught hold of it, and dragged it still further out. Yet the man recovered perfectly, and that without being laid up for an hour. On the very day that he received the injury, he went to sea, and in the course of a week, the protruding omentum sloughed off, after which he had no further trouble. He also mentioned another somewhat similar case at Bellevue Hospital.

As to the matter of diagnosis, it was difficult to say in every case, whether the peritoneum was wounded or not. In many instances, there was well-marked shock, simply from the force of the blow, particularly if this was in the neighborhood of the epigastrium. If the shock was extreme and protracted, however, it was probable that the abdominal cavity had been penetrated. In the second place, the occurrence of meteorism indicated damage to the viscua. Thirdly, the protrusion of the gut through the wound proved nothing as to whether the gut itself had been injured or not. This was shown, however, by the escape of the intestinal contents. He thought, therefore, that we should be careful how we state that laparotomy is called for in every case.

Dr. R. F. Weir said that he did not feel in a position to say that penetrating stab wounds of the abdomen were necessarily accompanied with injury of the intestines or abdominal viscua. Unless, in any case, there were symptoms indicating the presence of such complications, the surgeon had only to watch the patient carefully. In regard to gunshot wounds, there was a different state of affairs, and for his own part, he had a somewhat greater respect for the capacity for injury of the small pistol ball than Dr. Wright felt, since he had known them to penetrate the abdominal cavity, and do a considerable amount of mischief. As a rule, one of the indications was to explore the wound under any circumstances, and he thought that statistics clearly proved that every gunshot wound of the abdomen, at short range, should be carefully examined, in order to see whether or not it penetrated the cavity.

The question of hæmorrhage always came up in connection with the existence of shock, and it was often impossible to determine off hand in any instance, whether the patient was suffering from the shock of the injury or of extravasation, or from the shock of hæmorrhage. He had learned from the experience of two sad cases that delay might prove fatal, (although if the shock was not due to hæmorrhage, the chances of success with laparotomy would be greater after it had passed off), and, therefore, he agreed with Dr. Bryant that it was best to make a small exploratory incision in every case where it was impossible to decide whether the shock was due to hæmorrhage or not. He did not agree with Dr. Bryant, however, that the small opening would show whether there was much bleeding or not. The blood naturally gravitated toward the lower part of the abdominal cavity, and, therefore, it was often necessary to pass in a sponge on a stick in order to find out the existence of hæmorrhage. Dr. Wright had stated that a small bullet might pass through the intestine without causing extravasation of fæces, or otherwise doing harm, but the very reasons which would make such a wound of less severity, would also be the ones why a laparotomy would be of less severity under the circumstances. For himself, he would proceed to perform laparotomy if the exploratory incision showed that the intestines were wounded, for even if there was no extravasation of fæces, there would almost certainly be an escape of gas into the peritoneal cavity.

Dr. A. C. Post thought that in regard to incised wounds, it made a great difference in what part of the abdomen the stab was inflicted. If in the region of the stomach and liver, there was less danger of hæmorrhage than if the wound was situated in the region of the intestines. Again, if it was still lower down, it might be below the peritoneum altogether, especially if the bladder was distended at the time. In this connection, he related a case in which a stab wound of the lower part of the abdomen penetrated the bladder, and was followed by a gush of urine, and said that in a case of this kind, the safety of the patient, no doubt, was due to the large size of the wound, which gave free drainage, and prevented the retention of the urine in the tissues. A large and direct opening would also have much the same effect as regards extravasated fæces. When there was fæcal extravasation, however, he thought that laparotomy should always be performed and the abdominal cavity thoroughly cleansed.

Dr. W. M. Polk said that he had had no experience with laparotomy for penetrating wounds, but so far as danger was concerned, the results obtained, both at home and abroad, showed that the exploratory incision was quite a simple affair, comparatively free from danger. It seemed to him, however, that a simple incision, such as those who confined their attention to pelvic surgery frequently had to make, would scarcely be sufficient in the class of cases now under discussion. The gynæcologist generally knows about what condition of things he might expect to find, and if a large tumor was present, he swept his hand around it, but did not mix his hands much with the intestines. Even in the case of the most extensive growths, the intestines were very little disturbed. This, then, was the point: If a limited exploration were made, there was comparatively little risk, but if it was necessary to introduce the hand, and feel around among the intestines, a great deal was added to the risk. Within the last two or three years, he had seen this strikingly illustrated in this city, in Tait's and other similar operations. Formerly, when there were marked adhesions, the intestines were freely handled, and sometimes laid upon the abdomen, and the result was that a fatal result frequently followed. Within the last eighteen months, however, in this same class of cases, the results had been very much more favorable, and this was owing to a different method of procedure. A much smaller incision was now used, and the adhesions were quickly torn away by the hands, without regard to hæmorrhage, because the latter soon ceased, and a drainage tube was introduced to remove the blood. Instead of the operation covering an hour or an hour and a half, as before, it now took only twenty or twenty-five minutes. The whole question of danger, therefore, as it seemed to him, would depend on the amount of handling of the viscera required in any given case. So far as the simple opening of the peritoneum was concerned, he thought it was as safe as sewing up the cervix uteri, and attended with really less danger than the opening of the pleural cavity.

Dr. W. G. Wylie thought that the principal cause of shock in the cases under consideration was hæmorrhage. The dangers in Tait's and other similar operations, to which Dr. Polk had referred, he believed to have been due, not so much to handling of the intestines, as to exposure to septic influences from the atmosphere, sponges, etc. According to his observation, the large majority of the deaths were due to septic infection. He would have no hesitation in opening the peritoneum in any case where the patient's life was in question. There was very little danger of increasing shock thereby, and if the shock was very marked, there was every reason to believe that severe hæmorrhage was taking place, so that the prompt performance of laparotomy was urgently demanded under the circumstances. After performing operations in the abdominal cavity, he not infrequently washed out the latter with a solution of bichloride of mercury, one to ten thousand, following this with the injection of simple hot water.

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NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, December 1, 1885. The President, W. R. BIRDSALL, M.D., in the chair.

Dr. William A. Hammond read a paper on

UNILATERAL HALLUCINATIONS.

ABSTRACT.

The fact that hallucinations of sight and of hearing might be unilateral, that is, discerned by one visual or auditory centre only, had long been known, though it had not even at this day attracted the degree of attention which Dr. Hammond thought it deserved. Several authors had considered the matter from a more or less philosophical standpoint, and had brought forward interesting cases in support of their views. The first reference to the fact that hallucinations might be one-sided, which had come under his notice, was made by Calmet, it being a case of hallucination coming from the left ear. Baillarger cited two cases of hallucinations of hearing occurring in but one ear. Other writers who had contributed to the subject, cited by Dr. Hammond, were Schroeder van der Kolk, Alexander Robertson, E. Regis, Dumontpallier. Erroneous impressions of different character, occurring on either side, had received attention at the Medical Congress at Rouen, in 1883.

Dr. Hammond then gave the histories of several cases of unilateral hallucinations which had come under his own observation. The first was that of a gentleman in good general health, who contracted the illusion that the ticking of a clock on the mantle-piece consisted of articulate words; after a time it sounded like human speech, and appeared to give commands, such as not to eat of soup, not to drink wine, etc. It was learned that these illusions came only through the left ear, and never through the right; but hearing in other respects was not the least impaired in either ear. The patient did not allow himself to be deceived into the idea of accepting these commands as realities, yet he was influenced by them in his actions. This case and the one next mentioned were referred to in Dr. Hammond's work on insanity.

Case II. A young lady, of good mental development, but of delicate physical organization, was for several months almost constantly troubled with apparitions of various kinds of faces. A few weeks before they first appeared she had looked at engravings of Greek and Roman masks, which had made a strong impression upon her. If she closed either eye, about half of the faces would disappear, and if she closed both eyes, all would disappear, but would return again in a little while, although less distinctly. By imitating the experiment of Sir David Brewster, pressing on the outside of the globe of either eye so as to produce temporary strabismus, the patient could make any face appear double which had been visible for several minutes. There was no impairment of vision of any other kind, and no abnormal ophthalmoscopical appearances. The peculiar features of this case were that the hallucinating images were divided between the two eyes, part being seen in the one and part in the other, showing, therefore, the distinctness and divisibility of the action of the two visual centres, and the fact that the stimulus of a strong light was necessary in order that they should be developed.

Case III. A young man received a blow just above the left ear. A few weeks subsequently, while engaged as a salesman, he saw a large black cat sitting on the floor immediately before him. He had no doubt of the reality of the occurrence until he walked toward the animal, when it receded as far as it was when he first saw it. After this the cat seemed to follow him wherever he went, but his sense of touch was never deceived. The image was larger and most distinct in the evening, and during the paroxysms of pain at the seat of the injury on the head, which returned several times a day; he discovered, on shutting the eyes alternately, that the vision occurred only on the side corresponding to the injury. There were no abnormal ophthalmoscopical appearances, nor of vision in other respects than mentioned. That there was serious brain lesion, involving probably the left optic thalamus, Dr. Hammond said he had no doubt. He had also been of opinion that there had been fracture of the inner table of the skull at the point at which the blow had been received, and he proposed trephining, which was not consented to.

Case IV. A lady about fifty years of age became the subject of most malignant persecutions through anonymous letters, the sender of which she did not know. While thinking of who the person could be that sent the anonymous letters, she happened to look out of the bay window, and saw a man and woman standing in the opening. For a moment she did not doubt the reality of the appearance, but when she arose, they gradually faded from view. Afterward they reappeared several times in the month, and finally ceased to appear altogether. The interesting feature of the case was that the man was always seen with the right eye, and the woman with the left; if she closed the right eye, she saw only the woman, but if she closed the left eye, she would see only the man. The vision could be brought on by lying down with the head low. Dr. Hammond thought nothing could be more confirmatory of the idea of the independent action of the two visual centres than such hallucinations; indeed, he thought they were strong evidence of the duality of the brain. None of the cases which Dr. Hammond had cited went to support the view that unilateral hallucinations were due to disease or derangement of the organ of special sense involved. Indeed, it was difficult to conceive what connection could exist between disease of the eyes or ears and an hallucination existing in the corresponding side, for if such disease caused a unilateral hallucination, we should expect bilateral hallucinations to be the result of disease of both eyes or ears. Dr. Hammond thought hallucinations were produced by disease or disorder of the central organ of perception, probably of the optic thalamus, and that such erroneous sensorial impressions, when limited to one side, were evidence that the visual, auditory, or other sensorial centre of the corresponding side was the starting point.

DISCUSSION ON DR. HAMMOND'S PAPER.

Dr. Leonard Weber related a case which he thought would interest Dr. Hammond, as going to support the view which he seemed to entertain, that unilateral hallucinations were not associated with disease of the special sense concerned, but with an affection of central origin. The man came under his observation in 1879, at which time he was thirty-seven years of age, strong, healthy, very active in business, but, in consequence of domestic trouble and mental strain, he began to lose sleep, was sensitive to strong light, loud noises, etc., and from 1879 to 1881 was subject to hallucinations connected with the left ear. On going to bed he would be unable to sleep for two or three hours because of whispering noises, growing louder and louder, heard in the left ear, and of two kinds, one soothing, and another demandatory. A careful examination by himself and by a specialist in diseases of the ear, failed to reveal anything wrong connected with the auditory apparatus. When the patient's circumstances changed, and he was enabled to lead a peaceful life, the hallucinations disappeared, and had not returned.

Dr. E. C. Spitzka had not heard the entire paper, but, being familiar with the author's views regarding the function of the optic thalamus, he was somewhat surprised that he had not tried to harmonize his observed facts with the anatomical and physiological facts which had been incontestably established during the past decade. Lewes, upon whom Dr. Hammond probably rested chiefly for support of his views, expressed his ideas regarding the functions of the optic thalamus as many as twenty-five years ago, and what he wrote was mere guess-work. If he had been supported in part by recent accurate methods of research, such as the atrophy and other methods, it was a mere coincidence. Dr. Spitzka said his own views regarding hallucinations were directly opposed to those of Dr. Hammond. He believed that hallucinations had their seat in the cortex, and not in the optic thalamus, or any of the lower ganglia. The optic tract and thalamus might have undergone secondary atrophy, following enucleation of both eyeballs, yet the person would be capable of having hallucinations, showing that hallucinations had not their seat in the optic thalamus. The case cited by Dr. Hammond, in which, during her hallucination, the patient saw the figure of a man and woman, showed the exercise of mental qualities which could have their seat nowhere else than in the cerebral cortex. Dr. Hammond had asked whether he did not believe a hallucination to be something which had been previously registered in the memory, and which was projected outward. He would reply that, without quibbling with terms, that was precisely what he meant by an hallucination.

Dr. M. A. Starr related the facts in a case reported by Vetter, in which a patient, having right hemianopsia, imagined that she saw people sitting at her right side, which was the blind field of vision. By a process of exclusion, it was shown that the lesion could not have existed in the optic thalamus, but must have existed in the occipital lobe. Dr. Starr thought that in all probability the source of the hallucination, in this case, was cortical irritation. Certainly, in a great many cases, cortical irritation would produce hallucinations; this was observable in meningitis in which the optic thalamus was not implicated.

Dr. W. M. Leszynsky recalled the case of a woman in an insane asylum, fifty years ago, suffering from mania, who was in the habit of sitting hours at a time with the left ear inclined toward a table, sending, she said, and receiving telegraphic communications. She did not receive the telegraphic communications with the right ear, which she said was only for general use. Hearing seemed to be normal, perhaps that in the left ear was a little more acute than that in the right ear.

Dr. Sachs referred to a case of hemiplegia, with tumors in the optic thalamus, reported by Minot, and asked Dr. Spitzka whether he could imagine an excitation of the cerebral cortex giving rise to an image of hallucination, the revival of such image not being due to an antecedent peripheral irritation.

Dr. L. J. Corning asked why hallucinations which might be produced by impressions coming from the peripheral nerves, might not also be produced by an irritation at any point in that peripheral tract, as in the thalamus. We would all admit that the higher forms of conception took place in the cerebral cortex.

Dr. C. L. Dana would like to hear the subject discussed which Dr. Hammond probably wished to bring before the Society, namely, the duality of the brain. So far as the mechanism of hallucinations was concerned, he thought all would agree with Dr. Spitzka that it was essentially in the cerebral cortex, but the exciting cause might be a peripheral irritation, acting upon the psychopathic centres.

As to the duality of the brain, he thought there were many more arguments against the proposition than for it, but the subject was one of great reach, and could hardly be discussed at this hour. The cases of hallucination cited did not, it seemed to him, prove much because only a small part of the psychical mechanism was involved. On the other hand, the experiments of Dumont Paré proved little, because hypnotized subjects could be led to do almost anything by slight suggestion. But pathological observations, the results of hemi-atrophies, of tumors on one side of the brain, studies regarding language, etc., all went to show that the two cerebral hemispheres had certain distinct functions, and that there were not two halves of the brain, each having about the same function.

Dr. Charles Heitzmann said that although he was not a specialist in this department, he had given considerable study to it, and he had received the impression that neurologists were not entirely clear in their ideas concerning the seat of irritation which caused hallucinations. Let the physiological fact be remembered that an impression upon our senses can be brought forward at any time in the shape of a protracted sensation, or hallucination. Thus, a peculiar sound might be heard which was merely the image of a real sound, and constituted an hallucination. Everything which we have learned is deposited in the brain, especially in the gray substance. In the case of the black cat, could the man have had an hallucination of a black cat if he had never seen a black cat? I doubt it. Wherever the centre for the image of the black cat may be, if any portion of the nerve tract, leading from the retina to that centre, be disturbed, it will be likely to excite that centre, and the image of the black cat will be revived. The special point of interest connected with the cases related was that they were unilateral. He asked if that might not be explained on the supposition that the irritation, being upon one side, led to the centre for the given image upon that side only.

Dr. Spitzka said, with regard to the duality of the mind, that there could be little difference of opinion regarding the following facts: first, that the two cerebral hemispheres were alike in structure, the variations being no greater than in other symmetrical organs, if allowance be made for a higher type of development; the hemispheres were united by a symmetrical commissure; they had corresponding peripheral tracts; they had about the same distribution of retinal fields; post-mortem examinations on the insane went to prove that the hemispheres were symmetrical; one hemisphere might be practically destroyed, and yet the individual retain power to exercise the several faculties of the mind, as reasoning, memory, judgment, etc., not, however, that there would be no paralysis or other symptom. But it was a different matter entirely when it was suggested that unilateral hallucinations could exist when the corresponding hemisphere was perfectly healthy.

Dr. Hammond, in closing the discussion, said it was not his object in reading the paper to discuss specially the function of the optic thalamus. He might say, however, that he believed a person could have hallucinations without an optic thalamus at all, provided he had a cortex; but he believed also, that he could have hallucinations without any cortex, provided he had an optic thalamus. In the former case, the hallucinations would be due to revival of past impressions; in the latter case, they would be original, having nothing to do with former associations. A man without an optic thalamus could have an idea of a cat in the abstract, but he could not have an hallucination of a particular cat unless he had an optic thalamus. He believed that ideation resided in the cortex. With regard to the duality of the mind, many arguments might be brought forward, but time would not permit.

The Society adjourned.

— M. Laborde, at a recent meeting of the Société d'Anthropologie, exhibited some arrows which had been poisoned with curare a hundred years ago. He had wounded a few guinea-pigs with them, and the results were as powerful and as deadly as though the poison had been fresh.

Recent Literature.

Applied Medical Chemistry. A Manual for Students and Practitioners of Medicine. By Lawrence Wolff, M.D., Demonstrator of Chemistry, Jefferson Medical College, etc. Philadelphia: P. Blakiston, Son & Co. 1885.

The object of this book is to present in a concise form the practical applications of the principles of chemistry, so far as these are of interest to the student and practitioner of medicine. Part I. it devoted to apparatus and manipulations; then follow in order sections devoted to the chemistry of poisons, physiological chemistry, the analysis of excretions and concretions, and sanitary chemistry; the latter comprising the chemical investigations of air, water, and food. The treatment of the four important branches of chemistry, just mentioned, in a book of the size of this one (160 pages) must necessarily be very superficial. We cannot recommend the work as a book of reference for practitioners; it may prove useful to the author's students in following his demonstrations. Some parts of the book are very carelessly written.

Aids to Gynæcology. By Alfred S. Gubb, L.R.C.P., M.R.C.S. New York and London: G. P. Putnam's Sons. 1885.

This little paper-covered book of seventy-four pages is one of the so-called "Student's Aid Series." As the name implies, it is intended to give very briefly the salient points of the principal diseases which come under the head of Gynæcology, and it fairly well attains its object. For a quick review of the field just before an examination, it might be very useful, but there its usefulness would end. Many statements are made about which there might be some doubt, but that is excusable, for anything like a critical examination of different opinions on any given point, would be impossible in so brief a work, nor does it seem to us desirable that a book intended exclusively for students, should attempt to cover the field too thoroughly. A definite ground-work of fact should be given them, which later may be modified by study and experience. As a book of suggestions for students, this does very well.

Manual of the Diseases of Women. By Charles H. May, M.D. Philadelphia: Lea Brothers & Co. 1885.

This book, though much more pretentious in title and in appearance, has really, or should have a similar aim and scope as the preceding. The author says it lays no claim to originality, but is a compilation. The work seems to have been well and judiciously done. Our only doubt would be whether such a book would meet any very marked want. It is rather too full for the busy student to run over hastily to refresh his memory. It is certainly not full enough for a text-book, and a practitioner who wished to consult some book to help him in an obscure or difficult case, would hardly be satisfied with the brief *résumé* he would find here. Still it may meet a want among students, and it can be recommended as a safe, clear, and systematic treatise of gynæcology. It is well arranged, the etiology, pathology, differential diagnosis, symptoms, and treatment of the various diseases being briefly, but clearly indicated.

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TUBERCULOSIS OF BONE.

When Shakespeare represents Richard, Duke of Gloster, contemplating his deformity, the following are the words used:

> "I, that am curtailed of this fair proportion,
> Cheated of feature by dissembling Nature,
> Deformed, unfinished, sent before my time
> Into this breathing world, scarce half made up."

The royal humpback doubtless attributed his misfortune to some wretch's curse, to a fairy's displeasure, or to the influence of an unlucky star; or, if he were anything of a rationalist, he might have thought himself a victim of a freak of Nature, of imperfect growth, or injured by some prenatal maternal blight.

If the modern prototype of Gloster is anxious to know the cause of his affliction, the man of science takes him to a microscope, and shows in him a field of pretty red cells a granular mass, and in the centre of this a cluster of blue elongated specks, called by courtesy rods, and tells him that this is his enemy; that it is this foe who has blighted his youth, handicapped his manhood, and perhaps been the originating cause in the nexus of events which has twisted his character, and given occasion for the series of acts to culminate in the disaster of his Bosworth Field.

To this height of apparent absurdity, we are led by the votaries of this new cult, who from the hidden arcana of their researches — from the region of cultures and moulds — issue edicts and bulls, which now are ruling the world, shaping legislation, and awaking the fashion of pilgrimages to the shrines of the popular high priests.

It would hardly be surprising if the conservative and sensible layman should prefer the legends of the old nurses to this modern absurdity. It must, however, be frankly admitted that the theories advanced are supported, as a rule, by well-grounded facts, and, if we leave out the expressions of over-zealous enthusiasts, are so presented as to leave the onus of the discussion on the doubter.

No attempt will be made here to maintain the relation of the tubercle bacillus to tuberculosis; it will, nevertheless, be assumed that the microbe is the chief efficient cause, when acting on proper soil, for the pathological changes known as tuberculosis.

The relation of tuberculosis to caries of bone, is, however, a matter which has awakened a good deal of interest in the European surgical world, and is the subject named for a discussion in the next German Congress of Surgeons. Volkmann,[1] at the last Surgical Congress, boldly states as an aphorism that "Everything which has hitherto been classed as caries of bone — spina ventosa, scrofulous inflammation of the joint or bone, tumor albus, strumous disease of the bone — belongs, with but few exceptions, to true tuberculosis."

This tuberculosis originates either in the bone, or in the synovial membrane, but the former is much more common in children. It begins with the formation of a circumscribed tuberculous focus in the epiphysis, which, as a rule, remains comparatively small. The diffuse form of caseous infiltration is less common. The affection, at first, is not properly a joint affection, but one of the bone, and may remain extra articular if the suppuration extends outside, instead of bursting into the joint. In children there is in the spongy bone a special tendency for the localization of the disease, the tuberculous tissue being inclined to undergo caseous degeneration and form a mass, separated from the rest of the bone by a line of demarcation, containing granulation cells, which, though studded with miliary tubercles on the innermost layers, protects the neighboring bone from infection; so that a direct extension in the bone from a caseous sequestrum is exceptional.

There may, however, be two or more tubercular foci in the same epiphysis. The olecranon and the iliac portion of the acetabulum are known to be common places for these foci to be formed in, but the matter of favorite localities for the affection has not been thoroughly studied as yet.

Primary tubercular disease of the synovial membrane is more common in adults, particularly in old people, and is seen most commonly in the knee. Tubercular synovitis may be accompanied, by development of granulations, forming the so-called fungous disease of the joint; or these may be absent, and a torbid suppuration of the joint may be present — a form occasionally seen in old persons and of unfavorable prognosis. The tubercles may be deposited in a cluster, or they may be widely disseminated on the synovial membrane.

Non-tubercular affections of the joint only exceptionally become tubercular, as far as the matter is, at present, known. Tubercular disease of the joints, whether primarily synovial or osseous, does not necessarily involve suppuration, but may develop into the form of the so-called *caries sicca*. Tubercular eruptions in the synovial membrane may occasion simply an extensive serous effusion, classed as Hydrops tuberculosus, but this form is rare. Tuberculosis of bone, not in the neighborhood of joints, is to be found in the phalanges, the metacarpals, and metatarsals, exceptionally in the ulna and radius, tibia and femur, but is almost exclusively confined to young childhood. Tuberculous suppuration of the orbital plate of the upper jaw is also seen in young children, tuberculous caries of the ribs is not uncommon, but the most common of tuberculous affections of bone not involving joints is caries of the spine. Tuberculosis of bone never occurs in the long bones of adults.

Tuberculous affections of joints, bones, skin, and glands, apparently, are less liable to give rise to general tuberculosis than tuberculosis of the lungs or intestines. Tuberculosis does not recur in the wound after complete removal, as by amputation for tuberculous disease of joints, even if the patient may be suffering from another tuberculous disease, as phthisis; but wounds after operations for bone tuberculosis, may undergo tuberculous infection if the tuberculous matter has not been thoroughly removed during the operation. Local recurrence, therefore, after operation, is not to be attributed to a vice of the constitution so much as to a lack of thoroughness on the part of the operator. In operating on joint affections of this sort, it is, therefore, essential that not only the affected portion of the bone should be removed, but that the whole of the diseased synovial membrane should be carefully dissected off. Curetting the synovial membrane is said not to be sufficiently thorough, but in osseous tissues, owing to their greater resistance, all tuberculous matter can be removed by the curette.

Sinuses remaining for a long time, indicate the presence of tuberculous infection, and demand, for a speedy cure, either dissection, thorough cauterization with the actual cautery, or packing the parts with iodoform after enlarging the opening.

Thoroughness in detail is the secret of success in this branch of surgery, as in all others; but locally removing the disease, though it may prevent local extension, does not prevent reappearance elsewhere. A spontaneous arrest of the disease under conservative treatment, is, however, not at all uncommon, particularly among children.

Therefore, even though the modern theory of the origin of tuberculosis, and of the tuberculous nature of the caries be entirely accepted, the riddle seems as far from solution as ever; for the important query remains unanswered as to the cause for individual surrender, and for individual resistance to the bacillus; why certain races, certain stocks, are doomed from the first to a decimation in the warfare with the fearful invisible enemy, while others escape the same dangers, and bloom under the same conditions.

To state the necessity of suitable soil for the development of the bacillus is to reopen the question, and we are still obliged to answer our questioning deformed layman by telling him that he was born under an unfavorable star, or that a fairy had cursed him at his birth.

In the meantime, however, we can enjoy the slight satisfaction of telling him that if he place his children in a dwelling clean, swept, garnished, free from microbes, and keep them, during their growing years, under such conditions that only filtered air can reach them, only aseptic clothes can cover them; if their food be ideally perfect, and their associates and belongings scientifically immaculate, they are certain to grow up and encounter the bruises of childhood without fear of the deformities which crippled him.

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[1] Centralblatt f. Chirurgie, No. 24, 1885.

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PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF COCAINE.

Drs. Rigolet and Victor Pradel have recently presented to the Société de Thérapeutique of Paris two exhaustive theses on the physiological and therapeutic properties of hydrochlorate of cocaine, based on experimental studies.

These are Rigolet's conclusions:[1]

(1) Hydrochlorate of cocaine acts on the periphery of the nerves, abolishing momentarily the sensibility of the mucous membrane and skin; (2) The anæsthetic effect thus produced is essentially local; (3) In frogs this salt exercises an active effect on the heart, slowing its beatings, and finally arresting it in systole; (4) It has a manifest vaso-constrictive action, and produces, at first a fall, then a rise in the blood pressure; (5) Hydrochlorate of cocaine has no effect on the secretions, except that of the submaxillary gland whose salivary secretion is augmented by it; (6) In frogs, it diminishes the respiratory movements; in the higher animals it accelerates the movements and increases their amplitude when injected into the veins; (7) Cocaine muriate produces hyperthermia in the dog; (8) It is eliminated by the urine; (9) It retards fermentations.

In toxic dose, cocaine acts on the nervous centres, and exaggerates the excito-motor power of the spinal cord. It tetanizes the muscles. With regard to the therapeutic employment: cocaine renders great service in all operations where it is not necessary to produce general anæsthesia. It is in ophthalmic surgery that its advantages are most conspicuous. Its anæsthetic effects are less marked in eyes affected with inflammation than in those exempt from all phlegmasia; it will not render much service as an analgesic to inflamed eyes. This salt may be utilized as a narcotic in ophthalmology. It seems also to give good results in gastralgia, in sciatica, and in other neuralgic affections. In the treatment of morphio-mania cocaine may be substituted for morphia. Subcutaneous injections of chlorhydrate of cocaine seem to be quite harmless. The solutions most in use contain one, two and five per cent.: the weaker solutions are quite safe for internal administration. The combination of cocaine with ether and chloroform does not seem markedly to increase the analgesic effects of the former.

Pradel's conclusions are as follows:

(1) Hydrochlorate of cocaine has a very remarkable excito-motor action, which can be observed in all animals, but which takes on a different character according to the animal under experimentation. In the monkey it causes violent convulsions, to produce which three centigrammes of cocaine per kilogram of the weight of the animal are required; (2) Certain therapeutic agents have a marked influence on these convulsions. Choral prevents, while ether retards them. Morphia aggravates these convulsions, and the association of these two alkaloids, even in non-toxic doses, rapidly produces the death of the animal; (3) Cocaine is a hyperthermic medicament and the elevation of temperature is proportional to the dose employed. This hyperthermia takes place independently of all convulsion. Choral prevents this elevation of temperature. Morphia administered along with cocaine, causes a fall in the temperature which is quite notable. Antipyrine has no action on the hyperthermia produced by cocaine; (4) Cocaine anæsthetizes locally the mucous membranes; it has no action on the healthy and unabraded integument. Cocaine enters into the category of anæsthetic depressors of sensibility and exciters of motility. It resembles in this respect strychnine; (5) In hypodermic injections cocaine, in doses of one centigram produces a marked analgesia, varying according to the subjects; (6) Cocaine has a real action on the fermentations which it retards, though less than creasote and phenic acid.

With regard to therapeutical effects of this alkaloid, M. Pradel deduces the following conclusions from clinical observations:

(1) All the mucous membranes are anæsthetized by cocaine; the quantity necessary to obtain an analgesic effect varying with different organs; (2) Several drops of a two per cent. solution suffice to render the superficial part of the eye analgesic; (3) To obtain the same effect on the iris, it is necessary to make successive instillations every five minutes for the twenty minutes preceding the operation; (4) The analgesic action of cocaine on the inflamed eye is disputable; (5) Cocaine does not seem to produce mydriasis, and when such a result is experienced, it is because the cocaine employed is not pure; (6) The urethral mucosa is rendered analgesic by cocaine; solutions of two per cent. suffice for this; (7) Under the influence of this analgesia spasms and contractures disappear, and catheterism is rendered easier; (8) Cocaine does not prevent the supervention of "catheter fever;" (9) To obtain analgesia of the mucous membrane of the ear and nose, fifteen to twenty per cent. solutions are necessary; (10) For the mouth and throat, solutions of different strengths are required; ten to fifteen per cent. for the palate, five to ten per cent. for the fauces, two to three per cent. for the floor of the mouth; (11) Sprays of cocaine have produced suffocation; (12) Painting with cocaine is useful in dysphagia due to ulceration of the pharynx; (13) For the anus, strong solutions are necessary; five to ten per cent.; (14) Solutions of two per cent. are sufficient for the vulvo-vaginal mucosa in cases of vaginismus; (15) The neck of the womb is made analgesic by solutions of twenty

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[1] Bull. de la Soc. de Thér. Science, October 28, 1885.

per cent.; (16) With solutions less strong (four per cent.) a moderate analgesia is obtained which mitigates the suffering of child-bearing; (17) Cocaine acts on the skin denuded of epidermis as it acts on the mucous membranes. This effect has been utilized in fissures of the nipple; (18) The analgesia produced by hypodermic injections of cocaine may be useful in certain operations, such as those for phymosis, fissure and hæmorrhoids; (19) Cocaine calms, for a certain time, vomiting of hysterical nature. The employment of cocaine ought to be carefully watched in neuropathic persons: (20) In therapeutic doses cocaine is unattended with any injurious effects; (21) When cocaine is administered subcutaneously, pains must be taken to ascertain the particular susceptibility of the patient to this alkaloid, and knowing that some persons are peculiarly affected by it, the physician should feel his way carefully.

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A BOSTON POLYCLINIC.

One of the latest phases of medical education in America has been the rapid development in the large cities of the east of some form of Polyclinic, where the abundant material that swarms to their hospitals and dispensaries could be utilized for clinical instruction, and where the graduate in medicine could find some of the advantages of practical teaching that he had formerly sought abroad.

The Polyclinic in New York is already well known and the number of doctors who come to its exercises shows how real is the demand for such an institution; also in Philadelphia and Baltimore other organizations of the same kind have been established. In Boston the growth of this method of instruction has been so quiet that its existence has been less known, yet, starting in the summer of 1879, there were last year about fifty persons in attendance. Each year the increasing proportion of those availing themselves of these advantages have been graduates, and the rest advanced students of medicine. During the first year these courses were given under the title of "Clinical Courses of Instruction in Medicine." But with an increase in the teaching force and in the numbers attending a more compact organization was found necessary, which has been brought about by uniting these instructors together as the Boston Polyclinic.

In the beginning, two objects were kept in mind:— to provide instruction which would be mostly clinical and practical, and to limit the number in each class so that every member could examine the cases for himself, and this plan has been carefully adhered to.

Last summer nineteen courses were offered with a maximum number of ten in the largest class. But in many others the number was limited to four or five and for the last two years the work has been carried on during the winter as well as the summer months. There can be no doubt that this form of medical instruction is a most desirable one, for, whilst avoiding the evil of adding another to our overburdened list of institutions that give degrees, it increases the amount of available clinical instruction, of which there cannot be too much, and of which there has been in former years generally far too little. By competition it sharpens and stimulates instructors. The subject taught, the instructors and the instructed must all profit by such a system. The teachers in Boston have charge of clinics at the City and Massachusetts Hospitals, the Eye and Ear Infirmary, and Boston Dispensary, so that a large and varied material is at their disposal. In this work there has been no spirit of antagonism to existing institutions, but rather an effort to supplement and stimulate them by offering more abundant opportunities, and thus draw men to this city who would otherwise seek this instruction elsewhere. In the Journal of April 13th, 1882, we took occasion to refer favorably to these courses of instruction in discussing "extra-mural" teaching, and since then they have been improved in efficiency and scope.

Those who have attended the Vienna Polyclinic will remember with pleasure the facilities there offered for instruction and study, and will see in the development of the Polyclinic on this side of the ocean an extension of its methods and its aims.

Many doctors after a few years of practice would like to devote some weeks to the study of a department of medicine for which they previously had no opportunity, provided it could be done without too great a sacrifice of time and money; but formerly this instruction could only be had abroad. For this reason the advantages which are now offered to Americans in the larger cities of the country have an especial value, for they are now able to see a large number of cases under the instruction of men who have made themselves familiar with what is best in the methods and teachings of the foreign schools during a stay abroad, and have learned by experience what is useful and applicable in the diagnosis and management of disease as presenting itself to us at home.

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MEDICAL NOTES.

— The *Medical Record* comments on the chances of success in the medical profession as compared with those in business life, and quotes Sir James Paget, who has traced the course in life of one thousand medical students, taken at random from an English college. About five per cent. of them failed utterly, while nearly ten per cent. more left the profession without giving it a fair trial; one-half made a fair living, six and a half per cent. achieved considerable success, and two and three-tenths became eminent. Of the whole number who began, less than two-thirds achieved any kind of success. Whether Sir James Paget's figures will apply to the United States, it is impossible to say definitely. Our contemporary remarks that the opportunities for a successful career are naturally much greater here, and if it were not for the fact that competition is twice as active, a much larger percentage of successes would be scored. As it is, it thinks that the probabilities are, that of the four or five thousand medical students who are annually graduated by our schools, over one-third of them fail or fall by the way.

BOSTON.

— The Obstetrical Society of Boston, celebrated the completion of its twenty-fifth year on Tuesday last, by an elaborate dinner at the Parker House.

— A few social gatherings of the profession have been arranged for at the rooms of the Boston Medical Library Association. The first will occur on January 15, at which Mr. Cushing, the ethnologist, will give an address on "Medical Practice as it Exists among the Zuñi Indians."

— The Boston City Hospital has secured for the room devoted to the treatment of out-patients with diseases of the nervous system, a new and unusually complete system of electrical apparatus.

— The Children's Hospital has received, during the past year, legacies to the amount of over $25,000. The managers hope to be able, before long, to undertake the erection of a new wing, which is much needed.

— Three children at Quincy Point, near Boston, are reported as having been poisoned last week by coal-gas from a stove in the room in which they slept. The father was awakened by a peculiar moaning, and removed them at once to the open air, where they were resuscitated.

NEW YORK.

— At a meeting of the New York County Medical Association, held at the Carnegie Laboratory, December 21st, Dr. T. R. Varick exhibited a stone weighing seven ounces and four scruples, Troy weight, which he removed from the bladder of a lad fourteen years of age, on the 9th of December, by the bi-lateral operation. It measured six and three-quarters inches in circumference longitudinally, and five and one-half inches transversely. He had had it sawed open, and the section showed a nucleus of uric acid, surrounded successively by layers of urate of ammonia, triple phosphates, and urate of ammonia again. It had been six years since the first symptoms of bladder trouble were noted.

In operating, he had commenced with the left lateral incision, but, finding that this was insufficient, he made a right lateral incision also, so that the external wound was somewhat of a V shape. On account of the large size of the stone, he had found great difficulty in extracting it, and had, in fact, to follow the curve of the pelvis, and deliver it very much as if it had been a fœtal head. There was considerable shock from the operation, but the patient rallied speedily, and up to the present time (the twelfth day), he had progressed without any unfavorable symptom. The urine had been found to contain a large amount of mucus, some pus, and a small quantity of albumen.

Dr. Varick said that, according to Sir Henry Thompson and other authorities at the present day, the rule was, that in all cases where the stone weighed anything over three ounces, the high, or supra-pubic operation was to be adopted; but in this case, on account of the elasticity of the soft parts, and the small size of the prostate, from the patient's age, he had decided to disregard this. After the operation, he had applied hot water to the raw surfaces, and the wound was healing rapidly, in fact, too rapidly, since, on account of the condition of the bladder, he thought it better that the urine should find exit through the perineum for some time. The boy was certainly doing perfectly well up to the present, but whether there would remain any resulting disease of the kidneys or not he could not say.

Dr. J. W. S. Gouley said that this case afforded a beautiful illustration of the extent to which young subjects will bear bladder irritation. He thought that the boy would get well, and that he would not have any pyo-nephritis. If the patient had been an old man in such a case as this, there would undoubtedly have been a fatal termination, as there would have resulted disease of the ureters, followed by that of the kidneys. The good result here was due to the practical absence of the prostate. Personally, he said he would not have dared to extract such a stone as this entire, but would have broken it up into four or five pieces. There were instruments capable of doing this, and if it could not be accomplished otherwise, it might first be perforated in several places. This was a much safer procedure, and Malgaigne had called it lithotriptic lithotomy. Dr. Gouley had given it the name of lithoclastic lithotomy, which he thought was better. He was glad that Dr. Varick had refused to perform the supra-pubic operation, and he said that he would take this opportunity to offer his protest against this procedure. The high operation was a dangerous one, the mortality from it being very great, and among the complications which were to be feared in connection with it were the protrusion of the intestines from the wound, and the infiltration of urine. This might be the present fashion; but it was one that would pass away, as it had already done three times before.

— At the last meeting of the Medical Society of the County of New York, held December 28th, Dr. John C. Peters, chairman, reported the conclusions of the Committee on Hygiene upon the conferences lately held with the Taxpayers' Association in regard to the proposed great Quaker Bridge dam in connection with the Croton water system. He said that, owing to the urgent need of an increase in the water supply, the committee had joined in the petition for the construction of the Sodom dam, which would insure double the present supply to the city in two or three years, at a cost of $1,250,000. At the same time, the committee did not feel disposed to stand in the way of the Quaker Bridge dam project, as it had the earnest endorsement of engineers. There was uncertainty, however, about how long it would take to build it, and what it would cost, and the city could not wait upon such an uncertainty. When completed, it would hold water enough for 4,000,000 people, pouring out 400,000,000 gallons a day. With such an outflow, he did not believe the water could become stagnant or impure, as the opponents of the plan urged, while it would certainly catch the Croton overflow, and stop the present enormous waste. After some discussion, in which one of the speakers said that if the Brooklyn Bridge had been constructed of solid masonry, it would be a small affair compared with the proposed structure, and that of nine huge dams, none so large as this, four had broken through, the report of the committee was adopted.

At the conclusion of a recently published communication on this subject, in which he points out a number of objections to the Quaker Bridge dam, Mr. James Renwick, the architect, says: "There are so many difficulties, therefore, to be overcome, so many unknown quantities also in the problem, it seems to me that it would be unwise, as well as improvident, to attempt it; and particularly as the cost will, in my opinion, be at least three times the $4,000,000 or $5,000,000 estimated. On the other hand, a sufficient supply can be got by building comparatively small dams above the present dam at a low expense. Why, therefore, should we try to do what is barely possible, when, by the latter means, we have a certainty, and freedom from danger, for a much less cost than that of the Quaker Bridge dam? I may also state that we have had one earthquake, and that, therefore, we may have another. Should this happen, and a crack be made in the dam, it might destroy the whole structure, and the wave created by letting so enormous a body of water into the Hudson, would sweep the river from end to end."

— The first cremation in Buffalo was successfully made December 27th, at the new temple of the cremation company, and the statistics of the test were as follows: Weight of body, 98 pounds; weight of ashes, $3\frac{7}{16}$ pounds; time consumed in the cremation, one hour and five minutes; estimated highest degree of heat in the retort, 2,332° Fahrenheit. The most successful incineration thus far made at the Mount Olivet Crematory was accomplished December 30th, when the time consumed was one hour and thirteen minutes, or about two hours shorter than that of any previous cremation there.

— The reports thus far received show a gratifying increase over last year in the collection made in the churches on Hospital Sunday, this result being no doubt principally due to the fine weather of the last Sunday of 1885.

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Correspondence.

ELECTRICITY AS A THERAPEUTIC AGENT IN GYNÆCOLOGY.

Berkeley, Cal., Dec. 22, 1885.

Mr. Editor, — I am heartily glad to see this matter brought prominently before the profession by the paper of Dr. Paul F. Mundé,[1] and the discussion which followed it, because I know that gynæcologists generally fail to appreciate the value of this agent, and greatly overestimate the trouble and annoyance of its application.

Exactly why electricity should prove so beneficial in such opposite conditions as amenorrhœa and menorrhagia, it is impossible to say, except in a general way, that either condition is produced by or productive of deficient or perverted nervous force. But in either condition, (*of course* excluding all cases where there is acute, or even subacute inflammation) I *know* that the galvanic current, *properly applied*, will more generally bring relief than any other form of treatment.

My aims, and rules of procedure have been few and simple: —

First, never to produce more than a very slight pain, in some cases a slightly hot tingling, in others "a little unwell pain," as the patients express it. Broadly, one may say that this should be accomplished by from three to six or eight, or at the most ten cells of a "Smart" battery. But the batteries vary greatly, and each physician must become thoroughly acquainted with his own instrument. Nor do I believe that the galvanometer, as urged by Dr. Birdsall, can take the place of the patient's sensations. I use a cup and stem insulated electrode at the cervix uteri, (*positive* pole, to lessen the tendency to stick to the mucous membrane), and interrupt the current with a common sponge electrode over the pubes. This — while bringing the uterus, and if desired, the ovaries and tubes well within the circuit — does not involve any undressing of the patient, or at most only the removal of the drawers, if worn close.

And second, to give the *tonic* effect of the current, but *never to exhaust the nerves* by a too prolonged application. This I consider a matter of the very first importance. My applications vary from three to five minutes, and never (in such cases) exceed the latter limit. Since the adoption of this rule, my results have been far more satisfactory.

As a minor, but still important advantage, I may point out that neither Dr. Garrigues nor any one else, need give up the use of electricity in these cases "because it takes up too much time." Very truly yours,

Alexander R. Becker, M.D.

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HUMANIZED VIRUS.

January 4, 1885.

Mr. Editor, — I am very glad to see by Dr. Chas. V. Chapin's letter in your issue of December 31st ult., that the stock of long humanized virus, unmodified by renewal from the cow for over eighty-five years, is still maintained at Providence: for a comparison between the vaccinia induced by this stock and by that of heifer transmitted cow-pox virus is thus made easily practicable. This difference can readily be seen by the simple experiment of vaccinating an infant upon one arm with the former, and upon the other with the latter stock. To observe the difference in constitutional effect, it would of course be necessary to devote a separate child to each, preferably two children in the same house. The different arms should be inspected and compared daily throughout the entire course of the disease, as should also the resulting crusts and scars. If the Providence stock have the pedigree claimed for it, it will produce a disease which bears to that described by the first writers on vaccination, a resemblance which may be compared to that of a faded-out photograph of a person taken by some rural artist, to the person himself. The vesicle will be small, involving the skin but very superficially, and liable to spontaneous rupture. The areola will be slight, transient, and appear at the beginning of the eighth or end of the seventh day. Except in very rare instances, no febrile reaction will occur. The crust will be small, thin, and quite generally wanting in umbilication; will fall on the fourteenth day, and finally the resulting scar will be extremely superficial and barely discernible.

On the other hand, the results of vaccination with heifer transmitted cow-pox virus will be papulation of points of insertion at the end of the third or beginning of fourth day; first development of vesicle at end of fifth day; commencement of areola at latter end of ninth or beginning of tenth day; decline of areola twelfth to fourteenth day; decided febrile reaction coincident with the areola; vesicle large, and not liable to spontaneous rupture; the crust adherent till the twenty-first to thirty-second day, umbilicated, nearly as large as the vesicle, of a dark color, and as the morbid process involves the true skin to a very considerable extent, the lower portion of the crust will consist of a slough composed of the dermal tissue. The scar left behind will be deep, clear, and well marked, not foveolate or pitted, but characterized by cicatricial rays or bands, radiating from the centre.

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[1] Read before the New York Academy of Medicine, November 5, 1885, Journal, November 19th.

Virus from the animal, when dried upon points, is not so readily soluble as humanized virus, and of course it is necessary that it be perfectly dissolved before it is applied to the arm. From the want of appreciation of this fact, and of the slight extra care which is thus made necessary, some have been led into the very erroneous opinion that it is difficult to make the virus take. The fact is that it will produce vaccinia in precisely the same percentage of primary vaccinations as the humanized, and in a far greater, nearly double, in revaccinations. Vaccinations with animal virus are also free from the troublesome complications sometimes attending those from the humanized. I wish it to be understood always that I speak of animal virus worthy of the name, taken from proper vesicles at the proper time. It would be well if the fact could be generally appreciated that the object of vaccination is not to produce a disease of as mild and trivial a character as possible, but one that will protect from variola. The literature of post-vaccinal variola shows the protective power of long humanized virus. I have yet to learn of a case of that disease following successful vaccination with the animal virus. I have revaccinated this season a number of children of fifteen years of age who were vaccinated with the animal virus in their infancy, and in none of them have I been able to produce any effect.

Yours respectfully,

S. C. Martin, M.D.

27 Dudley St., Roxbury.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 26, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	638	241	20.10	14.40	1.80	1.00	10.05
Philadelphia	927,995	361	113	23.24	14.28	—	3.92	12.60
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	159	40	13.23	17.64	5.04	1.26	6.20
Baltimore	408,520	129	47	6.24	3 90	—	3.12	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	102	34	12.74	16.66	1.96	2.94	5.88
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	37	8	8.10	16.20	2.70	—	4.40
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	25	6	16.00	20.00	—	4 00	12.00
Charleston	52,286	28	11	20.42	7.14	7.14	—	—
Lowell	64,051	15	11	26.66	20.00	—	26.66	—
Worcester	68,383	17	9	17 66	17.66	—	—	17.66
Fall River	56,863	12	3	25.00	8.33	—	25.00	—
Cambridge	59,660	12	3	—	25.00	—	—	—
Lawrence	38,825	18	—	11.11	16.66	—	11.11	—
Lynn	45,861	13	2	15.38	23.07	—	—	7.69
Springfield	37,577	9	4	22.22	—	—	—	11.11
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	9	5	33.33	11.11	—	—	22.22
New Bedford	33,393	8	3	12.50	25.00	—	—	—
Salem	28,084	7	1	14.28	14 28	—	14.28	—
Chelsea	25,709	8	2	12.50	37.50	—	—	—
Taunton	23,674	11	2	9.09	27 27	—	—	9.09
Gloucester	21,713	4	1	—	25.00	—	—	—
Haverhill	21,795	9	3	33.33	11.11	—	—	33.33
Newton	19,759	1	—	—	—	—	—	—
Brockton	20,783	4	1	25.00	25.00	—	25.00	—
Malden	16,407	2	1	50.00	50.00	50 00	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	2	—	50 00	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,682: under five years of age 564; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 288, consumption 249, lung diseases 239, diphtheria and croup 146, typhoid fever 43, diarrhœal diseases 26, scarlet fever 25, whooping-cough 21, malarial fever 12, puerperal fever four, cerebro-spinal meningitis four, erysipelas three, measles two, small-pox two. From scarlet fever, New York 12, Philadelphia three, Cincinnati two, Lynn, Springfield, Holyoke and Chelsea one each. From whooping-cough, New York 16, Charleston three, New Bedford and Baltimore one each. From malarial fever, New York eight, Baltimore two, Philadelphia and Nashville one each. From cerebro-spinal meningitis, New York three, Northampton one. From puerperal fever, New York two, Baltimore and Charleston one each. From erysipelas, New York three. From small-pox, New York two. From measles, New York two.

Cases reported in Boston: scarlet fever 31, diphtheria 22, and typhoid fever seven.

In 107 cities and towns of Massachusetts, with a population of 1,207,964 (population of the State 1,941,465), the total death-rate for the week was 15.63 against 15.29 and 16.26 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending December 12th the death-rate was 20.3. Deaths reported 3,464: infants under one year of age 793: acute diseases of the respiratory organs (London) 413, whooping-cough 111, measles 109, scarlet fever 42, fever 32, diarrhœa 24, diphtheria 29, small-pox (Bristol and Liverpool, two each, London one), five.

Birkenhead 20.7; Birmingham 19.6; Hull 20.7; Leeds 21.6; Leicester 16.9; Liverpool 24.6; London 18.8; Manchester 24.1; Nottingham 22.7; Sheffield 22.5; Sunderland 17.5.

In Edinburgh 21.7; Glasgow 28.8; Dublin 31.0.

The meteorological record for week ending December 26th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Dec. 26, 1885.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...20	29.769	23.1	33.3	16.8	65.0	50.0	56.0	57.0	N.W.	W.	W.	20	21	12	F.	C.	C.	—	—
Monday, ..21	29.894	24.6	37.1	14.6	67.0	76.0	65.0	69.3	W.	S.W.	N.	19	9	22	C.	N.	O.	—	—
Tuesday,..22	30.274	29.8	37.0	18.2	67.0	58.0	62.0	62.3	W.	W.	W.	11	7	6	C.	C.	O.	—	—
Wednes., .23	29.936	49.8	60.7	36.0	76.0	41.0	56.0	57.7	W.	S.W.	S.W.	10	14	16	C.	F.	O.	—	—
Thursday, 24	30.063	36.6	48.9	23.0	76.0	36.0	71.0	61.0	W.	N.W.	N.	9	24	10	O.	C.	C.	—	—
Friday, ...25	30.393	22.3	28.0	19.4	63.0	62.0	54.0	59.7	N.	N.E.	N.E.	16	23	24	O.	O.	O.	—	—
Saturday, .26	30.170	16.9	21.6	12.0	60.0	33.0	83.0	58.7	N.	N.	N.	30	35	20	O.	O.	N.	3.0	.01
Mean, the Week.	30.166	29.0	38.1	20.0				60.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 26, 1885, TO DECEMBER 31, 1885.

Maddox, Thos. J. C., assistant surgeon and first lieutenant. Killed December 19, 1885, in affair with Apache Indians, near the White House, New Mexico.

Ives, F. J., assistant surgeon. Ordered to report to commanding officer, District of New Mexico, for duty in the field. S. O. 127, Department Platte, December 23, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING DECEMBER 26, 1885.

Purviance, George, surgeon. To proceed to Chicago, Ill., as inspector, December 23, 1885.

Guiteras, John, passed assistant surgeon. To proceed to Saint Louis, Mo., for duty, December 23, 1885. Granted leave of absence for seven days, December 26, 1885.

Urquhart, F. M., passed assistant surgeon. To proceed to Charleston, South Carolina, for temporary duty, December 23, 1885.

Bratton, W. D., assistant surgeon. Granted leave of absence for twenty-two days, December 22, 1885.

McIntosh, W. B., assistant surgeon. Granted leave of absence for fourteen days, December 22, 1885.

DEATHS.

Died in South Scituate, Mass., December 29, 1885, Nathan Pike Brownell, M.D., M.M.S.S.

In Worcester, Mass., December 30, 1885, Rufus Woodward, M.D , M.M.S.S., aged sixty-six years.

OBITUARY.

JOHN ORNE GREEN, M.D.

Dr. John O. Green, of Lowell, whose death in his eighty-seventh year, was recorded in our recent necrology of the Massachusetts Medical Society as occurring on December 23d last, was born in Malden in 1799, and was the son of Rev. Aaron and Eunice (Orne) Green; he went to school in Medford, entered Harvard College in 1813, graduating in 1817; he taught school for a time both in Andover and in Castine, Me.: he took his M.D. degree at the Harvard Medical School in 1822, and settled in East Chelmsford — which afterwards became Lowell — in the same year.

Here Dr. Green continued to live, with the exception of a visit to Europe in 1847 the rest of his long and useful life. He grew up with the place and became identified with many of its most important civic and social interests. He was for more than fifty years vice-president of the Lowell Institution for Savings, and latterly its president; for thirteen years a member of the School Committee, at one time president of the Lowell Lyceum, of the Lowell Bank, of the Old Resident's Association, in which he took a deep interest: he also served the city as an alderman, and was health commissioner. He was for many years senior warden of the church of St. Anne. He was president of the Middlesex District Medical Society, became a councillor of the Massachusetts Medical Society in 1841, and its orator in 1847.

Dr. Green was married three times. His first wife was a daughter of Dr. Calvin Thomas, a successful and much respected practitioner, of Tyngsborough, Mass.; his second wife was Miss Slater, of Rhode Island; and his third wife, who died a few years ago, Miss McBurney, of Boston. He leaves two sons, one of whom, Dr. J. Orne Green, is a member of the Massachusetts Medical Society and a resident of Boston.

SOCIETY NOTICES.

Gynæcological Society of Boston. — The annual meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, January 14th, at 4 o'clock, P.M. The Annual Address will be given by the President, Dr. H. O. Marcy. Subject: "The Perineum of the Female: its Anatomy and Function." Illustrations upon the screen by the oxy-hydrogen light. All members are urged to be present.

H. J. Harriman, *Secretary*.

Boston Medical Library Association. — The Medical Library, 19 Boylston Place, is hereafter to be open on Tuesdays and Fridays, from seven to ten in the evening, instead of closing every day at six, as hitherto.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, January 13, at 7.45 o'clock. Papers: I. Dr. E. O. Otis, "Random Notes on some Health Resorts." II. Dr. H. F. Vickery, "Enlarged Cervical Glands." III. Dr. E. B. Lane, "Two Cases of Cerebral Tumor, with autopsy." F. Knight, M.D., *Chairman*.

Albert N. Blodgett, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Joint Diseases: Treatment by Rest and Fixation. By De F. Willard M.D. Philadelphia. Surgeon to the Presbyterian Hospital, etc. (Reprinted from the New York Medical Journal for December 5, 1885).

Surgical Treatment for Infants. By DeForest Willard, M.D., Lecturer on Orthopædic Surgery, University of Pennsylvania, etc. (Reprint from the Medical and Surgical Reporter, of July 25 and August 1, 1885).

Kosmon Almanac. The new Calendar. Based on the Movements of our Solar Phalanx. Also an Account of Shalam, the first Community of the kind in all the World. Faithists in Jehovih the Creator.

Practical Notes on the Treatment of Skin Diseases. I. Diseases of the Perspiratory and Sebaceous Glands. By George H. Rohé, M.D. Baltimore, 1885.

The Field and Limitation of the Operative Surgery of the Human Brain. By John B. Roberts, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, etc. Philadelphia: P. Blakiston, Son & Co. 1885.

A Manual of Animal Vaccination preceded by Considerations on Vaccination in General. By Dr. E. Warlomont, Member of the Royal Academy of Medicine of Belgium. Translated and edited by Arthur J. Harries, M.D. London: J. & A. Churchill. 1885.

Text-book of Ophthalmoscopy. By Edward G. Loring, M.D. Part I. The normal eye. Determination of refracture. Diseases of the Media. Physiological optics and theory of the ophthalmoscope. New York. D. Appleton & Co. 1886.

Introductory Lecture on Tumors. Delivered at the College of Physicians and Surgeons of Chicago by M. Senn, M.D., Milwaukee, Wis. (Reprint from Philadelphia Medical Times, December 12, 1885.)

Decisions under Medical Practice Laws. (Reprint from Seventh Annual Report Illinois State Board of Health, 1885.)

Original Articles.

SOME CASES OF REFLEX NEUROSIS.[1]

BY G. M. GARLAND, M.D.

The subject of reflex neurosis is one of great interest, and the cases which come under this grouping, exhibit such diversity of phenomena and such excentricities of behavior that they are always fascinating to the observer. The following cases presented themselves at the Carney Hospital, and were there treated during my service in the summer of 1885. They appear to me to be worthy of record.

Case I. M. I. D., merchant, aged fifty-eight, entered the hospital on July 7, 1885. He had been suffering for six weeks with severe supra-orbital neuralgia on the right side. The pain was not continuous, but seized him at frequent intervals every day. Each individual attack was of short duration, but the severity was so great and the patient's dread had become so exaggerated, that he was completely unmanned. He had lost flesh, strength and appetite, and he was nervous to an extreme degree. He had been obliged to give up his business, and he emphasized the apprehension with which he awaited each attack. His tongue was heavily coated and his bowels were constipated.

Upon questioning, it was learned that the patient had had an attack of neuralgia in the same spot three years previous. That attack was of short duration, however, and had never troubled him until it began at this time. He was a man of free habits as regards food and drink. He had always enjoyed good health up to last April, when he had pneumonia, which ran an ordinary course and terminated by complete restoration. His neuralgia began within a few weeks after his recovery from the pneumonia. His face presented a striking contrast between a high color on the cheeks and a zone of waxy pallor round the eyes.

Physical examination revealed the following facts: His heart, lungs and kidneys were sound. There was no tenderness or swelling over the right supra-orbital region. His eyes were normal in appearance, and a later ophthalmoscopic examination by Dr. Derby, revealed merely a slight hypermetropia, which was fully compensated by the glasses which he wore. Nothing abnormal was found in his nostrils or mouth. On opening his mouth, however, to exhibit his teeth, he excited an explosion of pain. The right eye closed, tears ran from it and the lids trembled convulsively. The face flushed and the mouth was drawn toward the painful side. This attack lasted from one-quarter to one-half a minute. The patient then stated that he could produce those attacks by certain movements, which he avoided as much as possible. Chewing his meat at table; drawing his shirt over his head and certain other acts would start the pain. The examination of the ears was next in order, and these were found packed with hardened wax. The right ear was so tightly plugged that it required nearly an hour of syringing before the mass was dislodged. The left ear was cleansed in a few minutes.

The fact that the patient could explode attacks of nervous force at will, by the movement of parts remote from the seat of the pain, led me to the belief that there must be a mechanical cause for the pain, and that I had discovered this cause in the impaction of the right aural canal. Accordingly, I stopped all the quinine and other powerful neuralgic medicines which he had been taking, and gave him simply one-twentieth of a grain of podophyllin before each meal to stimulate his digestive secretions.

The removal of the wax caused no pain or discomfort during the operation, and it was followed by an absolute cessation of the neuralgia for eleven days. Once or twice during these eleven days the patient reported a peculiar sensation over the right side of his forehead. It was not pain, but a sort of twitchy feeling in the skin. This aroused his apprehension again, but he was calmed by encouraging words and was told that time was required to cool the stove after the fire was out. On July 17, he sat and read in the sun for some time, and then experienced a mild attack of neuralgia. The pain differed from his previous attacks in that it was slight, and it persisted for ten or fifteen minutes. The house physician, Mr. Gleason, applied galvanism to his forehead, and this quickly relieved him.

Since that day he has had no other attack of pain. Occasionally he has felt the twitching of the skin, referred to above, and to relieve this, galvanism was applied eight or ten times. After leaving the hospital the patient took a trip to Europe, and has now returned to his business in perfect health.

There are several interesting points in connection with this case. The first is to trace out the nerve circuit between the ear tube and the supra-orbital region. Dr. Hilton shows in his work on "Rest and Pain," that the "upper and anterior part of the external ear and the auditory canal derive their sensibility from the fifth cerebral nerve," so that these portions of the ear are thus included in the sensory circuit with the forehead, temple, face, eyes, nose, teeth and tongue.

The entire posterior surface, and the anterior surface of the pendulous portion, of the ear are supplied by branches from the second cervical nerve.

The presence of wax in the ear tube seems a slight cause for so much distress, and yet if one will put his finger in his ear while making masticatory movements of the lower jaw, he will see that the wall of the canal is thereby moved in a forcible manner. Moreover, the history of a previous attack of neuralgia in the same region would lead one to assume an exaggerated susceptibility of the right supra-orbital nerve. The future history of this nerve will be interesting.

The gradual cooling down of the excited nerve after the removal of the irritating cause was also an extremely interesting phenomenon. For a number of weeks the patient complained of the twitching feeling described above, and such sensations always aroused his apprehensions.

Case II. This case exhibits a reversal of the nerve currents as compared with the previous one.

Miss C. P., aged thirty-two. Entered the hospital June 18, 1885, with the history of a sore mouth since the preceding Friday, together with anorexia and vomiting. The mouth presented the familiar signs of mercurial salivation, with swollen gums and ulcerations. The patient complained of a sharp pain immediately behind the ears. A suitable mouth wash was prescribed and her gums rapidly improved. My term of service beginning in July, the previous treatment was continued until July 13, when my attention was especially attracted by a look of distress on her face, and by her complaints of a severe ear-ache on the left side which prevented sleep and was wearing out her strength. She said her ear had ached more or less from the time of entering the hospital, but it had grown much worse of late. In examining the ear nothing abnormal could be discovered outside or inside, and there was no tenderness to touch or upon percussion over the mastoid process. Between the anterior edge of the left steno-mastoid muscle and the posterior edge of the ramus of the jaw there was a small spot tender to pressure.

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[1] Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, December 9, 1885.

The mouth was next examined. The gums were everywhere healed, except around the left wisdom-tooth. Here the mucous membrane was swollen and pushed forward so as to conceal more than half of the tooth. On lifting this swollen tissue an ulcerated surface was exposed which was very tender to the touch.

A small piece of lint, powdered with iodoform, was inserted between the gum and the tooth, and this constituted the entire treatment. Within two days the gum had receded almost to its natural position. The ear-ache was fast disappearing, and the patient could sleep. On the third day the dressing was omitted by mistake and the pain and sleeplessness returned. The lint was resumed. In two days more the ear-ache was entirely gone, and the patient was discharged well at the end of a week.

Case III. M. P., aged sixty-eight, entered the hospital June 10, 1885. Had been a sailor and fisherman for years. Ten months ago he contracted a cold and had been troubled with cough and dyspnœa since then. He is frequently awakened suddenly at night and is obliged to sit up gasping for air. During the day he has occasional paroxysms of severe dyspnœa, and his breathing is habitually rapid and labored. His face wears a distressed, weary look. Slight movements cause distress for breath, and he walks about with difficulty. The expectoration is a greenish-yellow, occasionally streaked with blood.

Physical examination revealed sibilant and sonorous râles over both chests, front and back. The inferior boundaries of the lung reached lower than normal, showing emphysematous enlargement. There were no signs of any pulmonary consolidation. Twenty years ago the patient's nose was bent toward the right side by a blow from a ball. Since the beginning of his cold he has noticed that he could not breathe through the right nostril.

From the date of his entrance until July 6th, the patient was treated by various remedies addressed to his cough and to his asthmatic breathing, but no relief had been granted him. On July 6, I made an examination of the patient and found that his right nostril was packed with polyps. These polyps were four in number, large and firm in consistency. After two of them had been removed the patient experienced decided relief from his suffering and slept with comfort. This improvement was still more increased after the removal of the remaining polyps at a later sitting.

All medication directed to his cough was stopped, and he was given some soda powders for his stomach, and an occasional laxative.

The record for July 29, states that the moist râles heard at the previous examination had disappeared. Only a high-pitched sibilant râle could be heard occasionally at the left apex. On violent respiration a few wheezy râles could be heard over the lowest part of the lung in front.

During August, cocaine and glacial acetic acid were applied occasionally to the lower turbinated bones in both nostrils. No other treatment has been employed since then, and within a few days the man reported himself to me in excellent condition. He works about the hospital, goes up and down stairs at will, and breathes with ease. Rarely he has an attack of asthmatic breathing at night.

Case IV. This was a peculiar case of laryngeal neurosis, which I was unable to trace to any local cause.

M. A. G., aged thirty-nine, unmarried, entered the hospital on September 8th. She has always been a hard worker, but remarkably healthy. Last December after exposure to cold, she began to cough. There was no expectoration then or at any time since. She soon grew somewhat hoarse. This symptom varied at first but finally increased in intensity until she could speak only in a whisper, and this aphonia has persisted up to the time of treatment at the hospital. The cough was of a distressing, barking character, and persisted during all her waking hours at the rate of twelve to eighteen or twenty times per minute. On retiring at night she would lie and cough for an hour or two before she could go to sleep. The cough began by an audible sharp inspiration as if the diaphragm contracted spasmodically, and this was followed by one or two loud expiratory barks. The patient's hands and feet were restless, but exhibited no choreic movements or trembling. Patient says she has lost forty pounds of flesh since she began coughing. Her appetite is poor and she complains of a dull, aching pain at the left side of the back after coughing.

A careful physical examination was made. There was no tenderness or tumefaction about the larynx. The cords were slightly reddened, but were not paralyzed. The throat and pharynx were considerably reddened by the rasping cough. The lungs, heart, kidneys, ovaries and womb were normal. The bowels were constipated but yielded readily to laxatives. Inasmuch as nearly every strong tonic had been tried upon the woman during the months of her affliction without any apparent benefit, it was thought advisible to try the effect of an ice-bag upon the spine. Accordingly on September 10th, the bag was applied for two hours. On the next day and thereafter it was applied for four hours daily.

The hospital record, kept by Mr. Gleason, reports the following progress:

September 13. Patient coughs only when excited or nervous, and then only at long intervals. The cough is no longer loud and barking, but is more like a clearing of the throat. She goes out to walk daily.

September 16. The cough has entirely ceased and patient can use her voice a little. Her appetite and general health are improving.

September 19. The voice is growing louder and clearer every day. No return of the cough.

September 29. Patient is able to talk in an ordinary tone without any hoarseness. Her weight has increased several pounds. Discharged well.

In addition to the ice-bag, the following pill was given three times daily to stimulate the stomach :

℞	Acid. Arsenios	gr. 1-80
	Podophylli	gr. 1-20
	Quin. Sulph.	gr. j
	Strychniæ Sulph.	gr. 1-80

M

and the patient also took one teaspoonful of malt after each meal. Considering the large doses of strychnine and quinine which the woman had previously taken without avail, her improvement at the hospital would seem to be largely due to the influence of the spinal ice-bag.

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THE ETIOLOGY OF RACHITIS.[1]

BY H. C. HAVEN, M.D., OF BOSTON.

ALTHOUGH we can hardly accept Jenner's statement that "Rachitis is the most common, the most important, and in its effects, the most fatal of the diseases affecting children," as holding true in this country, it is yet sufficiently common to make its prevention of great importance to the public health. It is, typically, a preventible disease — so far as serious results to the individual are concerned — if proper treatment is instituted early enough. It might, probably, be absolutely prevented, if we knew the ultimate causes.

My purpose is to briefly present the statistics I have gathered as to the effect of the commonly-accepted causes of rachitis on its production in this city.

During the past three years, at the West End Dispensary for Children, there were in attendance —

Total number under 7 years	1516
" " of rachitics	75
Percentage of rachitics	4.94
Total number of colored under 7 years . .	90
" " " " rachitics . . .	38
Percentage of colored rachitics	42.79
Total number of foreign ancestry under 7 years	340
" " " " " rachitics .	20
Percentage of rachitis of foreign ancestry .	5.88
Total number American ancestry under 7 years	114
" " " " " rachitics .	4
Percentage of rachitics of American ancestry	3.50
Number of ancestry unknown	973
" " " " rachitics . .	10

RACE.

Classifying the rachitics as to race, we find, of the number where it is known: Colored, 38; Foreign, 20; American, 4. Of the 20 rachitics of foreign ancestry, (Provinces included), there were: Portuguese, 3; Italian, 2; Irish, 2; English, 2; French, 1; Nova Scotia, 2; Russian, 1; German, 1; of mixed parentage, both foreign, 4; of mixed parentage, father American, 2; of mixed parentage, mother American, 1.

FEEDING.

Breast alone till	3 months,	308.	11 rachitics or	3.57 pr.ct.
" " "	6 "	295.	7 "	2.37 pr.ct.
" " "	9 "	137.	10 "	7.29 pr.ct.
" " "	12 "	200.	7 "	3.50 pr.ct.
" "	over 1 year	60	3 "	5.00 pr.ct.
Breast with other food till	3 months,	74.	5 rachitics or	6 75 pr.ct.
" " " "	6	43.	2 "	4 65 pr ct.
" " " "	9	83.	3 "	3.66 pr.ct.
" " " "	12	477.	9 "	1.04 pr.ct.
" " " "	over 1 yr.,	381.	17 rach. or	4.46 pr.ct.
Artificial feeding only,		119.	13 rachitics or	10 85 pr.ct.
Number where food not known,				286
" " " " " and rachitic,				3

These figures need, of course, a further analysis to make them of much value, but they show, I think, very strongly, that other factors than food are in this series of cases, the original or exciting causes of rickets.

Having noticed the frequency of rachitis among the colored in this series — and I have observed this in the attendance at other dispensaries — let us analyze the feeding of the colored children to see if, so far as they are concerned, the dietetic factor is an important one This was as follows:

Breast without other food till	3 mos.,	18.	7 rachitics, or	38 88 pr.ct.
" " " "	6 "	8.	3 "	37.50 pr.ct.
" " " "	9 "	5.	4 "	80.00 pr.ct.
" " " "	12 "	9.	4 "	44 44 pr.ct.
Breast with other food till	3 mos.,	7.	1 rachitic, or	14 28 pr.ct.
" " " "	6 "	4.	1 "	25 00 pr.ct.
" " " "	9 "	3.	1 "	33.33 pr.ct.
" " " "	12 "	16.	8 "	50.00 pr.ct.
" " " "	over 1 yr.,	27.	12 "	44.44 pr.ct.
Artificial feeding only,		16.	6 rachitics, or	37.50 pr.ct.

I recognize the objection, that these statistics are too small to have great weight, but I cannot but think they are sufficiently numerous to show that at least the dietetic factor is not an important one in producing rickets in colored children in Boston; the per cent. of all rachitics among all colored is only a little less than the per cent. of colored rachitics in the artificially fed from birth. And in this series of cases, moreover, many colored children are not counted as rachitic where they only showed slight bone changes. Since December 1, 1884, about the time I began to carefully note any evidence of rickets, the total number in attendance under seven years has been 495 and 52 colored, or 11.5 per cent. Of the 52 colored, twenty-five only were non-rachitic, and 27 rachitic, 51.9. This per cent. even is too small, however, I am very sure, as sometime in the hurry of examination, I have neglected any record, as some of my charts remind me. The only question in regard to the dietetic factor, yet to be spoken of, is this: is the milk of colored mothers, otherwise healthy, as good an article of diet as the milk of the other races? I have no reason to doubt it or affirm it, except that in many of the cases there is no evident failure of nutrition on the part of the child. I hope later to present some analysis of the milk of women nursing rachitic children.

Assuming then, the preponderance of rachitis among the colored race in Boston, and granting the effect of the diet they receive not to be a marked one, at least, as I think we are justified in doing, the question arises as to what other cause may be acting, peculiar not to any racial dyscrasia, but resulting from racial or acquired character and habits; that is, are the quarters of the city in which they live more densely crowded; are the tenements they inhabit more damp and cold or having less sunlight; are their habits of caring for children, especially as to taking them out of doors, different from those of the equally destitute of other nationalities? I can only give my opinion, that all these questions must be answered in the negative. I have no positive information, and hope I may obtain some from others to-night. My experience has been, that the colored are more lavish in expenditure for food and rent than other poor, taken as a class, that in equal ways their table is better equipped and the food better cooked. As for the airing of the children I do not see how they could be taken out *less* than the children of the Irish poor, until after they can walk; after that time I have noticed no difference.

Another question must be considered. Are one or both of the parents less healthy than the average white of same social condition? If they are, this may be considered as a causative influence, transmitted but not acting through direct heredity.

Of the 33 colored rachitics, whose family history is known, both parents *said* to be healthy in 21.

Mother healthy in 4 cases; father dead in 3; 1

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, December 9, 1885.

Bright's, 1 phthisis, 1 rheumatism; in 1 father had cough every winter, well in summer.

Father healthy in 5; mother died in 1 of phthisis; "never strong" in 2; "married at 13" in 1; rheumatic in 1.

In 2 cases there was phthisis in father, and asthma and rheumatism respectively in mother; in 1 father had phthisis and mother died in confinement.

Of 31 rachitic white, whose family history was known, parents said to be healthy in 23.

Of the 8 remaining, in 3 father was healthy, mother had chorea, rheumatism and measles at birth of child respectively.

Mother healthy in 3; father had kidney disease, arsenical poisoning, and "not strong."

Father died of phthisis in 1, with mother not strong; father rheumatic in 1, and mother healthy excepting catarrh which had destroyed septum, specific.

No history of syphilis in any, nor have I seen any rachitic symptoms in a number of confessedly syphilitic children.

In this comparison we see not much difference, but of course the statements of the parents are of comparatively little value; I think, undoubtedly, in this climate the average of health is less in the negro than the white native or immigrant from the north of Europe. How much lower, if any, it is, than that of the immigrant from France or Italy, I have no means of forming an intelligent opinion.

In any case I do not believe there is enough difference to account for the marked preponderance of rickets on the ground of the parent's health, though it may, and undoubtedly does, exert an influence.

What then is the determining cause of this frequency? I see no source of any such cause but what must arise from a peculiar predisposition to this form of disease in the colored. Is this to be referred to any anatomical basis, as for instance, are the arteries of this race larger or wider? I know of no such peculiarity. And again, if the statements made to me by lay observers are true, that the disease is the less common the farther South we go, that would preclude any such hypothesis being entertained. I can find no medical testimony as to its relative frequency. It is stated, however, to be practically unknown in tropical regions. In the writings on African explorations, I have met no notice of such a disease having been noticed among the young, as it would probably have been had it existed. Again, I have been told by lay observers, that the disease is the more frequent and severe, the purer is the African blood, and I have found this to be true in my experience in this city.

The only hypothesis I can suggest to myself to account for the relative frequency of rachitics in the colored race is that as their natural habitation is much farther south than North America, the effect of the climatic conditions, which are recognized as having a causative effect in rachitics, is exaggerated; the purer the African blood the more will the effect be noticed. In other words, there is an inherited necessity for heat and sun which our climate does not satisfy, and rickets results. It is striking in this connection to notice of the white rachitics of a foreign ancestry, the majority are born of parents coming from the south of Europe, where the disease is relatively rare, rather than of parents from England and North Germany, where the disease is rife.

I have presented these facts principally for the purpose and in the hope of eliciting criticism and information which shall enable me the better to make a more thorough study of the subject than I have had the time to do in this sketch.

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THE PULMONARY COMPLICATIONS OF TYPHOID FEVER.[1]

BY F. B. HARRINGTON, M.D., BOSTON, MASS.

TYPHOID FEVER COMPLICATED BY CIRCUMSCRIBED PNEUMONIA.

Case I. Miss G., twenty-five years old, was seen November 10, 1884. The temperature was 104.5°, the pulse 108 and the respiration 32. For five days she had been feeling poorly, and had suffered with headache and nausea. She had a chill and there had been some cough. The tongue was heavily coated. The bowels were regular. On examining the chest a region of dullness was found at the base of the right lung in front. This dullness did not extend above the nipple, and was not marked. In the back it was wanting. Over this area moist râles with slightly prolonged expiratory sounds could be heard. Before the present illness there had been no cough.

The abdomen was slightly tympanitic, and there was slight tenderness in the left iliac region.

November 11th. On the following day the temperature rose to 105.2°. Diarrhœa and some cough.

November 12th. Temperature 104.9°. Diarrhœa and cough.

November 13th. The temperature 104.7°; The cough was slightly increased and the expectoration, previously viscid mucus, became rusty in color. The dullness had increased slightly in intensity though not in area. Fine and coarse râles were abundant and respiration was somewhat bronchial. There was some deafness. For several days the patient seemed to improve and the temperature fell to 99.2° on the 16th.

The rusty expectoration disappeared and the cough became less. The diarrhœa continued. On the 19th she complained of pain in the region of the rectum, and a poultice was applied to a spot of tenderness.

November 22d. A large ischio-rectal abscess was opened by incision, and the rush of pus, and gas showed that it had perforated the rectum.

From this time on the patient gradually grew worse.

November 25th. There was mild delirium, which changed two days later to active delirium. The pulse was gradually becoming weaker. There were abundant râles in both bases behind.

The abscess continued to discharge.

December 2d. The patient died. For two or three days before death there had been an increasing dullness at the bases of both lungs, due to the constantly increasing weakness of the heart.

TYPHOID FEVER WITH HÆMOPTYSIS DURING CONVALESCENCE.

Case II. Mr. C., of phthisical family, twenty-eight years of age, after the usual preliminary symptoms of typhoid fever, went to bed January 22d, with headache, coated tongue and pain in the right iliac fossa. Diarrhœa began three days later. The patient went through a mild attack of typhoid, and a little over three weeks after the attack the pulse became normal with a slight evening rise.

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, December 9, 1885.

The pulse was now 96 and weak. The temperature never rose above 103°. Considering the moderate temperature and the lack of exhausting symptoms there was very decided prostration. About this time a slight cough developed, but gave little trouble, and the chest was not examined. The improvement in the patient was very slow. At the end of a month the patient sat up for a short time, but was very weak. Two months after he was attacked he was still unable to be about. His cough had become more troublesome. On examining the chest nothing abnormal was found. The pulse was rapid and weak. This was March 17th. Nine days later I was called and found the patient suffering from a profuse hæmorrhage following a fit of coughing. At the left apex I found fine and coarse râles, with dullness and slightly prolonged expiratory murmur. Two weeks later there was a second though less copious hæmorrhage. A month later the patient had so improved that he was able to walk out. The cough continued and still exists, though the man is now about his business.

No disease is so prolific of complication as typhoid fever. No structure of the body escapes entirely. No function is safe. Rupture of muscles, necrosis of bones, abscess of the liver, gangrene of the lungs, loss of sight, aphasia and insanity are but a few of the rarer complications. There are two important causes for this multiplicity of lesions. The first and most important cause is the duration and severity of the pyrexia. The second cause, less demonstrable, is the specific poison of the disease. The continued high fever causes parenchymatous changes in all the organs. Hoffmann [2] found only 56 cases out of 161 autopsies in which the heart muscle was normal or nearly so. The power of the heart is greatly lessened. The circulation is impaired and the nutrition of the parts suffers. The respiratory complications in typhoid fever are numerous. Out of 111 autopsies, from Biermer's clinic, the respiratory apparatus was perfectly healthy in only two instances, according to de Cérenville.[3] Bertz[4] makes a report of 899 cases of typhoid fever from Ziemssen's clinic from 1878 to 1883. Among a large number of complications were the following pulmonary, or intimately associated with pulmonary lesions: —

Typhoid fever in Ziemssen's clinic from 1878 to 1883. Beetz:[5] —

Bronchitis, ...	59
Croupous Pneumonia, .	41
Catarrhal " . .	14
Hypostatic " . .	10
Hæmorrhagic Infarction,	2
Pleurisy with Effusion, .	22
Old Pleuritic Adhesions,	2
Pulmonary Phthisis, .	19
Miliary Tuberculosis, . .	2
Pleuropneumonia, . .	4
Pulmonary Emphysema, .	4
Gangrene of the lungs, .	1
Apex Induration, . .	6
Abscess of Lung, . .	2

188 out of 899 cases.

A *report of* 250 *autopsies* after typhoid fever at Basle. *Hoffmann:*[6] —

Splenization, ...	35
Lobular Pneumonia, . . .	38
Lobar Pneumonia, . . .	18
Pleurisy, ...	20
Pneumothorax, ...	1
Hæmorrhagic Infarction, . .	15
Miliary Tuberculosis, . .	4

Goldtdammer, in a report of 783 cases occurring at Berlin in 1874, 1875 and 1876,[7] says bronchitis was wanting in only the lightest cases. Hypostatic congestion was found in 40 of those who recovered, and in about one-half of those who died. (There were 130 deaths.)

Lobar pneumonia existed in 11 cases, only one of which recovered. Embolic pneumonia was the cause of death in five cases. There were 13 cases of pleurisy, eight of which died. There was one case of phthisis.

Hoffmann, in a report of 250 autopsies at Basle, says,[8] that bronchial catarrh extending to the finer bronchi almost always accompanied the early intestinal changes. He found: —

Splenization, ...	35
Lobular pneumonia, . . .	38
Lobar Pneumonia, . . .	18
Pleurisy, ...	20
Pneumothorax, ...	1
Hæmorrhagic Infarction, . .	15
Miliary Tuberculosis, . .	4

Two of the eighteen cases of lobar pneumonia occurred at the outset of the disease, and will be referred to again.

I have included under the heading "Pulmonary Complication," not only true pulmonary lesion, but also lesion of parts intimately associated, as the bronchi and pleura.

The signs of pulmonary lesion occurring with typhoid fever are usually marked to a greater or less extent. Characteristic expectoration in pneumonia is often wanting. Cough in bronchitis is frequently absent.

When respiratory lesions are epidemic, as might be expected, there is an increased amount of complication with typhoid fever.

Children are found to be more subject to these complications than adults.

As has been already said, bronchitis is rarely wanting in typhoid fever. Liebermeister says:[9] "Catarrh of the smaller bronchi is so frequent in typhoid fever, that a certain diagnostic significance may be attached to its occurrence." It may be so slight as to cause little or no trouble, or may be, and especially in children, a very serious complication.

One of the chief dangers of this bronchitis is that owing to the great general weakness, the secretion may not be thrown off, and atelectasis and bronchopneumonia may result. Lobular pneumonia is a common occurrence in typhoid fever. A. Weil,[10] owing to the lack of signs, considers it very difficult to differentiate the various forms of consolidation occurring in typhoid fever. He is often unable to determine clinically, whether the consolidation be due to atelectasis, to hypostasis, to lobar or lobular inflammation, or, as often happens, to a combination of these conditions. *Lobular pneumonia* is the most common form of pneumonia occurring in typhoid fever. It rarely begins with a chill, but there is almost always an increase in the temperature.

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[2] Untersuchungen über die pathologisch-anatomischen Veränderungen der Organe beim Abdominal-typhus.

[3] Nouveau Dictionnaire de Méd. et de chir. 36, 590. G. Homalle.

[4] Deutsch. Archiv. f. k. Med. Leipzig, 1885. xxxvii, 308.

[5] Deutsch. Archiv. f. k. Med. Leipzig, 1885. xxxvii, 308.

[6] Untersuchungen über die pathologisch-anatomischen Veränderungen der Organe beim Abdominal-typhus.

[7] Deutsch. Archiv f. k. Med., xx, 52.

[8] Loc. cit.

[9] Ziemssen's Cyclopædia.

[10] Zm. Pathologie und Therapie des Typhus Abdominalis, et cet. Leipzig, 1885.

Lobar (*croupous*) *pneumonia* sometimes occurs during convalescence. At this period it does not differ in any way from an ordinary attack of that disease. There is usually the sharp attack with chill and sudden rise of temperature, dyspnœa, characteristic expectoration and râles.

When croupous pneumonia complicates typhoid fever of the second and third weeks, during the height of the disease, many of the ordinary characteristics are wanting. According to Homolle,[11] the chill is often wanting; there may be no rise in temperature, pain is absent or of short duration, characteristic expectoration and râles are seldom present and the cough is infrequent.

Lobar pneumonia, occurring during the first two weeks of typhoid fever, is the subject of much discussion. It sometimes occurs as a simple complication, at other times there seems to exist a kind of transition form between the two diseases.

Lépine,[12] in his article on "pneumonia," expresses his belief in a form of pneumonia due to the local infection of typhoid fever, in which the pulmonary symptoms are the noticeable ones, and the abdominal symptoms are slight. This he calls pneumo-typhoid.

Hoffmann [13] classes two of the 18 cases of lobar pneumonia which he found as pneumo-typhoid. A short history of one of these cases will illustrate the disease.

Mr. E., twenty-one years of age, began to suffer with headache, September 4th, and had nosebleed. September 13th went to the hospital. The breathing was labored, there were râles in both lungs and dullness and bronchial breathing in the lower right lung. On the 18th the patient died. On autopsy, croupous pneumonia of the right side and infiltration of Peyer's patches and ulceration of the ilium were found. Had the latter lesions been absent, Hoffmann would have considered the case one of pneumonia with typhoid symptoms. [Typhoid pneumonia. Flint.]

Louquet [14] thinks that there are cases of pneumo-typhoid in which there are no intestinal symptoms, and in which on autopsy no intestinal lesion can be found. He believes that typhoid poison in severe cases makes its entrance through the lungs or has its seat there. E. Wagner,[15] in concluding an article on the subject of pneumo-typhoid, says that, with our present knowledge, it is impossible for us to decide the exact neurological position of the disease. Exact knowledge of the specific germ of the disease will clear this doubt.

Cardiac weakness, so common in typhoid fever, is a direct cause of several of the pulmonary complications. These complications are in no way peculiar to typhoid fever, but may occur in any asthenic fever. They are more common in typhoid fever on account of the duration and intensity of the fever.

Passive congestion of the lungs often occurs as the result of cardiac weakness. This passive congestion may lead to œdema. The passive congestion is most likely to occur in dependent portions of the lungs. It may be unilateral if the patient for any cause has assumed a position upon one side, but when it occurs it is usually bilateral.

This form of congestion has been called hypostatic. When the parts, through œdema, become devoid of air, an appearance resembling the spleen may be seen. This is splenization. Another result of feeble action of the heart is the formation of thrombi. These becoming detached, may cause embolic infarction of the lungs. Emboli may arise from some septic source. Goldtdammer [16] reports five deaths from embolic pneumonia among 783 cases of typhoid fever. The origin of the emboli was in one case the right side of the heart, in another an old perityphlitic abscess, in a third case an abscess of the thigh. The origin in the other cases was not discovered. These emboli may cause gangrene of the lungs, and the pulmonary tissues breaking down, pneumothorax may result. Embolism of the pulmonary artery and instant death is not a rare occurrence.

Like pneumonia, pleurisy in typhoid fever may give little indication of its presence. It occurs frequently, but unless extensive, it is very apt to escape notice. Empyema also occurs, and sometimes independently of pneumothorax. Acute miliary tuberculosis sometimes occurs as a sequel to typhoid fever, but probably not from any direct cause. Phthisis also develops sometimes as a result of the non-absorption of secretions which have not been thrown off during the period of great prostration.

Hæmoptysis, according to Homolle,[17] occurs during typhoid as the result of a hæmorrhagic infarction. It may also occur as a symptom of concurrent phthisis.

The extreme exhaustion of many typhoid cases makes the frequent examination of the patient more difficult. For this reason and from the lack of symptoms many of the above complications undoubtedly exist at times and escape unnoticed. Given a severe case of fever with high temperature and marked abdominal symptoms, diarrhœa, abdominal distension and tenderness with more or less stupor, is the frequent examination of the patient's chest, requiring moving of the patient, necessary or desirable? Flint advises the frequent change of the position of the patient with a view to prevent hypostasis. This certainly is desirable. Patients who have kept a fixed position for a long time will often give signs of hypostasis, which will disappear on assuming another position. If this plan be carried out, there will be no additional fatigue to the patient from the application of the stethoscope. By its use we may learn more of the real strength of the heart than the pulse or the heart sounds could give us, and we may get an earlier warning of the necessity for increased efforts to sustain the heart's action.

Antipyretic measures undoubtedly decrease the frequency and severity of pulmonary complications.

Liebermeister [18] reports concerning 1,743 typhoid patients, about one-half of whom were treated by cold baths, that the number of cases of pulmonary consolidation was reduced from 14.4 per cent. to 10.9 per cent. and that the mortality of these cases was reduced from 54 per cent. to 34 per cent.

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[11] Loc. cit.

[12] Nouveau Dict. de Med. et de Chirurg., xxviii.

[13] Loc. cit.

[14] L'Union Méd., xxxviii, 769.

[15] Deutsch. Archiv. f. klin. med., 1884, xxxv, 191.

[16] Loc. cit.

[17] Loc. cit.

[18] Loc. cit.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M.D., AND MYLES STANDISH, M.D.

OCULAR AFFECTIONS IN MULTIPLE NEURITIS.

Gnauck[1] gives the results of observation of fifty cases of multiple neuritis in the Charité Hospital. In thirteen patients the external ocular muscles were affected; in nineteen the pupils, in four of these the pupils being immobile.

It is, however, with the disturbances of vision and the ophthalmoscopic condition of the papillæ, that the author has chiefly concerned himself in this paper. Twenty-eight of the fifty patients had disturbance of vision. Eight of these showed nothing but a certain degree of amblyopia. Five had decrease of vision, and contraction of the field. Of the remaining fifteen, some manifested these defects, but all presented alterations in the fundus. The latter changes consisted in total atrophy of the discs, with blindness; partial atrophy, particularly of the temporal halves of the discs; or hyperæmia of the discs and neuritis optica. The defects in the field of vision were, in the majority of instances, concentric, and combined with narrowing of the field for colors; in some, there was a central color scotoma. The peculiarity was noticed that the form of the field sometimes changed greatly within a short time, or the defect even entirely disappeared.

Complete atrophy of the optic discs has been but rarely observed in multiple neuritis. Gnauck gives two cases. A man, of forty-two years, noticed, in February, cloudiness of sight, which increased rapidly. By the end of May, he was totally blind. Only at the beginning of May did other symptoms of disease of the nervous system appear. In June both discs were completely atrophic.

A girl, of twenty-five years, began with ptosis of her right eye. When, after some months, the ptosis had improved, the right eye was nearly blind. It was only at the end of two years that other symptoms of disease manifested themselves. After three years the left eye began to fail, and in the fifth year both discs were wholly atrophic. It is noteworthy that in both these patients the ocular affections were the earliest symptoms of the disease. The same was the case with a third patient, whose history offered also other points of special interest.

A man, of twenty-eight years, suffered from progressive failure of sight for four months before other disturbances of the nervous system appeared. After six months, there was a central scotoma for red and green with no peripheral contraction of the field, precisely the picture of an amblyopia ex abusu, but no abuse of tobacco, alcohol, etc., could be discovered. Two months later, further decrease of central vision with scotoma for blue also. After another two months, sight was decidedly improved, but an atrophic discoloration of the temporal halves of the papillæ was visible. Still another two months, and the central scotoma had vanished, but the palor of the outer halves of the discs remained. As in this case, so generally where there was partial atrophy of the discs, it appeared as a sharply-defined alteration of the outer half, or at least, the inner half was much less affected than the outer.

In three cases, there was marked hyperæmia of the papillæ, or neuritis optica, which left the disc either of normal appearance, or atrophic. Gnauck considers the atrophy of the opticus as often of the greatest importance in making the differential diagnosis between multiple neuritis and neuroses, especially hysteria. He is inclined to believe that the atrophy of the disc, at least when particularly pronounced in the outer half, is due to optic neuritis, either intra, or retro-bulbar.

Uhthoff[2] reports three cases of multiple neuritis, in two of which there was optic neuritis, and in the third an atrophy of the disc, which appeared to have resulted from neuritis. From these cases, and those of Gnauck, he concludes optic neuritis must be of relatively frequent occurrence in multiple neuritis, and this view is strengthened by the fact that he has observed the neuritis in this disease to subside and give place to atrophy in a comparatively short time. It might, therefore, more readily escape discovery.

The manner in which the loss of sight comes on, its character, and the occasional recovery, together with the frequently partial and non-progressive atrophy of the disc, all seem to him to point to an inflammatory origin, rather than to a simple degeneration.

STRETCHING OF THE SUPRA-TROCHLEAR NERVE IN GLAUCOMA.

Brailey[3] read a paper on this subject at a meeting of the British Medical Association. The operation was brought forward by Badal, in 1882, for ciliary neuralgia, and he also suggested that it might be effective in certain forms of glaucoma, and even in sympathetic ophthalmia. Abadie followed by stretching the nerve in a case of glaucoma, where the eye continued hard and painful after sclerotomy and iridectomy. He stretched the nerve till it ruptured, and then removed a piece of it one cm. long. Tension sank in three days to normal, vision slowly and slightly improved, and the pain was relieved. He has since then reported cases where stretching was advantageously combined with iridectomy or sclerotomy, even in such an unpromising disease as congenital hydrophthalmos. But he expressly states that he does not think nerve-stretching can yet supplant iridectomy or sclerotomy; it should be reserved for intractable cases which have resisted all other measures. He suggests its probable utility in congenital hydrophthalmos, and also in glaucoma in children secondary to anterior synechia, on the ground that the loss of the eye is due to continuous traction on the nerves entangled in the scar. In glaucoma, he combines it with simultaneous sclerotomy.

Brailey has tested the efficiency of the operation to relieve ciliary neuralgia and to lower tension in six cases. In one case he stretched the supra-orbital nerve also to compare the effect.

(1) A man, aged forty-nine, glaucoma; the result of iritis following a cataract extraction five years ago. Tension slightly in excess a month after extraction, but for five weeks had been much heightened, and vision failed rapidly. Supra-trochlear nerve stretched to rupture, and four mm. excised. In three days tension had fallen from +2 to +½, and in six days was normal. Vision slightly improved. Pain wholly relieved

(2) A man, aged sixty-seven, *glaucoma absolutum* of right eye. Tension +3; perception of light. Sight lost gradually twenty years before; considerable pain. Supra-trochlea nerve stretched. Considerable suppuration of wound. Tension gradually fell, and ten days

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[1] Berliner klin. Wochenschrift, 1884, No. 27.

[2] Berliner klin. Wochenschrift, 1885, No. 16.

[3] British Medical Journal, October 10, 1885.

later, was not more than +1. Pain entirely relieved, and had not recurred after some months.

(3) Woman, aged forty-one. Double iridectomy for glaucoma three years ago. Still some tension in each eye, with continuous pain over left brow. Eserine gave no relief. Both supra-trochlear nerves stretched. Wounds healed rapidly. Tension fell to full in right eye, and normal in left. Pain entirely ceased for a month; then both pain and tension recurred, but neither symptom quite so acute as before. Vision remained the same, 6-60 right; 6-24 left.

(4) Woman, aged sixty-three. Left, absolute glaucoma, tension +3, vision nil, some pain; right, tension +3, vision 6-12, inflammatory symptoms slight. Stretching of both supra-trochlear and supra-orbital nerves. No relief of pain, though tension fell to +1. Subsequent sclerotomy, and then iridectomy right, with result that vision remained 6-12, although tension continued +1. The other eye remained as hard as ever, and was finally removed.

(5) Man, aged seventy-five, absolute glaucoma of left eye, with severe pain. Stretching of supra-trochlear relieved pain much, but in five days it returned almost as bad as before. Eye enucleated.

(6) Woman, aged fifty-five, severe choroido-cyclitis of both eyes. As a last resort, the nerve was stretched on each side. Pain was diminished for a time, but inflammatory attacks soon recurred.

Brailey states that he intends, in future, to restrict the operation to diseases in which, on the strength of these cases, there is good ground to expect benefit; in the neuralgia of glaucoma absolutum, and in intractable cases of glaucoma generally. He is satisfied that stretching the *supra orbital* nerves has no beneficial effect on the tension, and only doubtful, at best, on the neuralgia. Stretching of the supra-trochlear, he believes, does have some influence on the tension, but it is not worth counting on, in this respect, as a remedy for glaucoma, though it is of use as an adjunct.

GLIOMA OF RETINA.—THREE CASES IN A FAMILY OF FIVE CHILDREN.

Macgregor[4] briefly records the following interesting family history: Father living, and in good health; mother died at the age of thirty-four, of "disease of the liver and heart." The left eye of the eldest child was removed when he was two years old; the tumor recurred in the stump, and also affected the right eye. The left eye of the second child was removed when the child was three months old; nine months afterward the right eye became affected, with fatal result in a few months. The third child was six years old, and in good health. The fourth child had the left eye removed when he was seventeen months old; nearly two years afterward the right eye became affected, sight was lost, the eyeballs protruded, and when, at four years of age, he was admitted to the hospital, the orbit was completely filled with a red, fleshy, pulsating tumor, which protruded more than an inch beyond its margin; death a few days later, apparently from exhaustion. The fifth child was fifteen months old, and, so far, had shown no symptoms of the disease.

PERIPHERAL ATROPHY OF THE OPTIC NERVE.

Fuchs,[5] by the examination of a large number of optic nerves, thinks he has established the anatomical fact that in the human adult, there is, as a rule, an atrophy of certain nerve-fibres. The fibres which are thus subject to a physiological atrophy, are situated: *First*, immediately beneath the pial sheath of the nerve. *Second*, about the central vessels, which are accompanied, as is well known, by a continuation of the pial sheath.

The peripheral atrophied fibres lie between the sheath of the nerve and a septum not heretofore described, which is concentric with the pial sheath. This septum, to which Fuchs gives the name *peripheral septum*, lies at a distance of 0.03 mm. to 0.06 mm. from the pial sheath. It may be either continuous and regular, or it may be divided irregularly by prolongations of the pial sheath; it is limited to the anterior portion of the nerve. In one case, Fuchs found it as far forward as the lamina cribrosa, and in the majority of cases it was found at a distance of one mm. behind the bulb; from thence, it extended backwards for fourteen to fifteen mm. This anatomical peculiarity is not represented on any of the drawings of sections of the opticus that have ever been published, with the single exception of a diagram published by Edmunds and Lawford.[6]

Fuchs does not consider it possible that this septum can be, in any way, a consequence of the degenerative process, but on the contrary, regards its existence as an essential factor in the production of the atrophy, as will be seen in what follows.

Between this peripheric septum and the pial sheath, lie the *peripheric atrophic bundles* of nerve-fibres. Here, in the adult, the substance of the nerve-fibres has disappeared, and only an empty network remains, namely, gray atrophy. This condition, anteriorly, completely envelopes the nerve, but becomes perforated more and more by healthy bundles of nerve-fibres posteriorly, until it can no longer be traced, and disappears, together with the now incomplete peripheral septum.

A central atrophy is always to be found about the central vessels. Here, the degeneration does not consist of bundles of nerve-fibres standing alone, as in the peripheral form, but of small, somewhat separated portions of bundles. It can be followed back accurately to the point of exit of the vessels from the nerve. From that point backward there is none. This central atrophy is always less marked than the peripheric, but is, nevertheless, to be found in every adult nerve.

The degeneration, central and peripheral, apparently proceeds with varying speed in different individuals. Before the thirtieth year it appears very slowly, and at the most, the bundles in which the substance of the nerve-fibres has disappeared are not numerous. Even after the thirtieth year occasionally nerves are seen in which a redness of the nerve-fibres of the peripheral bundles is the only change to be found. As a rule, however, after the thirtieth year it is well marked, although its rate of progress and ultimate extent varies in different individuals. The atrophy of the nerve-fibres which surround the central connective tissue is of the same character as that in the peripheral bundles. The degeneration which is found is a species of gray atrophy, such as Leber has described. Fat cells, such as are observed in atrophy of the nerve in cases of tabes, are never seen in this form of degeneration.

Fuchs examined more than sixty cases, of all ages, and concludes that the atrophy is not the result of inflammation. The fibres so affected lie in contact with the pial membrane of the sheath of the nerve in the peripheral form, and with the prolongation of that membrane about the vessels in the central form. In the periphery, the above-described peripheral septum shuts them off from the remaining portion of the nerve.

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[4] Medical Times and Gazette, July 11, 1885.

[5] Archiv für Ophthalmologie, Bd. xxi, Hft. i.

[6] Transactions of the Ophthalmological Society of the United Kingdom, 1882, 1883, plate xiii.

Our author concludes that the result may be due to the repeated congestion of the pial membrane, which, being filled with blood. compresses the fibres lying contiguous to it, and so causes the atrophy. In the peripheral form the bundles of fibres which lie external to the peripheral septum are at a double disadvantage, as they are compressed between the two membranes. Moreover, the lymph spaces are especially numerous beneath the pial sheath and around the bloodvessels, and they may play an important rôle in this degeneration, injuring the nerve-fibres either mechanically, through compression, or chemically, through imbibition.

The functional consequence of this atrophy would, theoretically, be an enlargement of the blind spot, since it has been shown that probably the fibres that form the most external layers of the optic nerve at its anterior extremity, supply the retina immediately about the optic disc.

RELATIONS OF THE EXTERNAL OCULAR MUSCLES TO THE VENÆ VORTICOSÆ.

Fuchs[7] has made a study of the topographical anatomy of the eye to determine whether, and if so, in what manner, a compression of the venæ vorticosæ by the external muscles can take place. He was prompted to this investigation by a statement made by Von Arlt, that such an action of the muscles during convergence produced acquired myopia through the congestion of the uveal tract. He accurately measured the distances of the points of insertion of the various muscles from the margin of the cornea. This he did in fifty-five eyes, thirty-one emmetropic, twenty myopic, and four hypermetropic.

In the case of the recti muscles, he found that while they were inserted with considerable symmetry with regard to the horizontal and perpendicular meridians of the eye, yet their distances of insertion from the margin of the cornea might vary considerably, even in the same eye. He also found that the breadth of the tendinous insertion did not correspond with the strength of the muscle. The rectus superior, the weakest of the four recti, always had the broadest insertion.

In myopic eyes, the insertions were broader than in emmetropic eyes, but were not farther removed from the margin of the cornea, which would indicate that the anterior half of a near-sighted eye is enlarged in its equatorial diameter, but not in its antero-posterior diameter.

He found that the line of insertion of the obliquus inferior made an angle of 19° with the horizontal meridian, but that of the obliquus superior of 45° with the same meridian, so that it is not correct to describe their lines of insertion as parallel, as is done in most of the text-books. The breadth of the insertions of the oblique muscles was found to be considerably greater in myopic eyes than in emmetropic eyes, which is without doubt, due to the stretching of the sclera, as these muscles are inserted far enough posteriorly to be attached to that portion of the sclera which suffers most in myopia.

The venæ vorticosæ are divided into two pairs, an upper and a lower pair. The vertical meridian divides each pair. Both pairs pierce the sclerotic posteriorly to the equator of the eye, the upper pair at a distance of seven to eight mm., and the lower pair at from five and a half to six mm. In hypermetropia they were found nearer the margin of the cornea than in emmetropia, on account of the short axis of the hypermetropic eye; in myopia, on the contrary, the distance is the same as in emmetropia, showing that the distension of the sclera in the myopic eye makes the distance between the veins of each pair greater than it is in an emmetropic eye.

The study of the relations of the venæ vorticosæ, is, of course, the objective point of the paper. With regard to the four recti, the externus and the internus never over-lap the veins, and although the superior and inferior are so placed that their edges, and sometimes their surfaces, are in close relationship to the points of exit of the veins nevertheless, this occurs so far behind the equator, that they cannot exercise any pressure on the veins. With the oblique muscles, however, the conditions are very different. The obliquus superior may be so situated as to press on the point of exit of the upper and outer vein. In hypermetropia and emmetropia, the condition was found in twenty-three per cent. of the cases, while in the remaining seventy-seven per cent., the exit of the vein was so far behind the equator as to render this impossible; in myopia, this condition is reversed, and in seventy-three per cent. of the cases pressure could be so exerted. The upper and inner could be so compressed in only a very small proportion of the cases, and these were not myopic eyes. The obliquus inferior was found to be so placed that it invariably exerted pressure on the external lower vein, but never on the internal.

In the use of the eyes for distant vision this pressure of the obliques would be constantly interrupted, and the alternate contractions and relaxations of the muscles would assist the venous flow. In continuous use of the eyes for near work, the obliques would, in a large proportion of myopic eyes, exert a constant pressure on one vein of each pair, which would certainly lead to obstruction of the circulation, and perhaps to an increase of the myopia. On the other hand, Fuchs sought in many sections of emmetropic and myopic eyes for dilatation of the venæ vorticosæ, without finding such a condition present in a single case.

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Hospital Practice and Clinical Memoranda.

A CASE OF MULTIPLE SARCOMA OF THE SKIN.[1]

BY C. A. CHEEVER, M.D., OF MATTAPAN.

On the 3d of June, 1884, I was consulted by an American lady about sixty-five years of age, for ulcers on her legs. Her history was that she had always been well until a short time before seeing me. She had never been subject to any skin eruption, sore throat, headache, or in fact, any of the indications of constitutional infection. She had had two children only, both of whom had attained adult age. She thought she had had the ulcers about six weeks.

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[7] Archiv für Ophthalmologie, Bd. xxx, Hft. iv.

[1] Read before the Norfolk District Medical Society, Dec. 29, 1885.

Examination disclosed three ulcers, situated one on each leg about four inches below the patella, and just at one side of the crest of the tibia, and one on the right thigh, at the junction of the lower and middle thirds, and upon the postero-external aspect. The ulcers all had healthy granulations in the centre, while the edges had a grayish and glazed appearance, were indurated, and somewhat elevated.

Those on the legs were each about the size of a silver dollar, and nearly round. The one on the thigh was about twice as large and oblong; the upper part was excavated to a depth of about a third of an inch, the lower part less deep, and surrounded by indurated tissue for about an inch on each side, freely movable on the deeper tissues, and apparently about an inch in thickness.

Finding quite a number of marked varicose veins, and nothing else appearing to cause the ulcers, I attributed them to the veins, and applied suitable treatment for that condition.

July 1st. The ulcers were looking better, and one of them was decidedly healing.

July 15th, I found a new condition of affairs; an efflorescence on the legs and arms of pinkish nodules, the size of a pea, freely movable on the deeper tissue, hard and elastic, with sharply-defined margins. On the forearms, were several nodules larger than the others, which the lady said had been there for some time; these were exfoliating fine, silvery white scales, and one of them as large as a nickel, had on the centre a brownish, semi-transparent crust. I was then told that the ulcers on the legs had been preceded by similar growths.

Although I could find no history of syphilis in the family, I thought the efflorescence, taken as a whole, more nearly resembled some of the later manifestations of that disease than of any other. I then gave, in addition to iodoform externally, red iodide of mercury, gr. 1-30, and iodide of potassium, gr. $2\frac{1}{2}$ t.i.d.

August 1st, I found that the small papules had increased both in size and numbers. I was also shown on the crural region of both thighs, several ulcers of the size of a silver quarter-dollar. I counted between twenty-five and thirty diseased places in all stages of development, from the pink papule to the ulcer as large as the palm of the hand.

The process of ulceration was seen to begin on the surface, and at the centre of the nodules, when they were about an inch in diameter; and under cover of a crust yellowish or greenish-brown in color, it extended toward the edges, but at the same time, the nodules continued to grow laterally, so that by the time the new growth was removed by ulceration, the remaining ulcer would vary from one and a half to three inches across. The efflorescences were scattered without order or symmetry, over both lower and upper extremities. The head was free from them, and I was told that the body was also free. There had been no itching or burning at any time; the nodules were entirely painless and not sensitive; the ulcers have given but very little pain, and that has been confined to a few of them.

Aside from the skin trouble, and a certain nervous or mental depression, she seems perfectly well; her appetite is excellent, she sleeps well, bowels regular, her color has improved, and the varicose veins have disappeared. She had, however, a marked disinclination to talk about her trouble, or to have any one know the extent of the disease; and from what I learned later, I am very certain that at no time, did I see all of the disease. The mercury salt was increased to 1-20 gr., and the iodide of potassium to 5 gr. t.i.d.

September 1st, the ulcers were all healing, except the smallest ones with the elevated ring-shaped margins of new growth, and some of these crateriform rings were undergoing absorption, as were also some of the smaller nodules that had not reached the stage of ulceration. No new papules had appeared. She felt well, and thought she was getting well. The iodide of potash was increased to ten grains t.i.d.

September 25th, she still appeared to be doing well. Some of the ulcers had entirely healed, forming a somewhat soft and deeply-pigmented cicatrix covered with a moist, scaly, and yellowish crust, exfoliating in pieces as large as a little finger-nail. The nodules appeared to be undergoing absorption; no new papules had appeared, but she complained more of nervousness than before. At this time, I tried to have a consultation, but the patient was unwilling, and it was postponed; but in conversation with Dr. J. C. White, I told him of the case much as described above. He agreed with me in thinking the disease seemed more like syphilis than any other, and at his suggestion, the iodide of potash was increased to fifteen grains t.i.d.

Several of the ulcers were healing rapidly, no new efflorescences had appeared. Her appetite was ravenous. She complained now, occasionally, of swelling of the feet and ankles. The urine was examined at intervals, and found normal each time.

November 9th. One new papule had appeared on the right leg near the knee. Several tumors had disappeared from this region, while others had ulcerated and were healing.

She was not sleeping well, and as her husband believed the medicine was the cause of her sleeplessness, I diminished it one-half and added one-half drachm of fluid extract stillingia comp. to each dose.

There formed about this time on the flexor surfaces of the fore-arms about a dozen new papules, resembling in every way those first described. At this time I was shown a tumor on the outside of the left thigh of a leaden gray color and about the size of a silver dollar, surrounded by an area of red and highly inflamed skin. The gray central and evidently necrosed tissue I removed with the knife, giving no pain and causing but very little hæmorrhage. The cut tissue was pearly white, soft, quite friable, and about three-fourths of an inch thick. Underlying it I found a layer of healthy granulations from which the necrosed tissue was separated by a layer of pus. With a poultice for a few days, iodoform powder, etc., the remaining ulcer was entirely healed in a week.

December 1st. She was failing all the time in appetite, strength and sleep; on the other hand, many of the ulcers had entirely healed, and the others were healing. Quite a number of the nodules had become entirely absorbed, the others were diminishing in size. Some had been absorbed more rapidly from one side than from the other, leaving crescentic ridges; growing from one of these ridges on the right forearm was a nodule much thicker than any of the others, with a thin, red, exfoliating epidermis and several small veins coursing over it; this was the only tumor that showed a special fungating tendency, and was the one that was later on submitted to the microscope.

Some of the tumors had enlarged and become fused to neighboring ones, although for the most part they were discrete.

Two more large tumors on the leg had necrosed, and been removed. She was now reported as being delirious at night, and as sleeping only about two hours. The bromides have no effect.

December 16th. To-day Dr. J. C. White saw the patient with me. He said that from the appearances and history alone one could not tell positively if the disease be syphilis or sarcoma cutis, that some of the lesions if not accompanied by the others would be considered characteristic of syphilis, while considered as a whole the disease much resembled sarcoma, and that the microscope would furnish the only means of making a positive diagnosis. Still, from the fact that she had been so long on the mixed iodides without special improvement, he thought best to consider and treat it provisionally as a case of sarcoma, and although he could give very little encouragement for recovery he advised using Fowler's solution. A few day later I removed the top of the fungus-like growth on the right forearm; the cutting gave no pain, and very little bleeding was caused. The specimen was placed in alcohol and given to Dr. W. W. Gannett, whose report follows.

During the following week she rapidly failed, so that by December 21st, I found her in bed and attended by a nurse.

She was delirious, had a very rapid pulse, increased frequency of respiration, lips dry and cracked, tongue brown and coated; the ulcers had rapidly extended and many new papules had appeared. Brandy was given freely and morphine at night. All other medicine was omitted.

From this time to her death, which took place January 6th, 1885, there was a gradual failure; much of the time she failed to recognize those about her. The ulcers and tumors rapidly increased, both in size and numbers, so that at the time of death there were about two hundred of them, in all the different stages of development that have been described. All parts of the body, except the head, were invaded.

No autopsy was made. I learned from the family that the disease had been of about eleven months duration.

Dr. Gannett reported as follows: —

REPORT OF TUMOR REMOVED FROM THE SKIN BY DR. C. A. CHEEVER, AND SENT BY DR. J. C. WHITE, DECEMBER 20, 1884.

An ovoid nodule, measuring ten millimeters transversely, four millimeters vertically, of a rather firm consistency, grayish color. After hardening in Müller's fluid and alcohol a series of vertical sections was made with the microtome. The outer surface of the nodule was covered with a thin layer of epidermis. In the middle portion no evidence of a papillary layer remained; in the lateral portions a few papillæ were to be seen. Beneath the thin epidermal layer, extending to the base of the nodule, and occupying the seat of the corium and subcutaneous connective-tissue was a tissue made up wholly of small spindle-cells arranged in bundles; the bundles having various directions with reference to each other.

The nuclei of the cells were round or oval, and sharply defined. In some places a few delicate connective-tissue fibres could be made out lying between the cells, but there was nowhere any suggestion of an intercellular meshwork. But few bloodvessels were to be seen.

The tumor belongs to the connective-tissue series. From its abundantly cellular character and atypical appearance it deserves the name of sarcoma. From the form of the cells it is to be designated as a small spindle-cell sarcoma.

Diagnosis. Small spindle-cell sarcoma of the cutis.

W. W. Gannett, M.D.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M D., SECRETARY.

December 9th, 1885. The meeting was called to order at eight o'clock, by **Dr. F. I. Knight**, chairman. The records of the last meeting were read and approved. A letter was read by the Secretary, relative to employing a stenographer for the purpose of taking short-hand notes of the proceedings of the section, but it was thought inexpedient to take any steps in this direction at this time. The regular business of the section was then taken up.

The first paper was by **Dr. G. M. Garland**, of Boston, entitled

"SOME CASES OF REFLEX NEUROSIS.[1]"

The cases were all at the Carney Hospital, and were the subject of close observation by the house officer, Mr. Gleason. They present a series of strange phenomena in the domain of reflex action, and are, for this reason, of interest. The discussion was opened at the close of the paper by Dr. Rotch, who spoke as follows:

"Mr. Chairman, the cases described by the reader are of unusual clinical importance from the fact that they occurred in adults, in whom symptoms of reflex origin are rare in comparison with infants and children, where this class of cases reaches its highest development, owing to the hypersensitive condition of the child's nervous system. These reflex phenomena are so pronounced in early life that we recognize in them the most serious obstacle to our making an accurate diagnosis, knowing well that any one of them may at times represent many and entirely opposite forms of disease, although the lack of speech of the infant, and the incorrect answer of the older child appear, at first, to offer the greatest barrier to a proper appreciation of the case.

As general examples of reflex symptoms, we have the different forms of eclampsia, the vomiting of cerebral disease, and the earache arising from irritation in the mouth during the dental periods. I will mention some special cases occurring in my practice which seem to illustrate the class of cases referred to in Dr. Garland's paper.

Case I. A child two years old was seized with dyspnœa and cough, which continued until a purulent discharge from the ear drew attention to that organ, and inflation of the eustachian tube was followed by immediate relief to the symptoms. There had been no other signs of aural disease, and a physical examination had disclosed nothing abnormal in the heart or lungs.

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[1] See page 25.

Case II. A child four years old had a chronic otorrhœa; whenever treatment directed to the ear stopped the discharge, the child began to have what appeared to be a laryngeal cough, though nothing abnormal could be found anywhere on examination of the air passages; the cough would continue until the discharge from the ear returned, and then would cease, and this reversal of symptoms would occur four or five times in a year.

Two cases seen in consultation with Dr. Minot presented the following peculiarities, illustrating the difficulty of making a diagnosis from the rational signs, on account of misleading reflex symptoms. Case I had pneumonia of the left dorsal base. Case II had acute inflammation of the middle ear. When seen by Dr. Minot, the child with pneumonia had normal respirations, no dyspnœa, pale skin, and was sleeping quietly, while the child with ear trouble had respirations of sixty to seventy, dyspnœa, flushed face, and was relieved by inflation of the eustachian tubes.

Rosenstein's case of supposed purely reflex neurosis of the intestine is worth mentioning. A boy nine years old began to vomit fæcal matter, and, at the same time, to have fæcal discharges from the rectum. This continued for five weeks, with short intervals, and finally disappeared and did not return. Enemata in this case caused both rectal discharges and stercoraceous vomiting, and the treatment which finally gave relief was the administration of Bromide of Potash and Chloral.

Another class of cases supposed to arise from gastric irritation is the so-called asthma dyspepticum — where infants and children are seized with rapid respiration, dyspnœa and cyanosis, the temperature remaining normal, and nothing but harsh respiration being found on examination of the thoracic organs. These symptoms are promptly relieved by an emetic, and are probably due to irritation of the vagus.

Under the head of a reflex neurosis we may also possibly classify peculiar nervous phenomena which I have met with at my children's clinic at the Boston Dispensary, where the sole symptom in one case, a boy of five years, was hiccough, lasting for many weeks, and in another, a boy of nine years, gasping respiration occurring every three or four minutes. We must, however, allow that these last two cases might have been symptomatic of hysteria, or of simulated disease, for the purest type of the disease hysteria, is represented in young children, especially in the first four or five years of life, where the simulated symptoms of the malingerer, marked examples of which I have met with, would be extremely unlikely to arise as a complication.

Finally, there is a class of cases in which I am especially interested, and which, after carefully investigating, and having ample opportunity for following closely and making a precise eliminative differential diagnosis, from digestive disturbances and organic disease of the stomach, I am forced to consider a reflex neurosis, connected possibly with the great abdominal ganglia of the sympathetic; perhaps some shock to these ganglia causing a temporary paralysis of the controlling sympathetic nerve filaments of the stomach, resulting in uncontrollable gastric peristalsis. The patient, whether infant or child, is in perfect health up to the onset of the attack; it then suddenly begins to vomit, and this, in some cases, is repeated regularly every fifteen minutes by the clock, for many hours; or it will vomit, then seem pretty well for twelve or even twenty-four hours, and then have continuous vomiting for eight or ten hours; then the intervals of vomiting grow longer, and the attack stops suddenly in about thirty-six hours, after which the patient rapidly regains its strength; this may occur many times during the year, then may omit for a whole year, but pretty surely returns, and usually lasts until puberty. Absolutely no other symptoms could be discovered in these cases, excepting great thirst and prostration, following the loss of fluid from the body, and the mechanical fatigue. The temperature was usually found to be normal, and the bowels not especially constipated; the cases were evidently not induced by the ingestion of improper food; in young infants, the prostration was at times so great as to produce serious doubts as to their recovery. All treatment directed to controlling the vomiting has so far, failed, the disease apparently being self-limited, but the main factor in supporting the patient's strength during the attack is to from time to time, according to the pulse and general aspect, produce sleep, which is accomplished by enemata of Bromide of Potash and Chloral, which at times also seem to render the intervals of vomiting longer, though they do not materially shorten the length of the attack. The late Dr. Calvin Ellis saw a number of these cases, and considered them of reflex origin.

Dr. Minot also was of the same opinion when he saw a case of this kind with me. I have never heard of a death from this disease, but I think that in young infants it might occur from exhaustion unless sleep could be produced. I am inclined to attribute the cause clinically to exhaustion of the sympathetic from some shock, perhaps mental, in peculiarly sensitive subjects, and I have arrived at this conclusion by a process of careful elimination, no definite point of irritation so far having been discovered in other parts of the economy, nor any proof that there has been irritation of the gastric terminal filaments of the vagus.

The cases occurred at all ages and among all classes, and I would say once more that the theory which I have advanced as a cause of this disease is the result of six years' clinical study of special cases, and that I present it to this Section for Clinical Medicine with much modesty; for so far as I know, no one else has as yet concurred with me in my idea as to the sympathetic ganglia being the nidus of the disease, although all agree, so far as I know, that it is of reflex origin."

Dr. Henry I. Bowditch stated that he was much interested in the subject of the paper, which is a matter of great importance to the physician. The cases mentioned by Dr. Rotch do not fall into the same category as those contained in the paper. Dr. Bowditch never thought of these cases as caused by a reflex neurosis, but as caused by some disturbance of digestion. It is to be regretted that the reader has not given us a *résumé* of the present state of science on this subject.

Dr. Bowditch spoke of a woman whom he had recently seen, in consultation, who had some menstrual trouble, accompanied by constant cough. No positive causes could be found for the symptoms, but a sensitive spot was discovered in the lower right abdominal region. The diagnosis of threatened abscess of the broad ligament was made, with tumefaction of the ovary. This was the cause of a severe cough which was in this case evidently of reflex origin.

Dr. Blodgett mentioned a case in which a man of middle age was the subject of a periodical attack of what he called " biliousness," which always commenced by a feeling of dull distress in the region of the liver, and was soon followed by a swelling of the lower jaw; but upon the other side, that is to say, on the left. The swelling is very painful, so that the patient is obliged to give up all business and keep the house, and at times to remain in bed. The curious part of the case is that a prompt cathartic will cause the swelling of the jaw to disappear in a few hours, with complete relief to all the symptoms. The jaw gives no further trouble until another attack of "bilousness" occurs, when the former symptoms reappear in all their intensity.

Dr. Garland, in closing the discussion, stated that our present knowledge of reflex phenomena is not at all satisfactory. In Germany much interest is at present manifested in the subject of reflex neurosis, and cases are reported corresponding closely to those described by Dr. Rotch. Dr. Rotch's cases of vomiting well illustrates in children the same phenomena which Professor Leyden has noticed in adults, and Professor Leyden reports a case of this kind where the post-mortem examination showed no organic disease, and where the symptoms during life consisted merely of continuous vomiting. This subject also occupied largely the attention of the German Congress of 1884, and the discussion was opened at that time by Professor Leube. Dr. Garland also said that a year ago, he had met with a case which illustrated this condition of gastric neurosis, the symptoms being vomiting and the autopsy negative.

Dr. H. C. Haven read a long and valuable review of our present knowledge of rachitis, following it by a description of the investigations which he has been for some time prosecuting at the West End Nursery, and which seem to show a decided preponderance of cases of this disorder among the children of colored parents. The paper was accompanied by elaborate tables, showing the state of development of the patients, their food, when weaned, etc.

Dr. Rotch, in opening the discussion, stated that he did not remember the exact number of the cases of rachitis which he had seen at his clinics at the City Hospital, Boston Dispensary, and Children's Hospital during the last two years, but that he had collated them, and that he was under the impression that the number of cases where it occurred in colored children was small in comparison to the white. This might, however, be accounted for by the fact that his clinics were not situated in a colored district, while the Dispensary of the Infant Hospital was in a portion of the city thickly populated by the colored race. This might bring a larger number of colored rachitics under Dr. Haven's care, but still would not account for the large per cent. of rachitics among the whole number of colored patients.

Dr. Rotch agreed with Dr. Haven as to the probable influence of climate as a cause, but he also offered the following suggestions as perhaps aiding the future study of the subject.

It has been noticed by some of our Dispensary physicians that venereal disease is especially common among the colored portion of the population. If this be so, and syphilis is more common among the colored people, hereditary syphilis would also be more common, and although we recognize that there is no direct connection between syphilis and rachitis, yet, for some years, the most prominent physicians in children's diseases in Germany have held that even where hereditary syphilis has been cured, these same children are more apt to have rachitis than those who have not had syphilis, simply from their syphilis having left them in a condition favorable to the development of a disease, such as rachitis, represented by impaired nutrition.

Dr. Rotch also said that the number of rachitics which were presented at his clinics had increased during the last six or seven years, and that he remembered being struck by the small number of cases of rachitis which he encountered among large numbers of poor children who came under his observation on his return from Vienna some years ago, where the number at that time was much larger proportionately than in Boston, and yet where the physicians insisted on calling the disease the " Englische Krankheit."

Dr. Rotch also drew attention to the results of autopsies observed by himself and others, pointing towards a possible rachitic condition of the bones of white children, without any manifestation of this condition during life, the cases merely being diagnosticated and treated as debility from impaired nutrition. Thus a well-marked rosary is at times found on the inner surface of the costal cartilages, where no suspicion of such a condition was detected during life, and it may be that there is a greater predisposition among the colored race to show the external manifestations of rachitis than among the whites.

Dr. Bowditch remarked that Dr. Haven had made an important addition to our knowledge upon the racial and climatic relations of rachitis, and expressed the hope that he would carry on his observations to a still further extent, and by means of the United States Consuls or other officers of the government, obtain information as to the condition of the colored populations in Africa.

Dr. Haven replied that he had endeavored to obtain the desired information from the National Library at Washington, but has not been successful.

Dr. F. B. Harrington, of Boston, then read a paper on

THE PULMONARY COMPLICATIONS OF TYPHOID FEVER[2],

in which was presented a series of cases, in the course of which more or less serious impairment of the pulmonary organs was noticed.

Dr. Vickery remarked that in the stupor which is often associated with typhoid fever, it is easily possible that portions of food may be aspirated into the lungs, thereby inducing a pneumonia from the presence of the foreign body in the air passages.

Dr. Bowditch stated that in typhoid fever there is often a lack of the more striking symptoms belonging to other serious diseases, so that they may often be easily overlooked. All febrile diseases present the same general features as certain cases of typhoid, and many cases are, no doubt, ranked as typhoid which are in reality something else. It is certain that many pulmonary affections are ranked as typhoid which have nothing to do with that disease.

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[2] See page 28.

Dr. Haven showed an improved form of stethoscope, consisting of an ordinary Cammann instrument in which the usual flexible tubes are replaced by similar tubes about two feet in length, which allows the physician to stand at a somewhat greater distance from the patient, and, in some cases, as, for instance, in the presence of pediculi, is a source of great comfort. In the examinations of children it is of much convenience, as it allows greater adaptation to the movements of a fretful patient. It is quite portable, and gives almost the same concentration of sound as does the ordinary instrument.

Dr. Haven also showed an improved form of nursing bottle, by which the natural conditions are more perfectly imitated than in the forms of bottle generally in use. It consists of a flattened and elongated glass bottle, one side of which is removed so that the atmosphere may exert its normal pressure on the contained fluid, and thus imitate the normal conditions of infant feeding. Another desirable feature is that every part of the bottle is accessible to cleaning, and a rubber nipple is used in which several fine holes are made by a cambric needle. The effort of suction by the child is sufficient to excite the salivary glands of the child's mouth, and thus promote the normal digestion of the food.

Dr. Bowditch called the attention of the section to the fact that the Society possesses no treasury, and has no funds at its disposal for any purpose. He moved the appointment of a committee by the chair, whose duty it should be to suggest some plan at the next meeting whereby the small sums necessary for the purposes of the Section might be provided. The motion was seconded by Dr. Haven, and was passed by the Section.

The Chairman stated that he would appoint the committee at another time, and would inform them of their duty.

Adjourned at 10.15 o'clock.

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THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, December 17, 1885.

Dr. T. Gaillard Thomas read a paper on

VAGINAL AND VULVAR ENTEROCELE.

There were, he said, five varieties of hernia which may show themselves by the vagina and vulva, namely: (1) cystocele; (2) rectocele; (3) vaginal enterocele; (4) pudendal enterocele; (5) perineal enterocele. Other varieties, if the subject were treated in minute detail, might also be given, based on the contents of these hernial sacs, in which the ovaries, the uterus and the fallopian tubes, either empty or filled with the products of conception, have in exceptional cases been found; or upon some extremely rare and extraordinary development of this condition, such as in one case of Burns, referred to by Sir Astley Cooper, in which the base of the bladder, passing down alongside of the right wall of the vagina, formed a hernia in the labium majus of that side. But, for practical purposes it was only necessary to consider the varieties of hernias named, and the object of the present paper was to study the descent of the intestines through the pelvic roof and their protusions with the labia majora, the vagina, or through the perineum.

He referred to a number of standard works and text-books, and said that it was curious to see how very generally these varieties of hernia had been ignored in systematic treatises on gynæcology; and this was the more remarkable, since errors in their diagnosis were very liable to occur. Even in literature outside of systematic treatises it was difficult to find much upon the subject. Berard's *Dictionaire de Médicine*, published in 1846, gave the best account of it which had come under his notice. Having mentioned various instances of this accident which had been put on record by different writers, Dr. Thomas went on to speak particularly of

VAGINAL ENTEROCELE.

This variety consisted in a descent of the intestines into the pelvic cavity, either in front of or posterior to the broad ligament of one side. As Boyer and Richter long since pointed out, the intestines never descended directly in the median line, either anteriorly or posteriorly, on account of the intimate relations of the vagina at these points; but always descended a little obliquely, and most generally posteriorly. Usually, it was the intestines alone that descended in these hernial protrusions; but sometimes the omentum accompanies them; and usually also, it was the small intestines that composed the hernia, but the large intestines might be involved in it.

Vaginal hernia, as a rule, developed itself in the following way: A loop of intestines gradually pushed downward the prolongation of peritoneum which forms the pouch of Douglas, until it impinged upon the outside of the wall of the vagina, and caused it to arch inwards. This mechanical influence being continued and gradually increased, a tumor formed in the vaginal canal, inverted one wall of that canal more and more completely, and might end by escaping from the vulva and hanging outside the body, as a complete prolapse of the bladder or rectum would do. Under these circumstances, it was evident that the tumor which protruded had for its compound parts, first, the inverted vaginal wall, second, the peritoneum, and, third, the intestines. As Berard had pointed out, it was very important to determine whether the entire thickness of the vaginal wall was inverted and formed the envelope of the tumor, or whether the external coat was torn so as to present an opening through which the hernia passed; and although in the literature of the subject were to be found reports of several autopsies the point apparently still remained unsettled.

Unquestionably the greatest danger attending this form of hernia, as well as the two other varieties that claimed attention this evening, arose from the possibility of an error of diagnosis on the part of the impulsive or unwary surgeon. If the tumor occurred during labor, and obstructed the progress of the fœtal head, it might perhaps be mistaken for an ovarian or parovarian cyst, with a long pedicle, which had been pushed into the pelvis; in which case a trocar and canula might be plunged in, and the operator be horrified at the escape of fœcal matter and intestinal gases. Or, if the condition was found to exist in the non-parturient woman, an effort might be made to remove it, when the operator would be enlightened in a very painful manner in regard to the true nature of the case. In this connection Dr. Thomas quoted two instructive cases that had been reported.

Parturition was the most frequent cause of the varieties of hernia under consideration; but it was to be borne in mind that some of the most striking cases of the accident recorded had occurred in nulliparous women. These were usually due to violent efforts, falls, and the previous existence of pelvic tumors which had burst or been removed. Vaginal hernia, as long as it remained in the pelvic cavity, and did not interfere with parturition, was usually a matter of little moment, and the source of little inconvenience. Under certain malign influences, however, occurring during parturition, as well as in the non-parturient state, such as pressure from the fœtal head, inflammatory processes, fœcal impaction, torsion of the contents of the sac, or the existence of a neoplasm, strangulation might occur. The symptoms which were then apt to develop were: difficulty in locomotion, pelvic tenesmus, or "bearing-down," dragging sensations, tendency to constipation, and, in time, vomiting. Should the accident complicate parturition, obstructed labor was apt to result. Upon vaginal examination, a tumor of greater or less size was found in the vagina, and was diagnosticated by the following physical signs: It was supple, soft and yielding; decreased upon pressure; gave a sense of gurgling to the finger, if not to the ear; increased upon the patient's coughing or straining; yielded resonance upon percussion; and was very generally reducible if the patient were placed in the knee-chest position and efficient taxis was practised.

Vaginal enterocele might be confounded by a careless and rapid diagnostician with the following conditions; prolapse of the vagina, uterus, bladder or rectum, or with a combination of these displacements; with vaginal cysts; with ovarian or parovarian cysts; with a fibrous tumor presenting low down in the pelvis; or with a marked case of tubal dropsy. Error was likely to creep in from the practitioners being too confident, too much off his guard, and too little inclined to consider the possibility of a mistake. If he approached these cases calmly, philosophically, and in a proper spirit of diagnostic investigation, it was very improbable that an erroneous diagnosis would occur. Having mentioned that most cases presented striking features, he quoted the graphic description of a case given by Sir Astley Cooper in his celebrated work on hernia.

It was to be borne in mind that, like hernia occurring elsewhere, those forms now under consideration might show themselves in two ways: *first*, by a brusque and sudden development, marked by alarming and decided symptoms, and, *secondly*, by a development so gradual and uneventful as to symptoms as to escape recognition entirely until the mere mechanical results of the hernial tumor forced themselves upon the attention of patient or physician. In certain rare instances acute vaginal hernia occurred as a consequence of some traumatic influence destroying the continuity of this canal in its upper part, and Dr. Thomas had himself been personally familiar with two such cases.

PUDENDAL ENTEROCELE.

Pudendal hernia demonstrated its existence by the presence of an elastic tumor about as large as a hen's egg, or a pigeon's egg, about the middle of the labium majus of one side. Having explained its mode of origin, he said that some of the French writers divided this form of hernia into two varieties: (1) anterior labial hernia, and (2) posterior labial hernia. From inguinal hernia ending by descent into one of the labia majora the internal variety might be thus distinguished: (1) The finger, pushing the tumor upwards, will pass into the pelvic cavity between the ischium and vagina. (2) At the level of the os uteri, or thereabout, it will enter the pelvic roof. (3) Pressure being maintained on the inguinal canal, and the patient being ordered to cough, it will, in spite of the pressure, recur.

The following conditions were mentioned as liable to be confounded with pudendal hernia; cyst or abscess of the vulvo-vaginal gland; abscess of labium majus; fatty or fibrous tumors of the labium; tumors descending from the pelvic cavity. Cases in illustration of some of these points was quoted, and Dr. Thomas then said that the differentiation of pudendal hernia from these conditions of the labia should be very carefully considered; for if an erroneous diagnosis were made here, a fatal issue might very probably prove the result. The diagnostic signs which proved most reliable and which might almost be styled pathognomonic were these: (1) Airy feeling upon palpation; (2) gurgling upon replacement; (3) diminished tension in the dorsal decubitus; (4) diminution of bulk upon taxis; (5) resonance upon percussion; (6) percussion upon coughing; (7) intestinal pains of colicky character.

PERINEAL HERNIA.

This might affect both male and female, and in the latter it consisted of the descent of the intestines between the vagina and rectum, the advance being made posterior to the broad ligament, and continuing until the perineal muscles were forced apart, and the gut, with its peritoneal envelope, was arrested by the skin. All these varieties of hernia were usually readily amenable to taxis, and this Dr. Thomas had invariably found to be greatly facilitated by the knee-chest position. In some rare cases strangulation occurred; and under these circumstances the same surgical practice was indicated as in inguinal or crural hernia, namely, cautious opening of the sac, and section of the constricting band by passing up a probe-pointed bistoury.

Before closing the paper he said he wished to put on record a remarkable case of extreme vaginal hernia which presented some features which he had never met with in such literature of the subject as had fallen under his notice. The hernial tumor hung outside the body and reached as far down as the middle of the thigh on the right side; causing the most intense and unintermitting suffering. He performed laparotomy, and as the abdominal walls were cut through (an assistant in the meantime pressing the mass up into the pelvis), he discovered a tumor of apparently a soft fibroid character on a level with the symphysis pubis, which had probably been the original cause of the vaginal hernia. The sac was secured by sutures in the abdominal wound, a glass drainage-tube having been introduced, and the patient made a good recovery. Five weeks had elapsed since the operation, and there had been no return of the pain or other symptoms; but he said that he still felt considerable apprehension in regard to the future.

Dr. H. C. Coe, pathologist to the Woman's Hospital, had examined the tumor microscopically, and expressed the opinion that it was probably an unusual growth of the pelvic connective tissue. Dr. Thomas then referred to several cases of connective tissue growths, such as tumors of the broad ligament, which had been reported by A. Martin, Schroeder and Hoffmeyn, the notes of which had been kindly collected for him by Dr. McCosh.

In conclusion, he remarked that, unfortunately, little could be said concerning the treatment of vaginal or vulvar hernia, for the reason that there was but one variety, the pudendal (which eventuated from inguinal hernia), for which very much could be done. That variety was amenable to treatment by the ordinary truss, as inguinal hernia was. The other varieties could to a limited degree be relieved by pessaries, perineal pads, abdominal bandages, etc.; but we were poor in methods of decided relief, and utterly wanting in those of cure. It appeared to him that the plan suggested and partially carried out in the case which he had related, promised more than any other which had as yet been brought forward; of the validity of this surmise time and experience would have to give the proof. He was certain that if another case of large vaginal hernia should present itself he should feel inclined to try laparotomy; dragging up the sac, and fastening it in the abdominal wound. B. Schmid had stated that attempts were made by Huguier at radical cure of vaginal hernia by an oval excision of part of the posterior vaginal wall, and closure by suture, but without any lasting result. He thought that he must indeed be a sanguine surgeon who hoped for much from such procedures.

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Recent Literature.

A Treatise on Nervous Diseases; Their Symptoms and Treatment. A text-book for Students and Practitioners. By SAMUEL G. WEBBER, M.D. pp. 410. New York: Appleton & Co. 1885.

The want has long been felt, especially among teachers and students, for just such a book as this with which Dr. Webber has supplied us: a reliable manual, which should bring together and present in a concise form, and with due discrimination, the facts and opinions which have been multiplying so fast in the special literature of the day.

The task which the author set himself has been, on the whole, admirably performed. The whole range of the more important diseases of the nervous system has been covered, and it is evident, although but few references are given, that the observations of the best authorities, and the results of the author's ripe experience have been carefully utilized.

Above all, it is thoroughly trustworthy. The chapters which strike us as the most susceptible of improvement are the *general introduction*, and the chapter on the *anatomy of the brain.*

In the former, the *methods of testing* the functions of sensations and motion, etc., are excellent so far as they go, but it seems to us that auditory as well as the visual functions should have been considered, and for that matter, the book would have gained in value if a number of other points could have been touched upon which every one must have in mind in making a thorough examination of a patient. Still, we admit that the claims of conciseness are supreme.

The few clinical and therapeutic considerations with which this chapter closes, though themselves highly important, yet leave a sense of incompleteness in the reader's mind.

The chapter on the anatomy of the brain is an excellent summary. Of course so complex a subject could not be thoroughly taught in so short a space, and possibly the real needs of the student and practitioner would have been better met if nothing more had been attempted than a clear statement of the broadest facts in anatomy, in their relation to physiological and clinical facts, such as one would make to a person almost wholly ignorant of the details of the subject. In this way space would have been gained, and, as it seems to us, a more easily remembered even if less accurate impression made upon the reader. Still, here as elsewhere, we are quite ready to admit that it is a question of judgment that is at stake, and that the author's conclusions may have been the best. The diagrams are excellent.

The chapter on *aphasia* might perhaps have been clearer if treated more from a physiological and less from the purely symptomatic standpoint.

All these are, however, minor criticisms on a book which is unquestionably of great merit, and which we hope to see pass through many editions.

The profession in Boston has not been prolific of book-writers, and Dr. Webber's volume is all the more welcome on that account. J. J. P.

Alpine Winter in its Medical Aspects, with Notes on Davos Platz, Wiesen, St. Moritz, and The Maloja. By TASKER WISE, M.D., etc. Second Edition. pp. 121. London: J. & A. Churchill. 1885.

This book is a second edition under a new name of the "Alpine Winter Cure," brought up to date and with an account of The Maloja, its advantages as a health resort, and a description of the new hotel completed this year superadded. This hotel, designed specially for winter residence by M. Jules Rau, a Belgian architect, is fitted with arrangements for the propulsion and extraction of air throughout the building, as well as for the addition of ozone — the inanimate thaumaturgist — to the atmosphere of the corridors and some of the large saloons. The ozone is produced by the surplus electricity at command, the building being lighted by electricity. Elaborate plans are given to explain the system of ventilation and heating, a system which may or may not work as well in practice as it does on paper. One is struck by the fact that the bedrooms contain no open fireplaces, and one thinks of Aiken, S. C., where every room has its fireplace and no extra charge is made for its supply of wood. Directions are given how to reach the Alpine Winter Resort, and the book will be found valuable by those contemplating a sojourn in that region. F. C. S.

— A circular of the National Board of Health, under date December 30, reports three deaths in London during the week ending November 28, ascribed to hydrophobia, making a total of twenty-five from this cause during the current year, against an annual average of six in the past ten years. During the week ending October 3, there were ninety-two cases and forty-four deaths from cholera in the several cities and prefectures of Japan. In Spain, the disease is practically *nil.* In the province of Finisterre, there were sixty-two cases and twenty-five deaths; in Toulon, none. It is also prevalent in the city and province of Palermo, and scattering cases are reported again in the province of Venetia.

Medical and Surgical Journal.

THURSDAY, JANUARY 14, 1886.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly, by Cupples, Upham & Co., *Boston. Price, 15 cents a number; $5.00 a year, including postage, to subscribers in the United States and Canadas. Foreign subscribers are charged the postage in addition.*

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CUPPLES, UPHAM & COMPANY,
283 Washington Street, Boston, Mass.

CEREBRAL SURGERY.

The appearance in book form[1] of Dr. J. B. Robert's views on the "Field and Limitation of the Surgery of the Human Brain," is very acceptable. This writer has done his share in modifying the prevailing opinion on the subject, and his book will serve as a valuable practical aid in deciding the question of operative interference in a class of cases upon which our ideas have been until recently far too conservative. The brain has long been held sacred from the hand of the surgeon, except where the call for operation has been obviously imperative. This conservatism has been due partly to fear of inflammation, and partly to a dread of exposing so delicate and highly organized a structure, presumably the seat of the intellect, as well as the final centre of motion and sensation, to the touch of the examining finger and the knife. It has, however, been long known that large areas of brain matter could be destroyed by foreign bodies, tumors, abscesses and hæmorrhage, with comparatively little apparent damage to intellect or other cerebral function; it has also become an accepted fact that certain localities are devoted to certain functions, and that in many cases the lesion can be traced directly to its lodging-place near or at the surface of the brain and within easy reach by operation. The mortality from trephining *per se*, has been shown by competent authorities to be comparatively low; the dangers arising generally either from the disturbance for which the operation was instituted, from imperfect antisepsis, or from faulty drainage. It has been shown (Yeo) that while death always follows trephining without antiseptic precautions, in monkeys, the mortality may be reduced by such precautions to a very small percentage. Estimates of the mortality in man are of necessity difficult; the lowest is that of Amidon, who places it at a little over three per cent. Nancrede gives a mortality of 10.69 per cent., with a death-rate of 15.29 per cent. to cover the probable risk in trephining a simple depressed fracture. Roberts himself makes the statement that "The removal of portions of the cranium by the trephine or other cutting instrument is, if properly done, attended with but little more risk to life than amputation of a finger through the metacarpal bone." The acceptance of such facts and opinions, even with considerable modification, should lead to a much greater freedom in this direction, for many cases are still doubtless allowed to go from bad to worse under routine treatment, rather than undertake the indicated operation. The case reported by Dr. Witherle, in which a clot was found on trephining, but was allowed to remain rather than enlarge the opening for its removal, illustrates the prevailing conservatism. In marked contrast is the case operated on by Mr. Godlae, where although the opening of the skull revealed nothing abnormal, an incision was made into the apparently healthy brain, disclosing the lesion (a glionæ) whose seat had been previously determined by Dr. Bennett through the aid of cerebral localization. The unfortunate fatal termination of this case, doubly unfortunate on account of its having been regarded by the laity as rather a test of the practical results of study by vivisection, was perhaps due, Amidon has suggested, to imperfect antisepsis and drainage.

Roberts says that the results of the study of cerebral localization are more necessary to the conscientious surgeon than to the neurologist. This statement is hardly to be taken literally, but it is certainly for the advantage of the surgeon to know the symptomatology of lesions about the fissure of Rolando, the most obvious seat for operation, being the region whose functions are most clearly defined. This region, more especially anterior to the fissure, is devoted to motion, the upper third presiding over the opposite leg, or leg and arm, the middle third to the opposite arm, the lower third to the opposite side of the face, and, on the left, to speech. These areas have, probably, no definite boundaries, but may be supposed to shade off into each other as well as into the centres of sensation, which are with less certainty determined, but which are supposed to lie near the corresponding centres for motion, but principally behind the fissure. The directions for finding the fissure are not difficult. The bregma, or junction of the sagittal with the coronal sutures, is the first landmark. This can sometimes be felt, and can always be found by the aid of Broca's Flexible Square, which is simply a draughtman's square made of some flexible metal, with a conical plug at the point of junction. The plug being placed in the ear, and the horizontal arm bent round under the nose, the vertical arm, when bent over the head, will pass over the bregma at the median line. Measuring back from this point five ctm., the upper end of the fissure of Rolando is approximately found. The lower end lies about three ctm. above the end of a horizontal line seven ctm. in length, carried backwards from the superciliary ridge. The line joining these two points, which may be marked out on the shaved scalp, will indicate the course of the fissure with sufficient accuracy for operation, a trephine opening of an inch diameter made over this line, being quite certain to include the fissure. The part of the line selected must, of course, be determined by the extremity or extremities affected. If one opening proves insufficient, others may be made. Roberts quotes the case operated upon by Briggs, in which an area of the skull as large as the hand was removed for epilepsy without evil result, and with relief of the disease.

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[1] P. Blakiston & Co., Philadelphia. 1885.

Roberts's observation is doubtless correct, that there will always remain a greater hesitation in trephining for the relief of insanity and epilepsy, and in the search for tumors, than in cases of hæmorrhage, abscess, and fracture. This will of necessity, be true, partly by reason of the lesser urgency in the former cases, and partly on account of the element of uncertainty in their diagnosis.

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CONTAGIOUS OPHTHALMIA IN THE ASYLUMS AND RESIDENTIAL SCHOOLS OF THE CITY OF NEW YORK.

Dr. Richard H. Derby, Chairman of the committee appointed last spring to investigate the subject of contagious ophthalmia among the asylums and residential schools of the city, in connection with Dr. John J. Milhan, of the State Board of Charities, Arthur G. Sedgwick, of the State Charities Aid Association, Elbridge T. Gerry, of the Society for the Prevention of Cruelty to Children, and James Gallatin, of the New York Association for Improving the Condition of the Poor, reported that of the fifty of these institutions, the committee had made examinations of many of the most important. These were conducted by sanitary inspectors of the Board of Health, accompanied, in each instance, by experts in ophthalmology, and revealed that a worse state of things exists to-day in most of the asylums visited, than the preliminary report read before the Academy in June last, indicated. Reports received from various reputable physicians, showed that, in nearly all the asylums of the city, children are admitted without due examination of their physical condition, especially as to the condition of their eyes; that no systematic inspection of either the buildings or their inmates, was made by the physicians in charge of these institutions; that no system of quarantine at all adequate was practised; that many of the asylums are grossly overcrowded; and that very grave defects in plumbing have been found. To properly care for the children in them, the committee was satisfied that legislation is needed.

As the conclusion of his report, Dr. Derby presented the draft of an "act for the better preservation of the health of children in institutions," which had been prepared for the committee by Elbridge T. Gerry, Esq., President of the Society for the Prevention of Cruelty to Children. The proposed act provides that every incorporated institution in the State receiving or caring for children (excepting hospitals), shall have attached thereto, a regular physician in good professional standing who shall carefully examine each child applying for admission to the institution, and shall give a certificate in writing, stating whether or not the applicant is suffering from any contagious or infectious disease, especially of the eyes or skin. No child suffering from any contagious or infectious disease shall be allowed to enter or remain in any institution in contact with children not so affected, but shall be immediately isolated, or placed in a proper room or infirmary, which shall be provided for that purpose. It is made the duty of the physician to give notice in writing to the officers of the institutions, whenever any dormitory therein is so overcrowded that there shall be afforded less than six hundred cubic feet of air to each occupant.

The act was unanimously approved by the Fellows of the Academy, who also voted that the committee should be authorized to present it to the Legislature, and use their best endeavors to have it passed. The Committee of the Academy consists of Drs. R. H. Derby, C. R. Agnew, C. S. Bull, David Webster, Gouverneur M. Smith, and the President, Dr. A. Jacobi (ex-officio).

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HOSPITAL NURSING CORPS FOR THE ARMY.

In the recent report of the Surgeon-General of the Army is one recommendation which in our editorial review of the report we omitted to emphasize, but which is a measure of considerable practical importance. This is the establishment of a separate hospital corps of cooks and nurses, together with the increase of the compensation of hospital stewards, in order that men of a higher grade may be induced to accept this responsible position. At present the salary of the hospital steward is from $30 to $34 per month, in addition to which he has a ration and clothing which, being estimated at $14 and $10 per month, make the compensation say $58 per month to a man whose duties are more multifarious and whose responsibilities are nearly as great as those of the post-surgeon, whose pay is seldom less than $200 per month, with perquisites and emoluments of half as much more.

The present system of detailing ignorant enlisted men to serve as hospital cooks and nurses is fruitful of disappointment to the post-surgeons who often see their best endeavors for the treatment of the sick frustrated by the incapacity of ignorant, stupid, or unwilling nurses. Even if a man does get broken in so as to render tolerable service, he is likely at any time to be taken away from the hospital and sent back to his company to please some line officer, or for some small infraction of military discipline, or very often because he is tired of hospital work, just when he has in part mastered it.

The army will doubtless soon secure a separate hospital and ambulance corps, as most of the civilized nations now have. The reforms indicated above are equally called for, and especially in the interest of the common soldier. It is to be hoped that Congress will take the necessary action in accordance with the recommendation of the Surgeon-General.

MEDICAL NOTES.

— We have received the system of books for physicians' accounts, devised by M. L. Hitchcock. of New York, and consisting of ledger and package of twelve monthly pocket day-books. The arrangement of the ledger appears unusually simple and compact.

— An International Committee at Nice, in the interest of the abolition of gambling at Monte Carlo, has prepared a memorial to Prince Charles III, of Monaco, in whose personal interest the gambling establishments are maintained. In this memorial, is included a list of the suicides at Monte Carlo since 1878, all of them being due to disappointment at play, as an immediate cause. The list, which is explicit in names, dates, and other particulars, embraces for the eight years, eighteen hundred and twenty persons.

— An investigation by the medical examiner shows that the Yale student whose recent sudden death was attributed by the physicians to heart disease, and by others to over-exertion in foot-ball practice, was more probably caused by injuries received in an impromptu wrestling match. The examiner found that on the day of his death, the young man had a friendly scrimmage in his room with some friends. In the scuffle he was thrown violently to the floor. This shock, it is thought, caused the blood-clots in his brain which shortly after resulted in death.

BOSTON.

— Surgeon-General Holt intends soon to have a course of instruction upon military surgery given before the Second Brigade Ambulance Corps, which organization proved to be so useful an addition to the brigade at the last encampment. The course will be opened by Surgeon Dixon, of the Fifth Regiment, who will be followed by Surgeon Burrell, of the Cavalry.

— The Massachusetts pharmacy commission held its first meeting on the 5th inst., for the examination of applicants for certificates as practical pharmacists. There were between thirty and forty, of both sexes, who presented themselves for examination. The number of applications for certificates from those entitled to them by reason of three years' actual experience or in consequence of having been engaged in the drug business at the time of the passage of the act establishing the commission, now reaches 2,500.

NEW YORK.

— At the meeting of the Academy of Medicine held January 7th, the annual election of officers took place, and resulted as follows: vice-president, Dr. H. D. Noyes; corresponding secretary, Dr. Wesley M. Carpenter; recording secretary, Dr. A. M. Jacobus; treasurer, Dr. Wm. F. Cushman; Delegates to the State Medical Society, Drs. R. W. Amidon, W. E. Bullard, Gorham Bacon, and A. S. Hunter. A number of amendments to the constitution and by-laws were decided upon, and it was voted that the public should be invited to listen to the annual discourse before the academy.

PHILADELPHIA.

— The Philadelphia County Medical Society held its annual meeting on the 6th inst., for the election of officers and delegates to the State Medical Society and American Medical Association. Dr. R. J. Levis was elected to fill his second term as president, but a very unusual course was taken with regard to the names presented by the nominating committee, for election of delegates to both the State and American Medical Societies. Just before proceeding to the election, new lists were presented and offered as substitutes for the regular nominations, and the new delegates were then elected by an overwhelming majority. The significance of this action may appear upon a careful reading of the following resolutions which were offered by Dr. D. Hays Agnew, and adopted.

"*Resolved*, That at its annual election of delegates to the American Medical Association and to the State Medical Society the Philadelphia County Medical Society desires to express its regret at the action of the American Medical Association at New Orleans, in view of the injurious results which followed to professional harmony and to the prospects of the International Congress.

"*Resolved*, That the delegates from this Society be instructed to endeavor to secure such modification of that action as may best conduce to the re-establishment of professional harmony and to the success of the Congress."

From the above proceeding, which was certainly extraordinary, and the adoption of this resolution, the attitude of the delegation from the Philadelphia County Medical Society, at the meeting in St. Louis may be easily predicted. The meeting at which this action was taken, was by far the largest held by the County Society, and may therefore be considered as representing the feelings of the majority of the members.

— The College of Physicians met on the evening of the same day, the County Society having held its meeting in the afternoon. Col. George E. Waring, jr., of Newport, R. I., read a paper by invitation before the College and invited guests on "The Disposal of Sewage and the Protection of Streams used as Sources of Water-Supply," which was of peculiar interest to Philadelphia at the present time, when our politicians are driving out of office Colonel Ludlow, the city Chief Engineer of the Water Department, because he has rendered himself obnoxious by enforcing the law against manufacturers who were polluting the Schuylkill in defiance of right and authority. On the same evening a business meeting was held at which the following officers were elected. President, Dr. S. Weir Mitchell; vice-president, Dr. John H. Packard; secretary, Dr. Isaac Norris; treasurer, Dr. Charles Stewart Wurts.

The Library Committee reported satisfactory growth of the invaluable collection under their charge: and that they have commenced to issue monthly bulletins of the additions to the Library.

— The annual address was read before the Academy of Surgery, by Dr. R. J. Levis, who took for his theme "Impediments to the Progress of American Surgery," among which he classed "the existence of too many medical schools." At a recent meeting of the Academy, Dr. Thos. G. Morton, reported an interesting case of a boy who had been subjected to the operation for lithotomy at four years of age after which he made a good recovery and was free from symptoms until about one year ago, when thirteen years of age. When admitted to Pennsylvania Hospital he had cystitis and symptoms of vesical calculus but no stone could be detected upon sounding the bladder. It was decided to operate in order to relieve the cystitis. The usual lateral incision was made in the perineum, and the bladder opened; at once a mass was exposed, which, when removed, would fill two or three tablespoons, consisting of small fibrinous tubes (like vermicelli) coiled in a mass and containing phosphatic deposits. The source of the fibrinous material was believed to be the right ureter, the tubes being casts of the ureter. There had been some evidences of kidney disturbances, and pain in the right loin. After the bladder had been evacuated, the patient made a rapid and complete recovery.

— The ex-resident physicians of the Pennsylvania Hospital formed a Society and inaugurated a series of annual meetings last month. There were several papers read at the meeting devoted principally to reminiscences of former triumphs, and to the growth of the institution. The managers have directed that the paper read by Dr. Morton [1] shall be printed in an enlarged form, with a number of phototype illustrations, and it is proposed to include the other proceedings of the meeting.

— Dr. T. A. Emmett, of New York, paid a short visit this week, and upon invitation of the Philadelphia Obstetrical Society delivered a clinical lecture at the Jefferson College Hospital, demonstrating his operation for uterine prolapse.

— The classes at the college are considered large and the clinics are well attended.

Miscellany.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

In our remarks last week upon the subject of polyclinics we inadvertently omitted to mention the post-graduate medical school and hospital of New York, which was one of the first institutions in this country to organize a scheme of instruction entirely for graduates in medicine. The completion and occupation of a new hospital building easily accessible to the large hospitals of the city has placed abundant clinical material at the disposal of the school and the corps of teachers comprises gentlemen abundantly able to utilize to the best advantage the material thus afforded.

RESPONSIBILITY OF APARTMENT-HOUSE LANDLORDS IN CASES OF BAD PLUMBING.

Considerable interest has been manifested in a decision recently rendered by a court in New York, says the *Sanitary Engineer*, which, in effect, holds that when, by reason of inefficient plumbing, sewer-gas is permitted to enter an apartment in an apartment-house, the tenant may vacate and surrender the premises, and thereupon be relieved from his obligations to pay rent accruing thereafter. This is not an entirely new doctrine. The law in this particular respect has long been established. It was merely the application of a well-known principle of law to a new state of facts, reaffirmative of the proposition that when a landlord evicts his tenant the obligation to pay rent ceases. This eviction need not be actual — that is, by physical force. It may be constructive, such as when the landlord, by acts or omissions, so violates his duty toward his tenant as to deprive him of the beneficial use of his premises and thus force him to leave, and it is an eviction none the less by reason of the method by which it is accomplished.

Ordinarily, the tenant of an entire house, having control of the pipes and sanitary appliances, when he detects sewer-gas, may, by suitable repairs, prevent its further escape, and it would be his duty to do so; but the case of a tenant in an apartment-house is very different. The escape of sewer-gas into his apartment in consequence of defects in the general plumbing arrangements of the house, could not be controlled by him; and when the landlord permits it, the law justly allows the tenant to vacate, and imposes upon the landlord the loss of his rent.

The decision is founded in common sense, and, therefore, in justice, and while it may provoke adverse criticism from a class of unscrupulous landlords or their agents, it must commend itself for general approval.

THE DIETARY OF THE POOR.

Those whom hospital-work or private practice brings into frequent contact with the poorer classes of society, remarks the *British Medical Journal*, editorially, must often have been struck with the exaggerated importance which they attach to drugs in the treatment of disease, and with their proportionate ignorance and neglect of all principles of diet. The somewhat sceptical attitude towards medicines now fashionable in the profession — but likely to be as passing a fashion as farthingales or chignons in the larger world — has to some degree, permeated the highly educated classes, but it has scarcely affected the lower strata of society. Here, indeed, the error is altogether on the other side, and a profound and almost superstitious faith in the efficacy of drugs is found hand in hand with entire obliviousness of the enormous effect of principles of diet and of sanitation upon the individual and upon public health. The practitioner will have little success amongst his poorer classes of patients if, in addition to the ordinary prescribing of medicines, he do not institute a searching inquiry into the question of diet, and insist that the number, hours, and character of the daily meals shall be at least approximated to a correct physiological standard.

The most flagrant errors in the question of food on the part of the poor arise largely from their entire ignorance of the relative dietetic value of the various articles of daily consumption. The value of fleshmeat is well appreciated by them, but often it is beyond their means, and the substitutes adopted in its place are too frequently ill-suited for the maintenance of nutrition. Milk and eggs are not correctly estimated by the poorer classes, and, in the large towns, they are difficult to obtain of good quality, and at a reasonable price. We trust the time will soon come when the English farmer will cease the vain struggle to compete with the wheat-growers of America and Australia, and turn his attention to dairy produce, for which he has every advantage of soil, stock, and proximity to the best markets in the world. This diversion of the efforts of the English agriculturist into their natural channel would lead to the cheapening of milk, butter, cheese, and eggs, and the effect upon the national health would undoubtedly be most beneficial.

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[1] "Reminiscences of Early Hospital Days." Philadelphia Medical Times. p. 225.

Vegetables, although much in use among the poor on the score of economy, are not correctly estimated dietically by them, and no distinction is made between those which are poor in nutritive properties and such vegetables as peas and beans, which, from their richness in nitrogen, are well calculated to supply the place of animal flesh. Sir Henry Thompson, in his excellent little book on *Food and Feeding*, remarks: "As an illustration of the value of legumes combined with fat, it may be remembered how well the erbswurst supported the work of the German armies during the winter of 1870–71, an instructive lesson for us in England at the present moment. It consists of a simple pea-soup, mixed with a certain proportion of bacon or lard, and dried so as to be portable, constituting, in a very small compass, a perfect food, especially suitable for supporting muscular expenditure and exposure to cold." The same writer goes on to speak of the great nutritive value of haricots and lentils, and their small cost compared with the price of meat, which is not more nourishing. Considerations of economy apart, there are many reasons for thinking that, as a nation, the English are too great meat-eaters, and that a larger preponderance of nitrogenous vegetables in the dietary scale would tend to reduce the ravages of rheumatism and gout.

Oatmeal, whether in the form of oat-cake or of porridge, and fish are recommended as foods of special value to the poorer classes, and a strong and much needed word is spoken against the use of tea to the exclusion of nourishing food.

HYSTERICAL PARALYSIS WITHOUT CONTRACTURE.

Drs. P. Marie and Sonza Leite give in *Revue de Médicine*, May, 1885, a short summary of seven cases of hysterical paralysis without contracture in women under M. Charcot's care in 1884. The conclusions reached are thus summarized in the *Practitioner*:—(1) In all the cases sensation and muscular sense are either diminished or entirely lost in the paralyzed parts. (2) The tendon reflexes show no constant characteristic; in three cases they were increased, in four diminished or lost. This result contradicts the hypothesis that is sometimes put forward, namely, that all hysterical paralyses, even if they have no visible contracture, yet show signs of a tendency to contracture by their increased deep reflexes. (3) The hemiplegic distribution of the paralysis is the commonest type, the monoplegic the rarest; M. Charcot finds the face never affected. Seeligmüller and Buzzard, however, claim to have seen hysterical paralysis of the face. (4) The origin in four cases out of the seven was "dependent on idea," as Dr. Russell Reynolds says. One woman got herpes zoster on the left side; movement was painful at first and she gradually came to think it impossible in the left arm and leg; by sudden pressure on the eyeballs she was rendered lethargic, and the lethargy passed into a somnambulic state in which she readily assented to the suggestion that she could move both sides equally; she was put through a series of exercises before she was awoke, and when awake she found herself rid of her paralysis. Another girl, whose father was hemiplegic and who was afraid of suffering as he did, brought on herself a hysterical hemiplegia. In several cases the special senses were unilaterally affected; hearing was lost by one ear, smell by one nostril, taste on one side of the tongue, the visual field of one eye was commonly contracted, and the appreciation of color in various ways rendered abnormal.

SUICIDE IN CHINA.

Dr. A. Henry in his report on Ichang in the medical reports of the Imperial Maritime Customs of China says in regard to suicide:

Suicide is very common in Ichang, and in the numerous cases where it takes the form of opium-poisoning I am frequently called on to supply an emetic. Mr Cockburn of the Scotch Mission, who has a dispensary here, has almost endless cases of this kind. The native remedy is a dose of wood oil, supplemented by charms and enchantments. Death is also sought by other methods, as drowning, hanging, and self-wounding. The incitement to commit suicide is generally of the most trivial nature; but then one must take into account the force of fashion and the strength of the imitative faculty. Merely as an indication of the astonishing prevalence of what might be termed an Ichang malady, I cite three cases which within a few hours came to my personal knowledge.

10th June, 1884.—A young girl, the betrothed of a mason in the employment of the Customs, was living in the house of her future father-in-law. On this day she broke a basin, and being scolded, went into an adjoining room and hanged herself. 2. Same day, a man living in the city, who had an altercation with his father, committed suicide by hanging. 3. Next day, a young man living in the city, also having had some dispute with his father, rushed to the river beach and inflicted some wounds with a chopper on his chin and on the throat over the thyroid cartilage. I saw him in the evening, but by that time the application of a piece of the skin of a chicken had stopped bleeding, and there was evidently no serious damage done. I did not interfere with this treatment. The case terminated favorably.

GOV. ROBINSON'S RECOMMENDATIONS TO THE MASSACHUSETTS LEGISLATURE ON PUBLIC HEALTH.

The people have been signally blessed by exemption from the dread ravages of pestilence. Epidemic cholera, in its progress westward, has not reached the shores of our country, and the precautionary provisions made by the last General Court remain entire and efficient for the current year.

Much alarm was excited by the threatening and uncontrolled prevalence of small-pox in Montreal, between which and our large towns and cities a constant interchange of persons is going on. In response to my request, the secretary of the treasury, directed from Washington agents to be sent to the border line between the United States and Canada, with instructions to devise and enforce every practical measure to prevent the spread of the loathsome disease southward. Though in scattered places in our State there have appeared cases which could be traced directly to Montreal for their origin, no permanent foothold has been gained, and is now believed that the time of extreme peril has passed.

To take cognizance of the interests of health and life among the citizens of the Commonwealth; to make sanitary investigations and inquiries in respect to the causes of disease, and especially of epidemics and the sources of mortality, and the effects of localities, employments, conditions and circumstances, on the public health; to gather information in respect to these matters for diffusion among the people; to investigate contagious or infectious diseases dangerous to public health, when they exist or threaten in particular localities, and to adopt means to prevent the spread thereof, either independently or in co-operation with the local authorities; to prohibit and prevent the carrying on of offensive trades; to take cognizance of the interests of the public health relating to the sale of drugs and food and the adulterations of the same, and to make all necessary investigations and inquiries in reference thereto — these duties are so comprehensive and important that, in view of the public welfare, their direction and supervision should be intrusted to those whose learning, wisdom and experience furnish the highest qualifications, and whose obligations to the public do not require work in other departments equally exacting. No portion of the duties which I have described — and there are many more of kindred character, such as to determine the sanitary effect of the pollution of sources and streams of water, and of the use of certain kinds of illuminating and fuel gas — can be neglected with safety. It seems to me it would be unwise in the extreme to assign the work of the inspection of drugs and of milk and other food, for the detection and prevention of adulterations, to boards or officers who are not qualified by education or experience for such analysis or inquiry. Town and city officers may, it is true, do much to enforce the statutes relating to this subject, which so closely touches the health and life of the people; but it will not be safe to depend on them alone. Intelligence, vigor, courage and vigilance are needed in one general board or commission, whose jurisdiction is limited in territory only by the boundaries of the State. The advantage of those who thrive upon the fraud and rascality of food and drug adulterations will be served by any action that shall obstruct or impair the enforcement of the law; but they have little reason to expect protection to their selfish interests.

I recommend the establishment of an independent board of health, which shall be charged with all the matters enumerated, and with others demanding like consideration and treatment. Such a board can work with entire harmony within itself, and would be relieved of the consideration of subjects foreign to the underlying principle of its organization. Medical and scientific men, sanitarians and specialists take a lively interest in the question, and from them a State board of health would receive most abundant aid, the benefits of which could not fail to reach the people.

I am aware how difficult it is — perhaps impossible — to discuss this topic without seeming to disparage or reflect upon individuals, but nothing is farther from my intention. Personal controversies, even about public affairs, may seriously concern the participants, but they are of little consequence when the problem is to determine upon a proper policy of administration. To transfer a portion of the work now imposed on the State Board of Health, Lunacy and Charity to another board of special creation carries no criticism or condemnation; it merely recognizes and removes the plain incongruity in duties assigned to the present organization. It can serve no useful purpose to rehearse the story of past differences or difficulties, and the triumph of partianship on one side or the other of such a question is of insignificant moment.

No elaborate legislation will be required to effect the change proposed, nor need the establishment of such new board materially increase expenditures. The present board will then continue to have supervision over the charities and lunacy. Inasmuch as the great body of lunatics are a public charge, they are proper subjects for consideration and control, in a large sense, by the charity department. As a rule, pauperism is a concommitant of insanity. There is, however, no similar relation or close connection between questions of sanitation, in the broad sense now outlined in the statutes, and the administration of public charities.

Exceptional instances will undoubtedly be met in the management of the health department which will call for the application of charitable relief, but no embarrassment can arise therefrom more than under the present system of apportionment of duties among several chiefs of departments, with sub-committees of the entire board supervising such work.

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ACTION OF THE WORCESTER MEDICAL IMPROVEMENT SOCIETY ON THE DEATH OF RUFUS WOODWARD, M.D.

AT a special meeting of the Worcester Association for Medical Improvement, Dr. Leonard Wheeler offered these resolutions: —

Inasmuch as our good friend and comrade, Dr. Rufus Woodward, was suddenly taken from us by death, on Wednesday, December 30, 1885,

Resolved, that in him we have lost a brother practitioner of medicine, who has always commanded our respect, and in an unusual degree our love. That in his death we recognize a sad loss to ourselves and to the community which he served so long and so faithfully as a physician, devoted to his patients and to the public welfare.

Resolved, that in him we had before us a man of frank and manly virtue, a model of pure life and pure speech: one to whom we never appealed in vain for generous assistance or friendly sympathy.

Resolved, that we recall him as the first secretary of the organization, just forty years ago, and as one of its most constant attendants and firmest supporters ever since, and that we shall miss him sadly.

Resolved, that these resolutions be entered upon our records and that a copy be sent to his family, to the daily press, and the *Boston Medical and Surgical Journal.*

Dr. Sargent said: I had known Rufus Woodward longer than any one here present, and I presume that I knew him better. And now that he is gone I do not propose before this assembly of physicians to speak of him as a physician. Many of you can judge him in this capacity as well as I. It is of him as a friend and a man that I would speak. In friendship he was fast and constant. True himself, he was full of trust. My relations with him were too intimate and too tender for me to develop them here. In more than forty years of intimacy I never doubted him and never found him wanting. And as a man he was without guile. Of high principle and refined taste, and good culture, and manly dignity, he was superior to all the petty jealousies which so often poison the medical profession. I do not recollect ever having heard him speak an unkind word of any physician. And he judged all men charitably, rarely speaking of persons, but only of things. He had a love for his profession which was a part of his love of natural history, in which his proficiency was ever distinguished. His life was a happy one, for he studied constantly to add to the happiness of others. And it was happy especially because he was so happy in his home. There was never a tenderer and more devoted husband, and he took a fond interest in all that interested his children, enjoying their young life with them, and sharing in their amusements, in their studies, and in their occupation. He was no slave to money, and courted no applause. When we look back through his life, which was so pure, so earnest and so unselfish, we do not see the plodding and care-worn physician, but the good man, genial and lustrous in his golden atmosphere of good deeds and good cheer, and happy surroundings. If length of life is to be measured by the sum of happiness his life was long, and the lesson to us all is a good one.

Remarks were then made by Drs. Gage, Rice, Francis, Marble, Martin and others, Dr. Gage saying: —

Mr. Chairman: I have made no preparation for this occasion, and can add nothing worthy of the subject to what has been so well said. The very sad event which has occasioned this special meeting has touched us all deeply. The death of Dr. Woodward is felt by every member of this association as a personal loss and bereavement. He was the friend of all and he was beloved by all. But to some of us who have known him longest and most intimately the shock of his sudden and untimely removal has come with a peculiar and an overwhelming force. To me, especially, who have known him familiarly ever since I came into Worcester County to live, who have always enjoyed his friendship, and who have lived by him in the closest of neighborhood relations ever since my marriage in 1860, it has come almost like the loss of a real brother. To observe him coming and going in unwearying response to the demands of a large and laborious professional practice, to receive his cheerful, robust and ever welcome greeting, and to spend with him as opportunity offered, when the work of the day was done, an hour of social intercourse and relaxation — these have been among the pleasant and almost constant features of my daily life for nearly thirty years. In removing him death has come very near to me and mine. Dr. Woodward was a good physician; an intelligent, upright and conscientious practitioner. His heart was full of tenderness and of kindly, manly sympathy with human suffering. His profession was with him a sacred trust, and he administered it as such. Multitudes who only knew him as the good physician will long and sadly mourn his loss. But as Dr. Sargent has well said, he was much more than a good physician. In the broadest sense he was a good man, a good son, husband, father, brother, friend and neighbor. He was a good and eminently useful citizen, wise, public spirited and helpful in every good work. He was, indeed, a true hearted and faithful man in all the relations of life. It is eminently proper and fitting, Mr. Chairman, that we should place upon our records, where it may be read by those who come after us, a suitable testimonial of the love and esteem in which we held our deceased friend, and I desire to express my hearty concurrence in the sentiments so appropriately expressed in the resolutions offered by Dr. Wheeler, and to adopt as my own the very just estimate of Dr. Woodward's character which Dr. Sargent has drawn in the remarks he has just read, and I now move you that both the resolutions and the remarks of Dr. Sargent be accepted and adopted as the sense of this meeting.

Correspondence.

EXPLORATORY INCISIONS OF THE ABDOMEN.

New York, 13 East 34th St.,
January 10, 1886.

Mr. Editor, — On page 14 of your issue of January 7th, in the report of some remarks upon exploratory incisions of the abdomen, I am reported as saying that I thought simple opening of the peritoneum was as safe as sewing up the cervix uteri.

If such were my words I beg to amend them. What I attempted to say was, that *now* I opened the peritoneum, with as little apprehension as I felt *five years ago* in operating upon a cervix. This I said to emphasize the vast gain to abdominal surgery, which has been gained by simple but exact cleanliness.

Before the application of "Listerism" to gynæcology, cervix operations were often followed by pelvic peritonitis, and occasionally a case died. To-day any inflammatory reaction after such an operation is very rare. In fact in the hands of one familiar with the use of instruments, it has become one of the safest operations. Therefore it would be worse than misleading in one to say that incision of the peritoneum, no matter how great the case, was as safe as sewing up a cervix. Even *now* it cannot be said to be as safe as *was* sewing up a cervix five years ago, before the application of "Listerism."

In using my expression I gave vent to a personal feeling rather than to what I should lay down as a principle of action.

By giving place to this statement you will confer a favor upon me. Respectfully yours, W. M. Polk.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 2, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	638	242	18.40	14.08	2.08	2.72	9.44
Philadelphia	927,995	312	104	17.92	14.72	—	.64	12.80
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	168	62	15.00	15.00	1.80	.60	7.80
Baltimore	408,520	135	45	14.06	17.02	—	2.22	6.66
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	113	42	12.32	14.96	6.16	—	4.40
New Orleans	234,000	136	34	10.22	11.68	—	.73	5.84
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	91	30	10.90	22.89	—	2.18	2.18
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	39	11	12.80	17.92	—	—	5.12
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	31	13	22.61	12.92	12.92	—	3.23
Charleston	52,286	—	—	—	—	—	—	—
Lowell	64,051	30	11	16.66	13.33	—	—	6.66
Worcester	68,383	18	6	5 55	16.66	—	—	5.55
Fall River	56,863	28	12	21.60	18.00	3.60	—	10 80
Cambridge	59,660	27	9	7.40	22.20	—	—	7.40
Lawrence	38,825	14	—	—	21.42	—	—	—
Lynn	45,861	24	7	12.60	29.40	—	—	4.20
Springfield	37,577	—	—	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
New Bedford	33,393	9	2	22.22	22.22	11.11	—	11.11
Salem	28,084	9	1	11.11	—	—	—	—
Chelsea	25,709	11	1	—	9.09	—	—	—
Taunton	23,674	7	2	—	—	—	—	—
Gloucester	21,713	8	4	—	25.00	—	—	—
Haverhill	21,795	7	—	28.56	28.56	—	—	14.28
Newton	19,759	4	3	—	—	—	—	—
Brockton	20,783	5	—	—	40.00	—	—	—
Malden	16,407	3	1	33.33	33.33	—	—	33.33
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,609	4	—	—	25.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	3	—	—	—	—	—	—
88 Massachusetts Towns	—	60	13	8.30	18.26	—	—	4.98

Deaths reported 1,934: under five years of age 655; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, fevers, and diarrhœal diseases 296, consumption 299, lung diseases 256, diphtheria and croup 156, diarrhœal diseases 30, whooping-cough 26, scarlet fever 26, typhoid fever 21, erysipelas nine, malarial fever nine, cerebrospinal meningitis eight, puerperal fever five, small-pox two, measles two, typhus fever two. From scarlet fever, New York six, Philadelphia four, Boston and Baltimore three each, Cincinnati, District of Columbia and Lynn, two each, New Orleans, Providence, Fall River and Salem one each. From typhoid fever, Philadelphia six, New York, Boston, Baltimore, District of Columbia and Lowell two each, Providence, Nashville and Chelsea one each. From erysipelas, New York five, Boston two, Philadelphia and New Orleans one each From malarial fever, New York four, New Orleans two, Philadelphia, Baltimore and District of Columbia one each. From cerebro-spinal meningitis, New York four, Boston, Nashville, Lowell and Fall River one each. From puerperal fever, Philadelphia, Baltimore, New Orleans, District of Columbia and Providence one each. From small-pox, New York two. From typhus fever, New York two.

In 107 cities and towns of Massachusetts, with a population of 1,257,737 (population of the State 1,941,465), the total death-rate for the week was 18.18 against 15.63 and 15.29 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending December 19th the death-rate was 23.0. Deaths reported 3,918: infants under one year of age 855; acute diseases of the respiratory organs (London) 503, measles 140, whooping-cough 124, fever 49, scarlet fever 43, diphtheria 30.

The death-rates ranged from Brighton 16.4 to 41.2 in Plymouth; Birkenhead 18.5; Birmingham 22.7; Bradford 18.5; Hull 20.7; Leeds 23.8; Leicester 21.5; Liverpool 26.8; London 22.0; Manchester 26.5; Nottingham 33.8; Sheffield 23.2.

In Edinburgh 23.3; Glasgow 25.9; Dublin 34.4.

For the week ending December 19th in the Swiss towns, there were 43 deaths from acute diseases of the respiratory organs, diarrhœal diseases 24, diphtheria and croup nine, whooping-cough and typhoid fever each three, small-pox and scarlet fever each one.

The death-rates were: at Geneva 13.2; Zurich 13.6; Basle 17.4; Berne 26.2.

The meteorological record for week ending January 2d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 2, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...27	29.782	19.8	24.6	11.8	80.0	57.0	44.0	60.3	N.	N.	N.	17	20	22	N.	O.	F.	—	—
Monday, ..28	29.531	33.5	38.0	23.7	48.0	50.0	56.0	51.3	N.W.	N.W.	N.W.	12	26	21	C.	C.	C.	—	—
Tuesday, ..29	29.855	36.2	41.1	32.3	58.0	40.0	56.0	51.3	N.W.	N.W.	N.W.	19	17	6	C.	C.	C.	—	—
Wednes., .30	30.090	37.2	52.1	30.3	67.0	58.0	75.0	66.7	W.	S.	S.W.	2	3	7	C.	C.	C.	—	—
Thursday, 31	29.845	43.1	50.0	33.9	89.0	88.0	95.0	90.7	S.W.	S.E.	S.	4	9	11	O.	T.	O.	—	—
Friday, ... 1	30.037	42.1	48.9	37.6	82.0	53.0	75.0	70.0	W.	N.W.	N.W.	17	19	8	F.	C.	C.	—	—
Saturday, . 2	30.410	38.6	43.9	32.9	65.0	67.0	100.0	77.3	N.	N.E.	E.	11	12	12	C.	C.	R.	23.	.43
Mean, the Week.	29.936	35.8	42.7	28.9															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 2, 1886, TO JANUARY 8, 1886.

Goddard, Chas. E., major and surgeon. Died at Fort Yates, D. T., January 4, 1886.

Munn, Curtis E., assistant surgeon and captain. Ordered from Department East to Department Columbia.

Shannon, Wm C., assistant surgeon and captain. Ordered from Department Platte to Department East, S. O. 4, A. G. O., January 6, 1886.

McCaw, W. D., assistant surgeon and first lieutenant. Relieved from duty at Fort Lyon, Col., and ordered for duty at Fort Leavenworth, Kan. S. O. 1 Department of Missouri, January 4, 1886.

SOCIETY NOTICE.

Suffolk District Medical Society. Obstetric and Gynæcological Section. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, January 20th, at 7.45 o'clock. Communications: Dr. J. E. Kelly, "Remarks on the Phenomenon of Vomiting in Pregnancy." Dr. E. W. Cushing, "Exhibition of Preparations of Septic Bacteria, with Observations on Puerperal Septicæmia." Drs. J. P. Reynolds, A. D. Sinclair, W. E. Boardman, and H. C. Ernst, will take part in the discussions. Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman.*

Robert B. Dixon, M.D., *Secretary.*

DEATHS.

Died in Boston, January 6, 1886, James Henry Whittemore, M.D., M.M.S.S., aged forty-six years.

Died in Ware, Mass., January 10, 1886, Ebenezer Coolidge Richardson, M.D., M.M.S.S., aged sixty-five years.

BOOKS AND PAMPHLETS RECEIVED.

Puerperal Convalescence and the Diseases of the Puerperal Period. By Joseph Kucher, M.D. New York: J. H. Vail & Co. 1886.

Handbook of the Diseases of the Nervous System. By James Ross, M.D., LL.D., F.R.C.P.L., etc. With 184 illustrations. Philadelphia: Lea Brothers & Co. 1885.

Tenth Report of the Salem Hospital. Salem, Mass., 1885.

New York Post-Graduate Medical School and Hospital. Announcement of the Fourth Year, with a Report of the Dispensary and Hospital. Session of 1885–86.

Announcement of the Twenty-Second Annual Course of Lectures of the Medical Department, University of California, with Catalogue of Students and Graduates. 1885.

Twentieth Report of the Board of Trustees of the Connecticut Hospital for the Insane, with the Superintendent's and Treasurer's Reports. By Order of the General Assembly, 1885.

Thirtieth Annual Report of the Trustees of the Northampton Lunatic Hospital, for the year ending September 30, 1885. Public Document No. 21. Boston. 1886.

Original Articles.

CASES OF PERICARDITIS TREATED WITH SALICYLATE OF SODIUM.[1]

BY SAMUEL L. ABBOT, M.D.,

Visiting Physician, Massachusetts General Hospital.

Case I. Peter M., aged twenty-five; cigar-maker. Entered the Massachusetts General Hospital, March 3d, 1885. His health had been generally good with the exception of an attack of acute rheumatism which lasted five weeks, one year before. For seven weeks before entrance he had had more or less rheumatism with swelling of the joints, compelling him to pass much of his time in bed, to which he had been confined for nine days before admission to the hospital. At that time there was pain in most of the joints. Complexion sallow, tongue pale. The patient smokes to excess, but is temperate in the use of stimulants. Temperature 100.2°. Pulse 130, regular, rather small. There is no dyspnœa.

Physical examination shows cardiac dulness, from half an inch to the right of the sternum to, or slightly beyond the left mammary line. Pulmonic sound not accentuated, but reduplicated at times. A very faint systolic souffle is heard at the base. There is general tenderness of the joints and those of the left index finger are swollen. Urine normal. Salicylate of sodium was prescribed, twenty grains to be taken every two hours. Under this treatment the pain was kept in check until the 8th, the patient on the 7th being found at the time of the visit sitting up in bed reading. The temperature on the morning of the 4th, was 101.9°, and ranged between this and 100.8° on the morning of the 8th, with a pulse of 100. The record of this morning reads: "Above the second left inter-costal space nearly to the clavicle, a soft to-and-fro friction sound is heard. This becomes loud and rough over the base of the heart and diminishes gradually to the apex, where it disappears. A marked systolic endocardial souffle is heard at the apex. There is tenderness on pressure just below the ensiform cartilage but none over the heart. A rough impulse is felt in the third left intercostal space, where a slight pulsation is seen, but none is visible at the apex. Pulse regular, non-compressible. The patient complains of pain in both wrists and some pain in the cardiac region on full inspiration." Ten grains of salicylate of sodium were directed to be given every hour *pro re natâ*, and cantharidal collodion to be applied over the præcordial region; through misunderstanding, however, this was applied over a surface not more than two inches square, causing moderate blistering.

9th. Patient has slept well. Cardiac condition unchanged. Temperature, morning 101°, pulse 96, respiration 37, evening, 101.6°, pulse 106, respirations 38. Salicylate was continued.

10th. Patient has suffered from severe pain on full inspiration and in the region of the heart, which was relieved by a sinapism. There is some pain in the left shoulder. This pain was relieved in the afternoon but the cardiac signs remained the same. Flaxseed poultices were applied over the heart during the day. Morning temperature 100.9°, evening 101.8°; pulse A.M., 106, P.M., 112; respirations 33, 37. Treatment continued.

11th. Patient reported that he had had the best night for some time, and at the time of visit was free from pain. Cardiac signs the same. A dry cup was ordered to be applied over the heart for half an hour. Salicylate of sodium to be continued. Morning temperature 100.6°, pulse 100, respirations 37; evening temperature 101°, pulse 112, respirations 38.

12th. Patient has suffered much during the night from pain in the shoulders and over the heart, but at the time of visit is free from pain in the cardiac region; there is still some in the shoulders. On examination "only a trace of the friction sound" could be heard, about one inch above the apex and mostly with the first sound of the heart; the systolic murmur at the apex has nearly disappeared. Another dry cup was ordered. Temperature in the morning 100.6°, pulse 120, respirations 36; evening temperature 102.4°, pulse 120, respirations 38.

13th. Patient reported that he had had much pain in the cardiac region early in the night, but slept well afterwards, and was free from pain at the time of visit. The friction sound is again harsh and loud over the base of the heart, louder with the systole than the diastole. The area of dulness extends half an inch outside of the left nipple and one inch to the right of the sternum from the second to the fifth intercostal space. Apex beat in the fifth intercostal space inside of the left nipple, heard but not felt. Morning temperature 101.5°, pulse 108, respirations 38; evening temperature 101.8°, pulse 100, respirations 28.

14th. Sleep has been somewhat disturbed by pain in shoulders which was relieved at the time of visit. Pericardial murmur less harsh. Temperature during the day between 99.7° and 100°, pulse 100, respirations 28, 28.

15th. Patient has had some pain during the night but slept well. The record says "The pericardial friction sound has wholly disappeared and there is now no increase in the normal area of cardiac dulness." Morning temperature 99, pulse 100, respirations 23; evening 100.6°, pulse 100, respirations 23.

16th. Has slept well. Some return of pain in the joints to-day. "No pericardial murmur. Endocardial murmur less loud." Temperature in the morning, 100.7°, pulse 94, respirations 24; evening 99°, pulse 94, respirations 23.

18th. Only endocardial souffle detected is a slight prolongation of the first sound at the base. A little pain in the outer left pectoral region to-day. Temperature in the morning 99.2°, pulse 84, respirations 32; evening 99.8°, pulse 86, respirations 22.

19th. Patient quite free from pain. Appetite good. Temperature in the morning 99.8, pulse 80. Evening 98.7°, pulse 80, respirations 20, 19. The salicylate of sodium was omitted and a pill of two and a half grains of salicylate of cinchonidia, to be taken every three hours, was ordered instead. This was omitted on the 21st, on account of tinnitus, the patient sleeping well and feeling well. On the 23d, there was a slight return of the systolic souffle at the third left intercostal space with some pain and swelling of the joints, the temperature going up to 99.8° and 100°. The salicylate of sodium was resumed in the dose of ten grains every two hours *pro re natâ*. This gave speedy relief and the patient continued very comfortable until the 27th, the salicylate being taken as symptoms required. On this date the only sign of cardiac trouble was a prolongation of the first sound over the base. On the 28th, the temperature was normal for the first time. On the 31st, it was up a little, but there was no pain. The salicylate was continued on account of the rise of temperature.

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[1] Read before the Boston Society for Medical Improvement, January 11, 1886.

April 1st. The salicylate has been continued every two hours up to the time of the visit to-day. The temperature is now normal and there is no endo or exocardial murmur, and no sign of pericardial effusion; the sounds of the heart being normal and distinctly heard, and the area of dulness normal. On April 2d, the patient was discharged well.

The cardiac condition throughout the case may be summed up as follows: —

Possibly a moderate effusion in the pericardium on entrance, March 3d, with slight endocarditis.

8th. A pericardial friction sound heard for the first time over the whole cardiac region and transmitted nearly to the clavicle, with a loud systolic endocardial souffle at apex.

12th. The fourth day after the friction sound was first detected, only a trace of it could be heard, about an inch above the apex; the systolic souffle at this point had also nearly disappeared.

13th. Increase of pain, cardiac dulness and friction.

14th. Less friction sound, accompanied by a slight fall of temperature, it being 99°–100°.

15th. Entire disappearance of friction sound and of the increased cardiac dulness, the loud mitral systolic souffle having disappeared before.

18th. Only abnormal sound detected, a slight prolongation of the first sound at the base, possibly anæmic, which finally disappeared April 1st. Whole duration of friction sound seven days.

Case II. Anna A., a Swede, married, aged twenty-five, was admitted to the Massachusetts General Hospital, May 20th, 1885. Her general health had been good except for an attack of acute rheumatism in 1882, and a second in 1884: the present attack began three weeks before entrance. There had been general pain and joint swellings, and for the last four days considerable pain in the cardiac region. The patient had been confined to bed for a week. She had vomited occasionally and had had an uncomfortable feeling in the head with tinnitus, possibly caused by remedies which she had taken. The patient was well nourished and her color was good. There was swelling and redness of both hands.

Examination of the lungs gave a negative result. There was no increase of cardiac dulness. The apex-beat was in the fifth intercostal space inside of the nipple. A loud to-and-fro friction sound was heard over the heart, most distinct between the second and fourth ribs to the left of the sternum, indistinct at the apex. Pulse of good strength, regular, 82. Temperature 101.2°, respirations 28. Twenty grains of salicylate of sodium were given at intervals of an hour, three times, afterwards every second hour. Vomiting occurred at 6 P.M., accompanied by tinnitus and headache, and the remedy was given less frequently, but three doses being administered during the afternoon and evening. A suppository containing one-sixth of a grain of morphia was given in the evening. The temperature at this time was 100.2°.

21st. The patient was more comfortable. Morning temperature 100.8°, pulse 90, respirations 34.

Salicylate of sodium was ordered to be continued in the dose of twenty grains every two hours with half a drachm of aromatic spirit of ammonia in water. Six doses were taken during the day without any return of vomiting, with relief to the headache, but the tinnitus continued. There was no swelling of the joints and the patient was free from general pain while at rest: pain in cardiac region less, but the physical signs continued unchanged. The treatment was continued. Evening temperature 99.5°, pulse 72, respirations 28.

22d. Patient had slept most of the night, and had taken during the night three doses of salicylate, etc. She was very comfortable at the time of visit. The friction murmur was much less harsh than at first, and was heard loudest at the end of inspiration. The dose of salicylate was reduced to ten grains to be taken every second hour. Morning temperature 99.5°, pulse 72, respirations 30; evening temperature 98.6°, pulse 82, respirations 35.

23d. Patient very comfortable. Temperature normal throughout the day. Pulse 70 to 75, respirations 35 in the morning, 28 in the evening. Treatment continued.

24th. Condition the same. A dry cup was applied to the præcordia for half an hour and was followed by a single application of Tr. Iodinii Etherata to the same region. The salicylate was ordered to be given every hour, the aromatic spirit of ammonia to be given with each second dose. Morning temperature 98.6°, pulse 75, respirations 28; evening, temperature 98.9°, pulse 80, respirations 32.

25th. The patient feels very well, but still has some tenderness in the præcordial region on pressure. The friction sound is less marked and is heard over not more than one-half the area it has heretofore occupied. Morning temperature 98.8°, pulse 76, respirations 30; evening temperature 99.4°, pulse 90, respirations 28. Treatment continued.

26th. The friction sound has nearly disappeared but is still heard at the end of inspiration. There is no increase of cardiac dulness. No nausea nor tinnitus. Morning temperature 99.4°, pulse 88, respirations 29; evening temperature 99°, pulse 78, respirations 27.

27th. Friction sound heard only occasionally, at the end of long inspiration; disappeared entirely in the afternoon. Morning temperature 99°, pulse 79, respirations 27; evening temperature 98.3°, pulse 81, respirations 30. The dose of salicylate of sodium was reduced to fifteen grains, three times during the day, and the aromatic spirit of ammonia was omitted.

28th. General condition the same. No return of friction sound. Temperature normal morning and evening. Pulse in the morning 80, in the evening 72, respirations 29 and 25.

29th. Temperature normal, and the patient sat up half an hour. No endo or exocardial murmur can be detected. The salicylate was continued.

June 1st. A soft systolic murmur was detected in the third left intercostal space. The dose of salicylate was reduced to ten grains, three times a day, and in addition Tr. Ferri chlorid. m x. ter in die was prescribed.

2d. Patient doing well, salicylate omitted.

3th. Some complaint of pain in the left shoulder and the salicylate was resumed, ten grains to be taken every two hours *pro re natâ*.

On the 9th the record reads, "patient has been up and dressed for several days and feels well." The salicylate was omitted. On the 11th she went out of doors, and was discharged well on the 13th, without any abnormal cardiac signs.

The principal points in this case may be summarized as follows: —

Rheumatic attack of three weeks standing, with pain in cardiac region for four days before admission to hospital, on the 20th of May. Some cardiac friction sound detected without abnormal cardiac dulness. Salicylate of sodium given in full and frequent doses, causing vomiting with headache and tinnitus. Continuance of the salicylate with the addition to each dose of half a drachm of aromatic spirits of ammonia; — a remedy, I would remark in passing, which hardly ever fails to control the nausea and vomiting which so frequently result from the use of salicylic acid in its various combinations. Gradual diminution of the friction sound until its entire disappearance on the afternoon of the 27th, the seventh day of treatment, with gradual fall of temperature to normal. A slight anæmic murmur June 1st, which was treated with iron, and had entirely disappeared on the 11th, when the patient was discharged well.

It will be noticed that the salicylate of sodium was continued after the patient was free from pain and the temperature was normal, solely on account of the continuance of the friction sound,— a circumstance indicating the importance of a continuance of auscultation in these cases, even when the subjective symptoms do not seem to call for it. Its action was also kept up four days after the friction sound had disappeared. The exact duration of the pericarditis in this case cannot be determined, as the signs were present at the time the patient entered the hospital; but they disappeared in one week after that time. There was no evidence of pericardial effusion at any time.

Case III. R. D., a woman, of middle age. This patient entered the Massachusetts General Hospital, April 12, 1885, suffering probably from a contracted kidney as indicated by the following history. For four weeks before entrance she had more or less headache, with frequent vomiting, vertigo, pain in the lumbar and dorsal regions. There had been dyspnœa for two weeks, during which interval there had been two or three convulsions. The eyesight was dim at times and the sleep had been disturbed. There had been no hæmorrhage and there was no œdema. Tongue dry and thickly coated. Pulse rapid, small.

On physical examination there was found cardiac dulness from the second right rib down to the fourth interspace, at which point it extended one and a half inches to the right of the sternum, the apex dulness extending to the mammary line. There was great tenderness over the lower cardiac area. A loud to-and-fro friction sound was heard over the base, which became distant and obscure at the apex. There were signs of œdema in the lower part of both lungs. There were frequent twitchings with tremulousness of the fingers and forearms; there was also a strong, somewhat urinous odor about the patient.

The patient's condition varied from hour to hour, and palliative treatment was employed; sinapisms were applied over the heart. Owing to the vomiting it became necessary to administer stimulants and milk with moderate opiates (Tr. Opii. deodoratæ m x) by enema. As an experiment, having in mind the two previous cases of pericarditis, on the 13th an enema was administered consisting of whiskey half an ounce, a raw egg, milk four ounces, in which was dissolved thirty grains of salicylate of sodium. This was ordered to be repeated every four hours, except that the salicylate was to be reduced in quantity to fifteen grains. Three of these enemata were given in all, their use being discontinued on account of the great distress which the necessary manipulations occasioned. They were followed by great exhaustion, the pulse being almost imperceptible. There was frequent twitching of the fingers and at times of the whole arm. The patient was quieted by an eighth of a grain of morphia.

Examination of the urine of the previous day gave the following result: urine pale; specific gravity 1007. A large trace of albumen; sediment in moderate amount, consisting of pus, large round cells and a few hyaline and granular casts.

On the 14th the patient said she was very comfortable, being free from pain. *No friction sound could be detected*, and the heart sounds were clear and distinct. Cardiac dulness as at first.

15th. The friction sound had returned and could be heard from the base half way down to the apex, and under the sternum to the ensiform cartilage. Sounds of the heart perfectly distinct. The salicylic enema was repeated, but a second was not retained.

16th. Patient mildly delirious, as she has been at times during the past two days. Salicin was given by the mouth, and five doses of ten grains each at intervals of two hours were retained, but their further administration was checked by vomiting. Urine of this day twenty-six ounces; specific gravity 1012; pale; a large trace of albumen. Sediment considerable, containing numerous hyaline, fine granular and waxy casts, many of large diameter, and pus.

17th. Cardiac dulness diminished, extending from the third rib down one inch to the right of the sternum, and nearly to the left nipple. Respirations ten, deep, irregular. Muscular twitchings continue. No urine passed voluntarily; seven ounces drawn by catheter at 6 p.m.

18th. Patient gradually failed and died at 8.40 p.m.

Temperature on the morning of the 13th, the day when the salicylate was given by enema, 100°, in the evening 98.2°. It rose to 99° the next morning, was normal in the evening, a little below the next day, and normal on the 18th, the day of her death. The urine varied in quantity from thirty-two ounces on the 13th to fourteen on the 17th, and eight on the 18th. An autopsy could not be obtained.

In this case there was no way of determining the duration of the pericarditis, as the signs existed at the time the woman entered the hospital; the friction sound, however, disappeared entirely after the first day's treatment by salicylate of sodium, to return after the treatment was discontinued. The patient's condition from her renal disease prevented its resumption.

Case IV. A young lady eighteen years of age, seen in consultation in March, 1885, with Dr. Fuller of Charlestown. She had been suffering for a week with severe acute rheumatism, and at the time when I saw her had marked pericarditis of several days' standing. She was sitting nearly upright in bed, with quick pulse, great dyspnœa and high temperature. I regret that I have not exact numerical data of these conditions. There was extreme cardiac distress, and the region of the heart was so sensitive as not to bear percussion. A loud friction sound was audible throughout this region. She was taking at the time a moderate dose of salicylate of sodium three times a day, having been under salicylate treatment from the outset of her illness, and been actively treated locally by leeches, blisters, etc. At my suggestion larger doses of the remedy were given at short intervals, and as I subsequently learned from her physician, with marked benefit in twenty-four hours, and total relief in forty-eight hours; at which time there was no friction nor evidence of effusion, and the sounds of the heart were normal.

My apology for offering these few cases of this formidable cardiac affection is its comparative rareness in acute rheumatism since the specific salicylic acid and its compounds came into general use, and the fact that it is still generally regarded as one of the most intractable affections of the heart; likely to be, if not in its immediate results, certainly in the possibility of grave disability afterwards, one of the most serious.

I think I am justified in saying that at the present time all grave cardiac complications in acute rheumatisms are much less frequent than formerly; certainly this has been my own experience, strongly sustaining the hope and expectation which the first use of the salicylic remedies was calculated to encourage, that in the time to come their use would prevent the development of a very large proportion of these grave cases. A single fact gives great force to this conviction in my mind. During my four months service in the Massachusetts General Hospital in the spring of 1875, the year before Traube first recommended salicylic acid as a remedy for acute rheumatism, there were four deaths in my wards, of rheumatic patients, from pericarditis, with high temperature and coma. Since that time, a period of ten years, in the record of one hundred and eighty-four cases of acute rheumatism in al', in my service, I find the history of but eight cases oi pericarditis. Of these one entered with this affection and remained three months, the physical signs having disappeared when he was discharged. No specific treatment was employed. A second also had pericarditis on entrance, the signs clearing up sixteen days after, but not disappearing so as to warrant his discharge until a month from that time. No specific treatment. The third entered with friction and effusion which continued for twenty-three days, when he was discharged. No specific treatment. The fourth had been ill two months on entering the hospital, with great effusion, and died on the second day after. In the fifth, pericarditis appeared several days after entrance, with rheumatic bronchitis, and the friction sound continued until his discharge four weeks later. No specific treatment. The sixth entered moribund with pericardial effusion and died the same day. No treatment. The remaining two cases are reported in this paper. In speaking of the majority of these cases as not having had specific treatment, I mean that the ordinary salicylic treatment which they all had, was not pushed with special reference to the cardiac affection. I cannot help thinking that the fact that there were no deaths among them, except the two that entered at the point of death, is significant as showing that the severity of the attack was probably modified by the previous treatment for rheumatism.

It would seem *a priori* that such remarkable specifics as salicylic acid and its compounds are for the inflammation and pain of acute rheumatism, should control all the symptoms which may ordinarily manifest themselves in its course, including the cardiac affections, which are as much a part of the attack as the joint pains and inflammation. In fact, they may be the first manifestation of it. And yet this conviction does not seem generally to have struck the medical mind.

With regard to pericarditis, I need hardly say that all Systems of Medicine regard it as the gravest possible complication in acute rheumatism; and yet even the latest authorities have little to offer to combat it but the old weapons of bleeding and blistering, digitalis, and other palliatives; no value being attached to the salicylic specifics. Thus Bramwell, in his admirable treatise on Diseases of the Heart and Thoracic Aorta, p. 339, American Edition, 1884, in speaking of the treatment says: —

"The treatment appropriate to the primary affection must, at the same time be persevered with. There is, however, one very important exception to this general rule, namely, that in rheumatic cases the further administration of the preparations of salicin, more especially salicylate of soda (for, according to Dr. Maclagan, salicin itself does not depress the heart), should be dispensed with. The diet should be light and nutritious, consisting chiefly of milk and soup."

Dr. Da Costa also, in his valuable contribution to the third volume of Pepper's System of Practical Medicine, on Diseases of the Pericardium, in speaking of the treatment of pericarditis, says: "but here let me at once record the more than uselessness of the salicylates. They have no influence when pericarditis has arisen, and if salicylic acid or its compounds are being given they should at once be stopped. The alkalies have a far better action." And in the discussion on rheumatism at the last meeting of the British Medical Association, reported in the Medical Record of September 5th, 1885, it was claimed that salicylate of soda has no effect on the cardiac complications of this disease.

Although the cases I have offered are too few to generalize from, I cannot resist the conviction that the rapid disappearance of the symptoms and the remaining sound condition of the affected organ are due to the power of the remedy employed. It may be said that these were mild cases, likely to be amenable to treatment. So far as the sufferings of the patient and the indications of fever are concerned this may be said to have been true to some extent of the first two, but certainly not of the last two. But why were the first comparatively mild? I cannot help thinking it was because they had been under salicylic treatment for rheumatism from the first, and that the attack of pericarditis was essentially modified by its influence. The latter two were severe, yet in these the disappearance of the physical signs was even more prompt than in the others. I cannot believe that the local treatment employed in the first two cases had any material influence on the result. It was certainly not of a very active character, and was used mainly for a palliative purpose. In the fourth case the most active local treatment had given no relief. In neither of them was there any evidence of constitutional depression caused by the treatment except in the third, the case of advanced Bright's disease.

It is an interesting question what was the condition of the heart which caused the friction sound in these cases. There has been much discussion on the general subject, some writers claiming that a simple dryness of the pericardium may be sufficient to cause it; others contending that the surface must be roughened by an effusion of lymph. The cause is likely to vary in different cases, and perhaps may not have been the same in all of these now reported. In the first there was no serous effusion detected at any time, but it is impossible to say how long the friction sound had existed before the patient came under observation. If it had existed several days there may have been a deposit of lymph, although the likelihood that the patient may have taken salicylic acid in some form makes this point uncertain. At any rate the complete disappearance of this sign in a few days, without any evidence of adhesion or serous effusion remaining, would seem to show that the remedy employed possibly has the power of causing absorption of even this refractory product of inflammation. In the second case the varying intensity of the friction murmur would seem to indicate as its cause something of a more transitory nature. If the experiment is tried of rubbing the finger across a dry window-pane no sound is elicited; but the slightest moisture on the finger will at once bring out a creaking sound of friction. Is it not possible that a very slight exudation of serum on the surface of the pericardium may develop a similar sound in the same way? In the third case the friction sound disappeared within a few hours for an entire day — a result hardly likely to have occurred if the cause were not of a nature to undergo a very rapid absorption.

It was my purpose in following the treatment employed in these cases to push it to the extreme of endurance on the part of the patient, feeling that risk of injury from it was far less than that from unchecked pericarditis.

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SIX SUCCESSFUL CASES OF OVARIOTOMY.

BY J. G. PINKHAM, M.D., OF LYNN.

The operations described below occurred consecutively during the year ending with the date of the last case. With the exception of one fatal case previously reported, these are all the ovariotomies that it has fallen to my lot to perform.

In the management of each case, an attempt was made to carry out the general principles of antiseptic surgery with the most scrupulous exactness. Instruments, sponges, the hands of the operator and his assistants, all things, in fact, that could, by any possibility, become the bearers of contagion, were thoroughly cleansed and disinfected. The carbolic spray was used in the room, but was not allowed to play directly upon the wound. The strength of the carbolic solution employed in the atomizer was two and a half per cent.; for instruments and hands, five per cent.; for sponging abdominal cavity and wound, not more than one-half per cent. Lister's dressings were applied, and over them, several layers of sheet-cotton, broad strips of adhesive plaster, and a flannel bandage. The incision through the abdominal walls was made in the median line, and as short as was thought to be consistent with a speedy and correct performance of the operation. Great care was taken to stop all bleeding as it occurred. To effect this, I used in imitation of Dr. Homans, Langenbeck's serres-fins, with strings, and pieces of sheet-lead attached to keep them from getting lost in the abdominal cavity. When necessary, ligatures of catgut, or fine silk, were applied. The pedicle, when any existed, was tied with braided silk in two portions. It was then cut short, held with Dawson's clamp, and the end seared with Paquelin's Thermo-Cautery.

Great care was taken to cleanse the peritoneal cavity of blood, and of cystic fluid, when, by chance, any of the latter had escaped into it during the operation. The wound was closed by deep sutures of silver wire, which included the peritoneum, and by superficial ones of silk, when these were necessary, in order to bring the cut edges of the skin into exact apposition. As a matter of convenience, the operations were all, with one exception, performed upon a Crosby bed, the patient being allowed to remain upon it during the after treatment. No nourishment was given, as a rule, for twenty-four hours or more after the operation, but stimulants were employed *per rectum*, when needed. As an anodyne, reliance was placed mainly upon suppositories of bimeconate of morphia, as this agent had been found, in my hands, to produce less unpleasant after-effects than most other opiates. In these operations, I have had the assistance, at different times, of Dr. Wm. G. Wheeler, of Chelsea, and of Drs. Lovejoy, Emerson, Colman, Sheldon, Stevens, and Little, of Lynn. I feel myself under obligations to all these gentlemen, more particularly to Dr. Lovejoy, who placed two of the cases in my hands, and helped me materially with all; and to Dr. Wheeler, without whose wise counsel, born of a large experience in ovariotomy, it would have been much less easy for me to extricate myself from the difficulties presented in the third and fifth cases.

Case I. Mrs. M., aged thirty-seven, a shoe-stitcher by occupation, consulted me in June, 1884. She was married, and had two children, aged respectively, twelve and fourteen years. At the age of twelve, she had scarlatina, among the persistent sequels of which were impaired hearing, and a tendency to diffused spasm of the facial muscles. Menstruation was generally regular, and normal in amount; but occasionally, there was a delay of a week. Urine normal. Patient anæmic, and subject to fainting spells, with a partial loss of consciousness. On examination, the lower part of the abdominal cavity was found to be occupied by a well-defined, fluctuating mass, which extended nearly to the umbilicus. According to patient's statement, the abdomen had begun to enlarge something more than a year before, but the greater part of the increase in size had taken place within the preceding six months. As all the physical signs of an ovarian cystoma were present, the diagnosis was made without difficulty. Removal was advised after a short course of tonic treatment.

The operation took place on the 19th of September, 1884, at the patient's home in Lynn. Incision two and a half inches in length. The tumor proved to be an oligo-cyst, without adhesions. Weight, five and a half pounds. One of the small cysts had been ruptured previously to the operation, and its semi-solid contents were sponged out of the abdominal cavity. The walls of this cyst were very thin, and it is not improbable that the rupture occurred while the patient was being moved just before the operation. Pedicle long. Other ovary healthy. Wound closed by four deep, and three superficial sutures. The patient bore the ether well, and rallied promptly after the operation. At 4 P. M., five hours after operation, vomiting took place, attended by a slight collapse, as a result of the nausea. This soon passed off. During the first night, there was a little pain, which was quieted by a rectal suppository, containing one-quarter grain bimeconate of morphia. After this, no anodynes were required. About six hours after the operation, the temperature rose to 100.5° F., but four hours later, it had fallen to 99.8°, and never afterwards reached 100°. No nourishment was given until the morning of the second day. Convalescence proceeded without interruption, or notable incident. The superficial sutures were removed on the seventh, and the deep on the ninth day. In three weeks, the patient was able to sit up, and soon afterwards, to move about the house. She has been in an improved state of health since, and is now engaged in her old occupation of stitching shoes.

Case II. Miss M. E. C., aged twenty-four, shoe-stitcher. Father a paralytic; mother dropsical. Had one brother who was healthy. Her own general health had been fair. She first noticed the tumor in July, 1883. Had no unpleasant sensations, except slight pain, and "a sort of prickly feeling" in the left leg. Menstruation irregular. Amount normal. Bowels regular, and appetite good. No change had been noticed in character or amount of urine. Heart, lungs, and kidneys healthy. Admitted to Lynn Hospital, October 7th, 1884. Operation, October 8th, at 11 A. M. Incision two and a half inches in length. The tumor proved to be a monocyst, weighing, with its contents, fifteen pounds. Pedicle long. No adhesions. Wound closed by five deep, and four superficial sutures. Vomiting occurred only once. The temperature never rose above 100° F., and there was no interruption to convalescence, except that on the twelfth day after the operation, menstruation occurred, accompanied with pain and swelling of the left leg, and a rise in temperature (99.°5 to 100°). These symptoms subsided in a few days. The wound healed throughout by first intention. At the end of four weeks, the patient left the hospital in fair health. She has since become fleshy and robust looking, and has returned to her former occupation.

Case III. This patient was placed in my hands by Dr. Francois, of Saugus. She was a married woman, thirty-five years of age, who had formerly worked in a shoe-shop, but was at that time doing her own housework. She had never borne children, but had miscarried once shortly after marriage. Menstruation began in her twelfth year, and was regular up to the thirty-first year, at which time it became more frequent, the intervals varying from one to three weeks in length. Amount at each period normal. At the time of my first visit, December 10, 1884, she was just recovering from an attack characterized by gastric disturbance, pain and tenderness over the duodenum, frequent micturition, and considerable elevation of temperature. She stated that she had been subject to such attacks for several years; otherwise her general health had been good.

Some six years before she had noticed a small lump in the right ilio-hypogastric region. This increased slowly and in three years was as large as a child's head. At that time she consulted an eclectic physician who tapped the tumor, and drew from it a dark fluid, looking like molasses and water. Six weeks later he tapped again, and subsequently, injections were made into the sac with the purpose of effecting its obliteration. In two years the tumor was as large as before the tapping. After this it increased to some extent in size. On examination it was found to occupy the hypogastric and right iliac regions, and to extend obliquely upwards towards the right, through the umbilical into the lumbar region. It was somewhat movable from right to left but seemed fixed above and below Fluctuation distinct throughout. Contour uniformly rounded. There was an area of tympanitic resonance to the right of and above the tumor. By the vagina the growth could not be felt occupying any part of the pelvic cavity. The uterus was retroverted, and not notably enlarged. The urine was found to be acid and slightly albuminous. Its specific gravity was 1020. It contained an excess of earthy phosphates, and, as seen by the microscope, pus in considerable quantity, vaginal and vesical epithelium and bacteria, but no renal casts. The nature of the tumor in this case seemed doubtful, but a careful consideration of all the facts presented, led to the conclusion that it was an ovarian monocyst with extensive adhesions fixing it to the right side. An immediate operation for removal was advised, with a guarded prognosis as to the result. Operation January 8th, at a room procured for the purpose in Saugus Centre. Drs. Wheeler, Lovejoy and Francois were present and assisted. Incision in the median line midway between umbilicus and pubes, about three inches in length. The tumor thus disclosed was shown to be covered by an extremely vascular envelope, which, when followed to its connections by the hand passed within the abdominal cavity, appeared to be continuous on all sides with the peritoneum. No pedicle could be discovered, and the mass was no more movable at its upper than at its lower end. There were slight adhesions of the vascular covering to the parietal peritoneum at the site of the old punctures. The cyst was evacuated by a small trocar and canula. Fluid dark colored, hæmorrhagic, somewhat viscid. At Dr. Wheeler's suggestion the finger was thrust through a thin place in the covering of the cyst, high up, a strip of the same separated, tied in two places, and cut between the ligatures. This process was repeated on each side of the opening until the empty sac could be drawn out. The remaining portion of the envelope was then treated like an ordinary pedicle. No blood to speak of was lost in thus dealing with the vascular covering of the tumor. The tumor was a monocyst of which the lining membrane showed a distinct papillomatous structure. Wound closed by five deep and five superficial sutures. The patient had unfortunately taken some milk contrary to advice just before the operation. As a consequence she vomited while under ether, and several times on coming out from under its influence. The usual course of after-treatment was pursued, but for the first week the stomach was so irritable that it was found necessary to nourish the patient almost wholly by enemata. The injection consisted of a gruel made of Bartlett's pepsinated nutriment, with Valentine's meat juice, and brandy. A little deodorized tincture of opium was given with the enemata, when necessary to allay pain and procure sleep. Soon after the operation the abdomen became very tympanitic, so much so as to produce a decided tension upon the sutures. On the eighth day the patient took and retained a little koumiss. As there was a marked redness about the sutures they were removed and the wound secured by numerous long strips of adhesive plaster. On the ninth day menstruation began. Vomiting had occurred once and the bowels had moved spontaneously during the night. On examining the wound it was found to have reopened to the extent of an inch and a half in the central portion, and a dark, liquid, looking like the product of a broken down blood clot, to have escaped, to an estimated amount of two drachms. The plaster was reapplied and the edges of the gaping wound drawn together, an opening being left for drainage.

From this time on for a period of about three weeks the history of the case, which it would be tedious to give in full, was that of a mild septicæmia, characterized by an irregular temperature, scarcely ever rising above 101° F., by occasional chilliness, sweating, nausea, and diarrhœa, by an attack of sub-acute pleurisy on the right side at one time, and by pain and swelling of the left leg at another. The treatment was directed mainly to supporting the patient's strength. She took by the mouth such delicate nourishment as she could retain, with light stimulants; by the rectum, when diarrhœa was not present, the enemata mentioned before and quinine suppositories. The wound was dusted with iodoform and dressed with tarred oakum. It filled up slowly with granulations and healed.

The wound was, in my opinion, the source of the septicæmia. There was no evidence at any time of peritonitis. After the wound reopened a portion of the omentum and intestine could be seen, and they were not reddened. There was no disposition manifested at any time to a hernial protrusion. It is not improbable that the whole trouble came from the milk which the patient took before the operation. She was subject to dyspeptic attacks, as before stated. One of these the ether caused by preventing the digestion of the milk. From this came the distension of the abdomen and the irritability of the stomach. The distention drew upon the wound, perhaps causing a little bleeding between the lips, and the formation of a clot, which afterwards breaking down was the source of the reopening, the septicæmia and the slow healing. As a result of all this the patient was eight weeks in getting well, instead of four, as might have been the case under other circumstances. She went to her home on the 10th of March, and has been in good health since.

Case IV. Mrs. F., of Peterboro', N. H., housewife, aged seventy-one, was admitted to Lynn Hospital on the 24th of April, 1885. She stated that her abdomen had been enlarging for more than ten years. Her general health, however, had been pretty good, and she had not experienced much inconvenience from the growth, until it became so large as to trouble her by the weight and pressure. Her face and the upper parts of the body were much emaciated, but her eyes were bright and mind clear. Appetite and digestion fair. Urine normal. Heart and lungs sound. Abdomen very much distended; superficial veins prominent; ribs widely separated by the crowding upwards of the tumor. Diagnosis, ovarian monocyst. Operation for removal April 25th. The abdominal walls were found to be thin and the peritoneum dry and leathery in appearance. The tumor proved to be a monocyst, as was thought. Its contents were as clear as spring-water. Specific gravity 1010. The pedicle was on the left side and rather short. Uterus and other ovary atrophied, low down in pelvic cavity. No shock attended the operation, and but little fever followed. On the seventh day the superficial sutures were removed and on the ninth the deep. Wound firmly united throughout. There was a little redness around some of the suture points. The patient did well in every respect until the twelfth day. She then experienced a chill, and her temperature rose to 103° F. These symptoms were coincident with the occurrence of a light attack of erysipelas which began at the wound and spread slowly over a considerable portion of the front and sides of the body. It was of a mild type and did not cause vesication. The constitutional symptoms were not severe, there being no suffering, and nutrition not being notably disturbed. The temperature after the first day gradually fell and did not again rise so high.

The treatment consisted in the administration of quinine, malt, stimulants, and nourishing food, and locally to the wound iodoform, and to the inflamed surface beyond, a paste made of salicylic acid, alcohol and water. Convalescence was delayed for nearly two weeks by this occurrence. At the time of the outbreak there was a case of traumatic erysipelas in a remote part of the hospital establishment, and the disease was somewhat prevalent in the town as an idiopathic affection. A considerable discharge of pus took place from several of the suture holes during the progress of the erysipelas, and subsequently. On the 1st of June the patient was able to leave the hospital. She is now in the enjoyment of excellent health for a person of her years. The tumor weighed nearly sixty pounds, and the patient after its removal scarcely more. The history of this case, and the result of the operation show for what a length of time the system will tolerate a slowly growing monocyst without suffering serious derangements, and, also, what a marked power of endurance for surgical operations and for disease is sometimes possessed by aged people.

Case V. This patient was first seen by me January 25th, 1885. The notes of the case as taken at the time are given below. "Mrs. C., aged forty-four, married. Has lived apart from her husband for the past five years. Has had four children, the youngest being now twenty years old. Had one miscarriage sixteen years ago. Menstruation began at age of sixteen. Always had considerable flow, never less than fifteen napkins, sometimes twenty-one. Always regular until six years ago, when she went three months without menstruating, and then came around as usual. Since that time she has been very irregular, the intervals varying from two weeks to several months. Sometimes the flow has been profuse, and once it lasted six weeks. She has now been six weeks over her time. Her father died an insane suicide at the age of fifty-two. Her mother died of 'dropsy of bowels.' Three sisters have died; two before patient's recollection; one insane. Three sisters are living; one has a 'tumor of the bowels,' another never menstruated, and is dropsical, the third one is well. The patient has a small tumor in the back, a lump of the size of a hickory-nut in the left breast, below the nipple, quite hard, movable. About seven years ago, she discovered an enlargement in the lower part of the abdomen nearly in the median line, which increased in size from that time forward. Five years ago she consulted a distinguished physician, who diagnosticated 'a tumor,' and advised against any attempt at removal. Some time later she saw another physician who thought the disease ovarian, and advised removal. Five months ago she put herself under the care of an eclectic physician, of Boston, the same one, in fact, who had treated patient No. III. He tried to cure by injections into the substance of the tumor. Since this treatment was begun, the tumor has seemed to grow faster than ever. The injections were given twice a week for two months. Patient never had any severe sickness, but is subject to a cough in winter. On examining the abdomen it is found to be irregular in contour. On the right low down is a rounded, firm-feeling mass about as large as a cocoanut. On the left is a small rounded mass which seems to be solid. Above, fluctuation is detected, more distinctly in some parts than others. Percussion sounds tympanitic in both loins, and on left above the small, round mass, nearly to umbilicus, and downward (as patient lies on back), to the loin. Between the umbilicus and the ribs, towards the left is an area of tenderness. At this point injections were made, as, also, into the hard mass on the left below. On digital examination the pelvic cavity is found completely filled with a solid-feeling mass which gives no sense of fluctuation to the finger. The cervix uteri, reached with difficulty, is found high up, and far over towards the left. Bimanual examination indicates that the round mass in the left iliac region is the fundus uteri. Uterus moves when abdomen is pressed upon. After repeated trials cannot succeed in passing the uterine sound. It enters about one and a half inches, but beyond this point, on account of the extreme curvature required to reach the os, it will not go. The attempt causes quite a free flow of blood."

The history of this case and the physical signs seemed to point somewhat strongly to the diagnosis of uterine fibro-cyst. At my suggestion the patient consulted Dr. Wheeler, who thought the diagnosis doubtful, and advised aspiration to determine the nature of the fluid in the cyst. This was done on May 23d, the fluid proving to be brownish in color, and slightly sticky to the finger. Heat and nitric acid caused a dense coagulum to form, but no spontaneous change occurred on standing, except the deposit of a layer of sediment on the bottom of the bottle containing the fluid. Sp. gr. 1025. Under the microscope numerous ovarian corpuscles were seen, with granular matter, the debris of broken-down epithelial cells, and some blood. As a result of this examination, the tumor was decided to be ovarian, and an attempt at removal was advised. Operation at No. 10, Norcross Ct., Lynn, June 2d, 1885. Present, Drs. Wheeler, Emerson, Lovejoy, Colman, Stevens and Little. The tumor proved to be a multilocular ovarian cyst, bare and non-adherent above, below invested with an extremely vascular peritoneal layer, and closely adherent on all sides in the pelvic cavity, and to the uterus, which it had drawn up, and crowded far over to the left. The *fundus uteri* was, as supposed, the small round mass which had been felt above the pubis. The cyst was evacuated with an aspirator. From the large sac above, three quarts of brownish fluid, like that obtained before, were drawn. A smaller sac furnished a pint of milky-looking fluid. Several small loculi contained a clear liquid. The pelvic portion of the growth which had been thought to be solid, was found to have very thick and dense walls, and to be closely wedged into the pelvic cavity. The tumor was removed by laboriously separating the peritoneal layer with the finger in strips, tying in two places, and cutting between the ligatures, as in case III. Any hæmorrhage that occurred during the process was arrested for the time, by Péan's forceps, or the serres-fins, so that but a very trifling amount of blood was lost. The adhesions to the pelvic organs were so close that it was not thought safe to attempt to separate them. Hence the cyst wall itself was tied in sections and left. The pelvic cavity now being thoroughly cleansed, a glass drainage-tube of about one-half inch lumen, and slightly bent, was passed to the bottom of Douglas's fossa, and the abdominal wound, which was about three and a half inches in length, closed in the usual manner. One suture was passed below the drainage-tube, and the ends of the wire being tied around the tube, were made to hold it securely in place. The antiseptic dressing was applied as usual. The ligatures used were not counted, but it was thought that at least twenty were left within the peritoneal cavity. The patient bore the long operation well, being carefully watched by Drs. Emerson and Stevens, who attended to the administration of the ether, and gave a hypodermic injection of brandy whenever the flagging pulse of the patient seemed to indicate it. At 4 P. M., two and a half hours after the close of the operation, the patient had a pulse of 84, and a temperature of 99.6°. She vomited several times and had some pain, for which she was given a suppository containing one-half grain bimeconate of morphia. She remained fairly comfortable during that night and the following day, taking only a little ice by the mouth, and enemata of brandy, beef juice and pepsinated gruel. On June 4th, the wound was dressed for the first time. All the dressings were found saturated with bloody serum, which had escaped from the drainage-tube in great abundance. Patient suffered a good deal from thirst and nausea. On June 5th, she began to take milk and gruel. Flatus passed per anum. Menstruation began. Temperature in the morning 98.6°. In the evening she vomited and the temperature rose to 101°. The discharge from the tube began to be offensive. Wound dressed with carded oakum. As the history of the after-treatment of this case must be greatly abridged it will be sufficient to say that the patient was visited four times in each twenty-four hours. At each visit the wound was dressed, and the pelvic cavity cleansed. For this purpose a common piston syringe was used, a rubber tube being attached to the nozzle, by means of which all the fluid that could be reached was drawn out, and the cavity then washed out by a weak solution of chlorinated soda, carbolic acid, or boracic acid. Iodoform was occasionally dropped into the tube. The discharge, at first red, gradually lost its color, and in a week had began to show signs of pus. Later it became distinctly purulent. The sutures were removed on the eighth and ninth days. On removing the suture below the tube, pus escaped by the side of the tube, and ceased to come through it. On the seventeenth day the glass tube was removed, and a fenestrated rubber tube substituted. On the eighteenth day the patient was removed from the Crosby bed to an ordinary one. On the thirty-first day the tube was pushed out by an act of coughing. It was followed by a soft, grayish slough about as large as a man's thumb, several smaller masses of the same description, and an abundance of thick pus. The wound healed by first intention down to the drainage tube. During all this time the patient had a temperature varying from normal in the morning to 100° or slightly less in the evening. A few times it went to 101° or upwards, but soon fell to its usual range. Great care was taken to keep up the strength by suitable nourishment, stimulants, quinine, iron, etc. Notwithstanding the copious discharge of sero-pus, the patient improved steadily, but slowly. Only one ligature was known to have come away. At this date, about five months after the operation, the patient's health is fair, and she is able to be about the house, and go out of doors, although there is still some discharge from the sinus. The uterus is in *situ naturali*, but is nearly fixed in position. There is some hardness of the vaginal roof on the right side of the uterus, but no mass of induration there. I think it safe to say that in this case the success of the after-treatment was due to the free drainage, which, with the frequent washing out of the pelvic cavity, prevented any notable amount of septic absorption, and the unremitting efforts made to maintain nutrition. I made upwards of two hundred visits to this patient. That she would die was, I think, the feeling at the close of the operation, of every gentleman present, except Dr. Lovejoy, who with characteristic hopefulness, expressed the opinion that she would "pull through."

Case VI. Mrs. M., a widow, aged fifty, boarding-house keeper, consulted me in December, 1882, giving the following history of herself. She was first unwell at the age of thirteen. Menstruation had always been regular and normal in amount until the menopause, which occurred a few years before. She had one child, then twenty-seven years of age. Some ten years ago, while living in Wakefield, Mass., she consulted Dr. S. W. Abbott, who diagnosticated retroversion of the uterus, and an enlargement of the right ovary. A short time after this, she went to the New England Hospital for Women, and staid two months. She was told there that the right ovary ought to be removed. Acting upon advice received, she went back to Wakefield, and again placed herself under the care of Dr. Abbott, intending to return to the hospital in six months for the operation. At the end of that time, however, she was in so good a state of general health, that she abandoned her design. Has lived in Lynn for the past eight years. On examination, I found a firm-feeling tumor about as large as a cocoanut in the region of the right ovary. Uterus retroverted. Some months later the tumor was found to have increased notably in size, and to be manifest as a rounded mass above the pubes, with distinct fluctuation. On my advice she consulted Dr. Bixby, by whose suggestion I drew off some of the fluid of the cyst for examination, and sent it to him. The result of the examination was negative, and the doctor being at that time in doubt as to the nature of the case kept it under observation until January 1884, when tapping was resorted to. About twelve quarts of fluid, looking precisely like that of ascites, were obtained. This I examined, and satisfied myself that the disease was ovarian. After the tapping, no tumor could be felt, either by palpation of the abdomen, or by vaginal examination. The health of the patient improved after this, and the cyst refilled very slowly, so that it was not until the spring of 1885, more than a year subsequent to the tapping, that she would listen to my proposition for removal. Then she assented, but wanted to postpone the operation until October, or later. By the first of September, however, she had begun to feel so great an impairment of her general health, that she decided to delay no longer. She was still quite stout, but had wasted somewhat, especially about the chest and shoulders. The abdomen was larger than before the tapping. Operation at patient's home in Lynn, September 16th. Incision two and a half inches in length. Tumor an oligocyst with a solid portion at juncture of pedicle. The fluid of the largest cyst was dark brown, that of the smaller ones light colored. The solid portion was about as large as a coffee cup, and so hard as to suggest malignancy. There was one adhesion to the omentum, which required to be legated before it was divided. Weight of tumor and contents about twenty-five pounds. Wound closed by five deep sutures. The operation was well borne. On the second day the temperature went slightly above 100°, but on the third it fell to 99°. On the fifth day there was a slight disturbance of the stomach and bowels, caused apparently by some greasy beef-tea which had been taken, and the temperature again rose to 100°. After this it never went above 99°. The use of the catheter caused a little irritation of the bladder resulting in frequent calls for its evacuation. Apart from these incidents there was no interruption to the convalescence. At the end of three weeks the patient sat up, and is now attending to her household duties. The solid portion of the tumor has been examined by Dr. Colman, and pronounced malignant. As after the tapping in January 1884, no tumor could be found, it seems probable that this malignant growth was wholly secondary, and that it developed subsequently to the tapping. The long time that the ovarian disease in some form had existed would seem to give support to this view. The prognosis in such cases is not altogether bad, if we may accept the statement of Peaslee.[1] A lesson on the advisability of an early removal of ovarian tumors may be drawn from this case. The best time to operate is undoubtedly when the diagnosis is first made reasonably certain.

Hospital Practice and Clinical Memoranda.

CASES OF ANÆMIA.

MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF E. N. WHITTIER, M.D.

REPORTED BY CHARLES W. TOWNSEND, M.D., SENIOR MEDICAL HOUSE OFFICER.

In the following cases of anæmia, blood counts were made, from time to time, with a Zeiss hæmatometer, kindly loaned by Dr. H. F. Vickery. In all the counts, the number of blood-corpuscles in the whole number of squares — that is, in one-tenth cu. mm. of the diluted blood — were counted, and, at least, two, sometimes four or more counts were made, and an average of all obtained. With two exceptions noted below, the counts were all made by the reporter.

In the first two cases, the diagnosis of progressive pernicious anæmia was made, although the improvement under treatment in the second case, may be thought, by some, to disprove it. In the first case, the presence of albumen and casts in the urine, might be thought to point to renal disease as the cause of the anæmia, but from the fact that the specific gravity and daily amount of urine showed no serious impairment of the kidneys, and from the fact that the anæmia was so extreme, it seems more probable that the diagnosis of an idiopathic, rather than of a secondary anæmia, is the correct one.

Case I. The patient, Bridget A., entered the hospital, September 21st, 1885. Forty years old, unmarried, a domestic by occupation; born in Ireland. Family history good. Previous health generally good; had measles and whooping-cough when young, and erysipelas two years ago. Catamenia previously regular; became scanty six months before entrance, and has been absent for four months. Six months ago, began to feel poorly, having a tired feeling in the hips and back. During this time, has vomited nearly every day after eating, the vomitus consisting of food and mucus. Head feels dizzy, especially on exertion, and she complained of a buzzing sound in her ears. Dyspnœa on exertion; slight cough, at times, without expectoration. Slight swelling of feet and legs for six months. Bowels inclined to constipation. No history of hæmorrhages from mucous membranes. Rapidly increasing weakness and loss of color.

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[1] Ovarian Tumors, page 181.

On physical examination, the most noticeable point is the extreme pallor, the lips being nearly white. No emaciation, there being a very fair amount of subcutaneous fat. Slight œdema of feet and legs. Tongue clean and moist, but very pale and flabby; pulse rapid, regular, of fair strength. Nothing abnormal on pulmonary examination. Soft systolic murmur at base of heart. No enlargement of heart. Urine is yellow, acid, 1017, contains a faint trace of albumen; slight sediment of leucocytes, a few bladder and vaginal epithelium cells, and a few hyaline and fine granular casts, some with fat globules adherent. The twenty-four hours' amount of urine averaged ℥30, occasionally going as low as ℥20, and once as high as ℥80.

The bowels at first regular, with a tendency to constipation, became very loose during the last fortnight before death, averaging ten or a dozen dejections daily, not controlled by opiates. A dejection on November 5th contained a small amount of blood, this being the only hæmorrhage noticed in the progress of the case. The extreme pallor, gradually increasing, was, however, the marked feature, and the following blood counts, made with a Zeiss hæmatometer in the manner noted above, show the extreme anæmia. The counts showed no increase in the number of white corpuscles, and are as follows:

October 3d.	Average of	2	counts,	630,000	red	corpuscles in 1	c. mm.
" 18th.	"	3	"	561,000	"	"	"
" 27th.	"	3	"	558,333	"	"	"
Novem. 1st.	"	5	"	536,000	"	"	"

The basis for comparison being from 4,500,000 to 5,000,000 red blood-corpuscles in one cubic millimeter of normal blood, we have here a diminution to nearly one-tenth of the normal number.

The temperature generally fluctuated between 99° and 100° F., once or twice reaching 101°. The pulse was always above 100, generally in the neighborhood of 120. Respirations from 25 to 30. The patient took a large amount of liquid nourishment, and retained her flesh till the last week before death, when she was able to take but little food, and rapidly emaciated. Iron and arsenic were given for a few days, but were omitted on account of vomiting, which was a very persistent symptom, and was, at first, treated with pilocarpine, on the supposition that it was uræmic, without effect. Morphia in suppository was found to be of the most use in controlling this symptom. Urine and fæces were passed involuntarily for two weeks before death, although the patient seemed conscious and fairly rational to the end.

During the last week, she tossed about and groaned loudly at times, but when questioned, said she was perfectly comfortable. Three weeks before death, the pulse was imperceptible at the wrist for three days, then appeared again feebly, to be absent for two days before death, which took place November 16th. The friends, unfortunately, refused an autopsy.

CASE II. Lucy R., fifty-five years old, a widow, entered hospital July 8th, 1885. History of phthisis, apoplexy and insanity in the family. Previous health generally good. Has had no children or miscarriages. Catamenia ceased five years ago. Had worked hard as a nurse, and had been feeling poorly for a year, and losing flesh and color. The patient entered with a mild attack of peritonitis, and shortly after, developed lobar pneumonia, from both of which she recovered in the course of a few weeks.

The chief points in the physical examination were extreme pallor, with a slight yellowish tinge, amounting to bronzing on the neck and forearms; conjunctivæ of normal color. The urine always contained a moderate amount of blood, even when drawn by catheter, to avoid a possible vaginal discharge. The average analysis was as follows: Acid, dark, 1020, trace of albumen, considerable sediment of mucus, bladder epithelium, and free blood, and although repeated examinations were made, no casts were found, except on one occasion, when a few hyaline ones were discovered. On August 8th, she complained of abdominal pain, and vomited three blood-clots, one as large as a two-ounce bottle. Nothing abnormal was found on abdominal examination, except slight tenderness in the epigastrium. On the 24th of August, she was sent to the Convalescent Home, at Waverley, feeling, at that time, fairly strong. For a week she did very well, but at the end of that time, she again vomited a small amount of blood, and was brought back to the hospital September 7th, in a very weak condition. At this time, the extreme pallor was the chief feature, lips and finger-nails being nearly white. Her urine still contained blood, but no casts, and it was noticed that her gums bled easily. She was put on a full diet, with plenty of milk and eggs, and given saccharated oxide of iron, gr. v, and arsenious acid, gr. 1-40, three times daily. She steadily improved in strength, and also in color, as was evident on ordinary examination, and was also shown by the blood counts given below. Her temperature ranged from 98° to 100.5° F., and her pulse averaged about 90. Her bowels moved two or three times daily, slightly loose. Part of the first count was made by Dr. F. B. Harrington, the second by Dr. Harrington and Mr. F. C. Woodbury; the others by the reporter, and are as follows:

Sept. 10th and 11th.	Average of	4	counts,	1,239,500	red corp.	in 1. c. mm.
" 22d and 23d.	"	8	"	2,211,750	"	"
October 2d.	"	2	"	2,262,000	"	"
" 15th.	"	2	"	2,755,000	"	"

There was no increase in the number of white corpuscles.

The treatment with iron was begun September 10th, and the arsenic added September 12th, and the rapid improvement in the blood is noticeable. The fact that she was rapidly losing color before this treatment was begun, although she was under the best hygienic conditions, is certainly significant. The hæmorrhages from the stomach were slight, and insufficient to account for this loss of color, and the escape of blood in the urine and from the gums, continued during the improvement. She left the hospital October 17th.

In the two following cases, the diagnosis of pseudoleucocythæmia was made, the first purely splenic, the second lymphatic, and in both cases, the improvement under treatment, as shown by the blood-count, is noticeable.

Case III. Alfred M., twenty-five years old, a tailor by trade, entered the hospital September 23d, 1885. A native of Canada, where he has lived all his life, with the exception of the last five years, which were spent in Worcester, Mass. Family history good. With the exception of "slow fever" fifteen years ago, and typhoid fever seven years ago, his general health has been good. Never had chills and fever. Habits unobjectionable. For the last three years, patient has had a cough, with bloody mucous expectoration, and, at times, slight hæmorrhages from gums, lips, and nose, these hæmorrhages occurring nearly every day for the last year. Has never noticed blood in urine, or fæces. Has been weak and short of breath, and able to do but little work for over two years. For the last two years, he has been jaundiced, his urine dark-colored, and his dejections of a grayish-white color, with a slight yellowish tinge. A year ago, his attention was called by a physician, to a swelling in the left side of his abdomen, which has been increasing slowly since. Slight swelling of legs for eight months. Bowels generally slightly loose, averaging three or four dejections daily. Has lost, in two years, about twenty-five pounds in weight. Is free from pain.

The patient is markedly jaundiced and very pale; fairly well nourished: slight œdema of feet and legs. A few bilateral moist râles detected in the lungs, but nothing else abnormal on thoracic examination. Abdomen distended on the left side, where a smooth, hard mass is found on palpation, extending from under the ribs nearly to the median line, and downward to within two inches of the crest of ilium. This area is flat on percussion. A distinct notch is to be felt on the inner edge of the tumor, just above the umbilicus. Deep inspiration causes a descent of the tumor over an inch. No modification in size of liver. The urine was dark-colored, acid, Sp. gr. 1015, bile present in large amount, slight sediment, no albumen.

The treatment consisted of a liberal diet, and acid arseniosi, gr. 1-40, and Pil. ferri carbonatis, gr. iij, three times daily.

The patient's temperature, pulse, and respiration remained normal, and no apparent change occurred in the size of the spleen. The jaundice diminished slightly, and he improved noticeably in strength and color. The daily slight hæmorrhages, spoken of in the history, continued.

The improvement in the blood, as shown by the hæmatometer, was as follows:

October 8th.	Average of 3 counts,	1,814,666	red corpuscles	in 1 c. mm.
" 14th.	" 3 "	2,601,333	"	"
" 25th.	" 2 "	3,082,000	"	"

The proportion of white to red corpuscles was, at one count, found to be as one white to 348 red; at another time, one white to 770 red corpuscles — that is, within normal limits.

Patient was discharged November 14th.

Case IV. Wilhelmina H., forty-four years old, born in Sweden, married, entered the hospital October 14th, 1885. Family history good. Has previously been strong and well, and has had six children, one miscarriage, and one still-born child within a space of fifteen years, the last child being born four years ago. Catamenia since then have been regular. Three or four years ago, first noticed a small lump in the abdomen, near the navel, and several small ones in groins, axillæ, and especially in neck behind ear, all of which have been gradually increasing in size, the abdominal increase being most marked. During this time, has lost color, flesh, and strength, and has had palpitation and dyspnœa on exertion, most marked during the last year. Has had diffuse abdominal pain, not very severe, and inconstant; diarrhœa alternating with constipation for the last year, the dejections usually preceded and accompanied by pain, but followed by relief; at times, has noticed a slight amount of mucus and blood in the discharges. No hæmorrhages from other mucus membranes. Anorexia and a feeling of fulness after eating. No vomiting, headache, or jaundice. Slight swelling of feet for a few days.

On examination, the patient is found to be somewhat emaciated and pale. Numerous enlarged glands, from the size of a pea to a horse-chestnut, to be felt in the neck, both in front and behind the sterno-mastoid muscle, extending from the clavicle to the ear, where they form a noticeable tumor. Similar enlarged glands in axillæ; one or two near the nipples. Epitrochlear glands as large as the end of little finger. Numerous enlarged glands in both groins, extending down into Scarpa's triangles. None to be felt distinctly in popliteal spaces. Abdomen irregularly and considerably distended, chiefly in the umbilical region. On palpation, several large, firm masses, having a smooth surface, and slightly tender on pressure, are to be felt above and to the left of the umbilicus, and numerous smaller, less distinct masses elsewhere in the abdomen, but chiefly in the umbilical region. Skin freely movable over these bodies, which appear to be movable in the abdominal cavity. Slightly dull on percussion over the largest of these tumors, resonant elsewhere. No increase in hepatic area, and no enlargement of the spleen was detected. Heart normal. Feeble respiration, and a few moist râles at the base of both lungs. Urine normal. The blood-count on entrance, was — average of two counts — 1,649,000 red corpuscles in one c. mm., and the proportion of one white to 824 red corpuscles. She was put on a full diet, and given acid. arseniosi, gr. 1-40, and Pil. ferri carb., gr.iij, three times daily.

During her stay in the hospital, she had, at times, considerable abdominal pain and flatulent distension, due, it was thought, to the obstruction to the movement of the intestinal contents by the pressure of the abdominal tumors — enlarged mesenteric glands (?) — described above. Turpentine stupes, and especially enemata, followed by free dejections, gave relief to the patient. The temperature varied from normal to 100°, staying generally about 99° F. The pulse varied from 90 to 100, the respirations from 30 to 35. There was no apparent change in the size of the numerous tumors during her stay in the hospital, but her strength and color evidently improved. On November 1st, the blood count — average of two counts — was 2,505,000 red corpuscles in one c. mm., and the proportion of one white to 658 red. She was discharged November 26th.

In two other cases where the anæmia was very marked, and was due to definitely ascertained causes, namely, hæmorrhages, the blood was counted, and found to be as follows:

Case V. Catherine S., intestinal hæmorrhage for over eight months.

October 2d.	Average of 2 counts,	981,000	red corpuscles	in 1 c. mm.
" 18th.	" 2 "	1,154,000	"	"

Case VI. Hannah M., profuse uterine hæmorrhages for several years, dependent upon malignant disease. October 3d, one count, 1,478,000 red corpuscles in one c. mm. As a check experiment to test the accuracy of the instrument, the blood of a healthy man was also counted, and found to contain 4,680,000 red blood-corpuscles in one cubic millimeter.

TYPHOID FEVER IN SOMERVILLE, MASS.

BY THOS. M. DURELL, M.D., HARV.
City Physician.

DURING the latter part of August a case of typhoid fever occurred in a house just over the city line, in Medford. This house is located in a valley, the land around it which is used for farming purposes, and on which large quantities of night-soil has been used, slopes towards the house. The house is an old one with a damp, musty cellar, and a sort of shed in which is situated the well used for cooking and drinking purposes. The vault, or rather the hole in the ground used as a vault, is situated on a higher level than this shed, and is only twenty-four feet away from the well. This well is, practically, in the centre of this whole slope, and must, necessarily, catch all the filth from it.

The family living in this house at the time of the outbreak of the sickness, consisted of three persons, namely: father, mother and daughter; all of them took the disease, the mother's case proving fatal. The man who worked for this family, and who drank the water from this well, lived in one of four small houses located near this first one. These houses were close together and have one common vault. This man was sick some time before calling a doctor, and all of this time used the common vault.

There was another case in this house, one in the next, three in the third, and one in the fourth.

An analysis of the water from the well when the epidemic started (which was kindly made for me by Mr. Geo. H. Cowdin, of Somerville) showed large quantities of impurities and organic matter, some of these being in such large quantities as to be easily detected in the water as it came from the well without evaporation.

The main point of interest in this series of cases is their probable origin and method of transmission.

Therapeutical Memoranda.

WEIGHTED SHOES IN LOCOMOTOR ATAXIA.

A THERAPEUTICAL NOTE

BY ALLAN McLANE HAMILTON, M.D., OF NEW YORK.

THOSE of us who are in the habit of seeing locomotor ataxia, especially in its second and third stages, have our sympathies taxed to their utmost, by the helplessness of the tabetic patient and his difficulty of getting about. There is very little to be done at best, and for this reason the case seems sadder than ever.

For such ataxics I have been in the habit during the past four or five years, of suggesting a simple mechanical device which has done so much good, that I think it worthy of publication. I allude to weighting the anterior part of the feet. Many ataxics whose locomotion was exceedingly difficult and distressing, have worn their weighted shoes constantly since I ordered them, and have led far happier and more comfortable lives.

Those at all familiar with the peculiar heel gait of the ataxic, knows that there is more or less weakness of the peroneus longus, and a failure to act against its opponent, the tibialis anticus, which is strongly contracted. Buzzard and Jackson first called attention to this explanation of the disorderly walk which largely depends upon what the former calls the "over-movement of the associated muscles." The use of properly adjusted toe weights serves two purposes — *first*, to overcome the tendency to violent hyper-flexion, *secondly*, to create an exaggeration of subjective consciousness of movement and location. The loss of plantar tactile sensibility is compensated by the perception of weight. In some cases with the adjusted weight it is possible for the patient to walk in the dark, which under other circumstances he could not do.

The weight, which should not be so great as to produce fatigue, may consist of a leaden insole, or of a plate fastened between the soles. A few experimental trials will enable the physician to determine just how much lead is needed, and where it should be placed. For those cases which last some time, the degree of comfort is sometimes very great, and the patient's gait is less apt to attract the attention it would otherwise, thus saving him much mortification and giving him greater confidence.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 11th, 1886, DR. G. H. LYMAN in the chair.

DR. S. L. ABBOT read a paper on

PERICARDITIS TREATED WITH SALICYLATE OF SODIUM.[1]

DR. FRANCIS MINOT said that salicylic acid and its compounds have so extraordinary an effect in cases of acute rheumatism, that it is reasonable to suppose that they might modify the character and duration of pericarditis. The natural history of the disease, however, shows so variable a duration, that, in order to judge of the effect of a remedy, we must examine a large number of cases in which it has been used.

Da Costa has grounds for the opinion that pericarditis is not influenced by internal medicines. The speaker had had no personal experience in the use of salicylates in the treatment of this affection, but he had been disappointed with the effect of internal remedies in general, when given for its control. He is rather inclined to think that it is a self-limited disease, and, that unless the patient is broken down by rheumatism or otherwise, that the prognosis is good. He is inclined to treat it with external irritants, such as mustard or iodine, but not with blisters.

DR. JAMES AYER agreed with the last speaker, that, in order to form conclusions, we need to judge from a very large number of cases. Much can, of course, be done for temporary relief with morphia and digitalis.

DR. ROTCH remarked that it would be difficult to ascribe, in the third case, the disappearance of the friction sound during the administration of the salicylate of sodium, and its return on the drug being omitted, to the influence of the salicylate; as with the large amount of fluid represented by the readers' percussion in this case, a slight increase in the quantity of fluid might cause the friction sound to disappear, and an absorption of the same quantity allow it to be heard again.

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[1] See page 49 of this number of the Journal.

Dr. Lyman said that pericardial effusion has been looked upon with great dread, on account of its possible results, both present and future. He has. however, been led to change his opinion upon this point; for, while cases are not unusual, and while he has himself seen many recoveries, he has met with no death. He has not made use of any specific treatment.

He asked the Society if any difference has been observed in the effect of salicylates, dependent upon the form of rheumatism in which they had been used. With acute cases having large effusions into the joints, the effect, as is well known, is commonly marked. He had recently had a number of cases of acute fibrous rheumatism, in which there was pain, with heat, redness, and stiffness of the joints, and a dry tongue, but with no effusion; and in these cases, no benefit had been had from the drug. One of them had developed typhoid fever before recovery. The speaker was interested in knowing if any similar distinction had been noticed by others.

Dr. Abbot, in reply to what had been said in the course of the discussion, remarked that at no time had there been effusion enough in either of the cases reported, at least in those that had been continuously under his own observation, to conceal the sounds of the heart. This met the suggestion, that in the course of pericarditis, it might be possible to be deceived by the disappearance of the friction, when it was only muffled by the fluid in the pericardium, and would be likely to reappear when that was absorbed. In the first case, the signs of effusion disappeared with the friction sound. In the second, there was no evidence of effusion at any time. In the third, there was an increase of the cardiac dullness, but the sounds of the heart were not obscured, whatever may have been its cause. In the fourth, by the report of the physician in attendance, the sounds of the heart were perfectly distinct when the friction disappeared.

AN UNCOMMONLY LARGE FATTY TUMOR.

Dr. C. B. Porter said that he had to present to the Society to-night, a tumor, which is exceptional in many respects. It is from a woman forty-seven years of age, and she has carried it for thirty-five years, it having begun to grow at the age of twelve..

Secondly, its size is exceptional. It weighs ten and a half pounds, drained of its blood and of a large amount of serum, and the patient was kept in bed for a week before the operation, in order to reduce the congestion and œdema, both of which were much increased by the upright position.

Thirdly, in its gross appearance, it seems to be a fibromatous lipoma, although no microscopic examination has yet been made.

Fourthly, Bilroth states that fatty tumors are "very rare in children." This began at the age of twelve.

It hung pendulous from the middle of the outer surface of the right thigh, and it was surprising how little it impeded locomotion. Her carriage was such that no one would have mistrusted that she had such a growth, it being perfectly concealed under her skirts.

POISONING BY NUTMEG.

Dr. Lyman said that he had recently seen a woman in a state of hysterical delirium, more or less unconscious of what was going on, and from whom it was impossible to get any history. She was in this condition when discovered by her friends. She had a good pulse. On the following day, when she had recovered, she stated that she had eaten a nutmeg for its supposed effect on menorrhagia, and the speaker learns that there is an impression in the community that nutmeg is of value in that affection. Her symptoms were those that are stated in books to be caused by large doses of nutmeg. There was no effect upon the trouble for the relief of which it had been taken.

Dr. Buckingham said that he had reported a case of nutmeg-poisoning six years ago. His patient had taken two nutmegs, and complained of numbness, a feeling as of swelling of the head, an uneasy sensation at the heart, and drowsiness. Dr. Swift had had, he believed, a case at about the same time.

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OBSTETRICAL SOCIETY OF BOSTON.

The Twenty-fifth Anniversary of the Obstetrical Society of Boston was celebrated by a dinner at Young's Hotel on the evening of January 5th, which was the exact date of the organization of the Society. The Society met at half past six o'clock, and sat down to dinner at seven. All the members were present with the exception of four, who were unavoidably prevented from attending. The President, Dr. A. D. Sinclair, presided, having on his right and left the invited guests, Drs. Fordyce Barker, of New York, Gilman Kimball, of Lowell, and John Homans, of Boston. The post-prandial exercises were opened by the following address by the President, Dr. Sinclair:

Gentlemen: — We have met together this evening to celebrate the Twenty-fifth Anniversary of the Obstetrical Society of Boston. It is indeed appropriate that we should make this day memorable, for two reasons: first, because our Society is the earliest organization of its kind in the country; and secondly, because the social element has always been an agreeable feature of its meetings.

Let me then cordially greet you, each and all, assembled on this festive occasion, and especially our distinguished guests, who honor us this evening with their presence.

Our Society was organized during that period of great agitation which preceded the outbreak of our Civil War, and its childhood was more or less disturbed in consequence, like all things else, local and national. The infant Society, therefore, although of healthy parentage, was not robust in its earliest years. In its second and third years especially, signs of feebleness were so apparent as to alarm its promotors, who resolved that an effort be made to strengthen their precious offspring. Its nutrition and surroundings were discussed by the doctors, and change of scene, with cheerful social intercourse were suggested by one of the maturest among them. So earnest, indeed, was this last adviser, (Dr. Benjamin E. Cotting), that he offered to take the starveling under his own roof for a time, in order that a trial be made of the regimen he proposed. The treatment was successful. Others followed in due order, who adopted the same plan, and it soon became apparent that all signs of mental and physical weakness had disappeared from the once feeble body. Our meetings from that time have been held monthly at the houses of members, during nine months in the year. The scientific and social elements have blended at our meetings. Harmony and good fellowship have ever prevailed, and to be elected a member of the Society marks an era in the history of the candidates.

Of the sixteen (16) original members, the names of five (5) are now on the roll of the Society, namely: Drs. B. E. Cotting, George H. Lyman, John P. Reynolds, Charles D. Homans, and A. D. Sinclair. Seven (7) have died, namely: Drs. Walter E. Channing, John Homans, Charles G. Putnam, Anson Hooker, Charles E. Buckingham, Calvin G. Page, and Lucius M. Sargent. Four resigned.

The Constitution of the Society limits the number of its active members to thirty, who must also be members of the Massachusetts Medical Society.

I might narrate on this occasion much that is interesting in the early annals of our Society, but in so doing, I should only rehearse what has become already familiar to you in Dr. Cotting's history of the first one-and-twenty years of its existence.

I have already indicated that ours is the parent society of its name in the United States. Its inauguration day is not far behind that of the Obstetrical Societies of Berlin and of London. The former celebrated its twenty-fifth anniversary but a few months ago, the latter in February, 1884. By a singular coincidence, the first public meeting of the London Society was held on the same day of the month as ours, namely, the 5th of January, Anno, 1859.

The papers read from year to year, with the discussions which followed, and the numerous less formal communications made, have been worthy of our Society. Never has there been any desire apparent to magnify the individual at the expense of the subject treated; to ascertain the truth of the matter in hand has always appeared to be the salient motive in the work of our organization. Indeed, in a society so limited as ours, one in which the members are personally so intimately known to each other, other than honest efforts could find no recognition.

In a more formal address, I might be expected to review in a measure, the work done by this Society in the past five-and-twenty years. Fortunately for me, I do not feel called on to do that now. I will say, however, that little of what has been done at home or abroad to advance our specialties, has escaped observation, and a stone may have been added to the cairn of science within our own borders. Since the birthday of this Society, the science and art of midwifery has been remodelled and improved. Convulsions, placenta prævia, accidental hæmorrhage, and puerperal septicæmia have lost their terror on the one hand, as has abdominal surgery on the other. The department of diseases of women has adopted a new name, and become almost a new creation. We have, as a nation, good reason to congratulate ourselves that much of that which constitutes this advance has originated within our own country. Yet we can never forget to honor the great pioneers in obstetrics and gynæcology at home and abroad, who, by their genius and labors, have made future research easier for their successors.

It would be proper for me, as I have spoken the names of my early associates who have gone over to the majority, to pay a tribute to their memory on this occasion. This duty I have asked another, better qualified than myself, to perform, who will tell us of men, distinguished in their day and generation, who died beloved and regretted.

The grave has but just closed over all that was mortal of *him* who was *last* admitted a member of this Society. His untimely end has cast a shadow over us. Learned, manly, and amiable, he won the heads and hearts of his associates. In Dr. Frederick Howard Lombard the Society has lost a valuable and promising member, whose memory will not early die.

> " Lange leben ist nicht viel leben,
> Viel wirken ist viel leben."

We regret that distance, the season of the year, or physical infirmity have prevented many distinguished men, at home and abroad, from being present, the only alleviation for which lies in the spirit of their replies, which will be read to you in the course of the evening.

In concluding these introductory remarks, let me take this opportunity to express my thanks to our Committee of Arrangements, the result of whose labor speaks for itself in this sumptuous entertainment. Furthermore, let me here acknowledge the ready aid afforded me by associates on this eventful occasion in the history of the Obstetrical Society of Boston.

The history of the Society was then sketched by **DR. B. E. COTTING**, an honorary member, who was one of the founders and who had not long since published an account of its origin and growth.

DR. GEORGE H. LYMAN was called upon to speak to the memory of the deceased original members, and responded as follows: —

MR. CHAIRMAN: — You ask me to say something of the older of the original members of our Society; but though it was my privilege to be associated more or less with all of them, and though they were all men of marked individual peculiarities, I have really nothing to say which has not already been said.

Drs. Channing, Homans, Hooker, Putnam, Buckingham, and others, to whose fidelity we owe it that the Society did not abort in its formative period, were all of them men of large experience and wise foresight, and on such an occasion as this, it would be ungrateful in us not to recall their memory, if nothing more.

Dr. Channing, the oldest of them, the first Professor of Obstetrics at the Harvard School, and the first President of this Society, would have been one hundred years old had he lived to be with us this evening! Imagine if you can for a moment the changes in pelvic pathology, and in our knowledge of the diseases of the uterus, ovaries, etc., since he began to teach obstetrics and gynæcology at twenty-nine years of age. Think of the incredulity which the men of those days would have shown had any one prophesied the then almost immediate future of ovariotomy, hysterectomy and pelvic surgery generally! Ovariotomy was bitterly denounced by some of the best of them as unjustifiable. A reported and apparently well authenticated and successful case of removal of uterus and ovaries was unhesitatingly pronounced *a lie*, the speculum was quite generally considered as a vicious, immoral thing. Dr. Channing, I think, would have been the least incredulous of any of them, for he was always in the forefront of progress, and, being an enthusiast himself, was naturally disposed to contemplate future possibilities with an optimistic vision. He lived to witness the days of ether, and no one could have a better appreciation of the enormous value of such a discovery. His reputation for having wit and quaint diction are familiar no doubt to most of you.

Then came Dr. Homans, with his large practical experience, and that gentle courtesy that made him beloved of all men. I can never forget his pleasant recognition of myself, and his kindly advice as to deportment and personal habits, especially smoking, and though I soon discovered that he himself indulged in tobacco, a fact which took a little from the weight of his advice, it detracted nothing from the benevolence of his motive. He left such loving memories behind among his patients and friends as few others have, and a professional reputation which I am sure we all of us are here glad to recognize as being so worthily perpetuated by his immediate descendants.

Dr. Hooker was another marked character in the professional arena of those days, not so familiarly known, perhaps, in Boston, as his field was in another town, but he was a constant attendant upon our Societies, and those of you who were members of the Massachusetts Medical Society will remember well the deference which was always paid to his opinion on any question of obstetrics, and very naturally, too, for it was discovered later that his midwifery cases numbered nearly if not quite 10,000 — a very rare experience — the deductions from which by an intelligent observer could not have been otherwise than valuable.

Next we have a more recent memory, Dr. Putnam, with his operative skill and his helpful hand to every brother in trouble. Up to his day the use of the forceps was considered almost in the light of a capital operation, a dread alternative for dire emergencies only, and above all things requiring a previous consultation! Two, possibly three pairs were considered quite sufficient for Suffolk County, and any young man adventurous enough to own them was quite likely to be advised to leave them at home for fear of temptation. Dr. Putnam, so far as I know, was the first here to encourage their freer use, and no doubt some here present have a grateful remembrance of his unobtrusive but instructive assistance.

Of Dr. Buckingham, with his caustic pen and positive opinion, if sometimes too aggressive, always instructive, and never wilfully unjust, I need hardly speak, for he was even more of our own time. To appreciate his sterling merits, it was necessary to know him well, and be well known of him. His circumstances made every patient important to him, but never so much so as to tempt to mean or underhand ways, for I believe he was the soul of professional honor. He was one with whom a friend could in an emergency leave his patients with entire confidence. Such being the case, what wonder that any dereliction on the part of others should call forth his keen and cutting sarcasm, vigorously felt and vigorously expressed. He was taken just as the modern field of practice was coming into full view, and he in the full prime of his powers and usefulness.

In the days of the older of the men of whom I have spoken, the word gynæcology was almost unknown. In fact, I well remember a discussion among a small number of the staff in the hospital consulting-room as to its pronunciation, derivation, etc., when a journal bearing that title was produced as a curiosity. What would they have thought of some of the absurd affected nomenclature which has become current since; of Kolpo-Kleisis, Hystero-Kleisis, Hystero-Cysto-Kleisis, Kolpo-Stenotomy, Kolpo-Ecpetasis, Cysto-Ecpetasis, Cysto-Stenosis, Hystero-Ephelkosis-Anakainosis, and all the *-raphy's*, Trachelo, Perineo, etc. How they would have been sent incontinently to their dictionaries! But though many of these terms, and the procedures indicated by them, had not yet risen above the medical horizon, I have as yet seen no statistics proving that the mothers and wives, and especially the young women were very much the losers. I say this with some hesitation for fear of misconstruction, for I am a firm believer in a wise gynæcology, otherwise I should belie a large part of my own professional life. I have practiced it according to my lights for forty years, and under discouragements from my elders which are now happily unknown, but I am bound to confess my belief that many things are done in these days, and especially in the operative way, that had better be left undone. A distinguished hysterectomist in Edinboro, recently told me that he had come to the belief that the operation as now advocated was unjustifiable; that he considered the present mortality as much too high, in view of the fact that the mortality in cases not meddled with was still less, and that he should hereafter confine himself to those rare cases only in which a fatal result if let alone seemed inevitable.

We all know the story of laceration of the cervix, of colporaphy, of discission of the cervix, of electrolysis; we have all heard, on one hand, that the perineal body is after all a myth, and on the other, that the ovaries are of little or no account as a factor in many of the cases, in which a very few years ago they were supposed to be the chief source of trouble.

Probably all these operative procedures and many more which are to follow, were and will be necessary to the proper evolution of the subject, feelers as reaching in various directions to discover the right path, but I also believe that much of this sort of experimentation should be confined to stricter limits and to the hands of those of you who by experience and practical knowledge will be able to evolve from them solid foundations for your successors.

THE FUTURE OF THE SOCIETY

formed the subject of the remarks of **Dr. Alfred Hosmer**, who was followed by **Dr. John P. Reynolds**, who eloquently alluded to the past influences which had so largely contributed to the formation of such a Society, and humorously sketched the possible future of American obstetrics. **Dr. Fordyce Barker** responded for the guests of the evening, and **Dr. John Homans** replied in behalf of gynæcology. The closing speech of the evening was made by **Dr. Gilman Kimball**, who gave an account of his early ovariotomies.

Letters of regret at their enforced absences were read from Drs. Emmet, Thomas, Lusk, of New York; Skene, of Brooklyn; Goodell, of Philadelphia; H. P. C. Wilson, of Baltimore; J. Taber Johnson, of Washington; D. H. Storer, of Boston; W. S. Playfair, of London; A. R. Simpson, of Edinburgh; G. H. Kidd, of Dublin; T. Lasavewitch, of Kharkoff, and Professor Litzmann, of Berlin. The Society then adjourned, having voted to celebrate the fiftieth anniversary by a similar festive occasion.

— The *Medical Times and Gazette*, one of the four medical weeklies published in London, and one of the most readable of our exchanges, has, we regret to learn, suspended publication.

Recent Literature.

An Atlas of Clinical Microscopy. By Alexander Peyer, M.D. Translated and edited by Alfred C. Girard, M.D., Assistant Surgeon United States Army. First American, from the manuscript of the Second German edition, with additions. Ninety plates, with one hundred and five illustrations. New York: D. Appleton & Co. 1885.

Dr. Peyer's "Atlas" contains eighty-nine plates, illustrating the microscopy of the blood, mammary secretion, secretion of the female sexual organs, urine, sputum, contents of stomach, intestines, and abdominal tumors; and an additional plate, copied from Friedländer, illustrating certain micro-organisms. All the plates, with the exception of the one mentioned, and one other on the examination of blood, are original drawings. Most of the plates are very good; there are some exceptions, however, which detract from the value of the book. Among these, the figures of hyaline and of fibrinous casts may be mentioned as not accurately representing these bodies. The same is true of some of the figures representing the epithelium of the urinary tract. The sediment of the urine in acute parenchymatous nephritis, is not represented satisfactorily. The author has made too much of spermatorrhœa, we think; ten plates (one-ninth of the whole number), illustrate this condition. The text is inferior to the plates, and several of the author's statements are not reliable. A good work on clinical microscopy would supply a real want; we cannot, however, recommend this one as wholly satisfactory.

The translation is, on the whole, well done, though it lacks smoothness in some parts, and one is conscious, when reading the text, that it is a translation. The publisher's part of the work, it is, perhaps, needless to say, is above criticism. The plates are well executed, and the book is well printed on good paper. In these respects, the volume is a very attractive one.

Practical Suggestions Respecting the Varieties of Electric Currents, and the Uses of Electricity in Medicine, etc., etc.. By Ambrose L. Ranney, M.D., Professor of the Anatomy of the Nervous System in the New York Post-Graduate Medical School and Hospital, etc., etc. New York: D. Appleton & Co.

This very long title covers a small book of about one hundred and fifty pages, which gives a pretty fair *résumé* of what has been written recently about the practical methods of applying electricity in medicine. It would have given sufficient information if the references to the makers of instruments had been omitted from the text, as well as from the illustrations, and, in our opinion, would have been in better taste.

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, M.D. Fifth edition. Revised and corrected. With colored plates and wood engravings. Philadelphia: P. Blakiston, Son & Co. 1885.

The rapidity with which successive editions of this manual are exhausted, proves that it supplies a demand. The present edition has been carefully revised and somewhat enlarged. The new tests for albumen, which have been suggested during the past few years, have been introduced; also additional tests for sugar — namely, the picric acid and potash test, and the indigo-carmine test. Place has also been given to the determination of sugar by polarimetry, and to the consideration of mucin, peptone, inosite, levulose, lactose, and acetone and acetone-producing substances. We have had the pleasure of recommending the earlier editions of this book, and it is sufficient to repeat the opinion we have so frequently expressed, that it is an excellent book; the best of its kind in the English language. It should be owned by every practitioner and student of medicine.

An Introduction to the Study of the Compounds of Carbon; or Organic Chemistry. By Ira Remsen, Professor of Chemistry in the Johns Hopkins University. Boston: Ginn, Heath & Co. 1885.

We recommend the book as one well adapted to the needs of those who are beginning the study of organic chemistry. The number of compounds treated of is smaller than is usual in works on organic chemistry; the compounds selected being such as best serve to make clear the fundamental principles of the science. The author has endeavored throughout to present the subject in such a manner as will lead the student to see for himself the reasons for adopting the prevalent views in regard to the structure of the carbon compounds. More than eighty carefully-selected experiments, such as may be performed in any chemical laboratory, are described, illustrating the methods used in preparing the principal classes of compounds, and the fundamental reactions involved in their transformations. This is a feature of the book which specially meets with our approval, believing, as we do, that experimental work of this kind is necessary, if the student is to get a clear idea regarding organic compounds and their changes.

Brain Rest: being a Disquisition on the Curative Properties of Prolonged Sleep. By J. Leonard Corning, M.D., Formerly Resident Assistant-Physician to the Hudson River State Hospital for the Insane, etc. Second edition. New York and London: G. P. Putnam's Sons; Knickerbocker Press. 1885.

This edition is revised and enlarged, with additional illustrations. The book is written in an interesting style, and although it will, perhaps, attract the lay reader rather than the physician, the latter will find considerable practical information on the systematic treatment of insomnia, besides much on the circulation of the brain, and the physiology of exhaustion and repair. The author's instruments for carotid compression and simultaneous application of electricity, are described at some length, and their uses explained. Whether this invention, which is intended to lessen the cerebral circulation, will prove as valuable in the hands of the profession at large, as in those of its projector, is a question of the future. The book contains one hundred and thirty-five pages, and is of a convenient size for the pocket.

Acne, its Etiology, Pathology and Treatment. By L. Duncan Buckley, A.M., M.D. New York and London: G. P. Putnam's Sons. pp. 280. 1885.

This book is a comprehensive, painstaking and trustworthy treatise, not only upon what is commonly known as acne, but upon the diseases of the sebaceous glands in general, and is worth the attention of any one interested in the subject. G. H. T.

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LAPAROTOMY IN PENETRATING STAB AND SHOT WOUNDS OF THE ABDOMEN.

The rapid progress of surgery in the past two decades has presented to the mind of the surgeon a series of more or less difficult problems in regard to the advisability of novel operations or methods of procedure, which are earnestly recommended by some surgeons and perhaps as decidedly condemned by others.

One of the most interesting of these problems, the question of laparotomy in wounds of the abdomen, is, however, by no means a modern operation as Heister, in his work on Surgery published in 1739, speaks favorably of it, even quoting a successful case, and the various authors of the brilliant era of military surgery at the beginning of this century, discuss the subject fully.

Of late years some enthusiastic spirits have claimed for the operation as great a future and as recognized a position as that of ovariotomy; but at a recent discussion on the subject by the Surgical Section of the New York Academy of Medicine, a much more conservative opinion was expressed. The various sources of danger, arising from unfavorable surroundings of the patient and the lack of a thorough knowledge, by the surgeon, of the details of the operation, were fully recognized, and it was well said that laparotomy for wounds of the abdomen "is not to be attempted, even in so-called favorable cases, unless the operator could avail himself of many of the recognized means of procedure necessary to control the shock of the operation and were sufficiently familiar with its steps to accomplish the work with accuracy and despatch."

A discrimination was made in favor of stab wounds, which, as a rule, are not associated with such dangerous symptoms as shot wounds. In the latter no particular attention need be paid to the character and calibre of the weapon, as Parkes' series of experiments on dogs[1] prove that no exact relation exist between the extent of the injury and the size of the missile. In regard to the position of the wound, it should be said that Hamilton's observations seem to show that wounds in the inguinal regions have a remarkable immunity from serious results.

The important practical elements in the consideration of these cases are shock, hæmorrhage, and escape of fæces, and the main difficulty lies in properly estimating, in a given case, to what extent hæmorrhage is a factor in the production of the shock. Although a varying amount of shock may be caused by the blow of the bullet or weapon, especially if the wound is near the epigastrium, the statement can still be safely made, that in most cases, if the shock is considerable, hæmorrhage is taking place. The anatomical relations of the omentalic and mesenteric vessels are such as to cause them to bleed very rapidly after injury, to which they are especially exposed, so that a wound of a small vessel may give rise in a short time to a considerable and even to a dangerous hæmorrhage. Hence laparotomy, if done at all, it is to be done at once, or as soon as the necessary arangements can be perfected. The presence of meteorism is, of course, an indication of injury to the abdominal viscera, but it should be borne in mind that visual proof of perforation is required, even the protrusion of the gut through the external wound not being conclusive on this point. Perforation also is not invariably fatal, as several cases of gun-shot wounds of the abdomen with recovery, accompanied by the passage of the bullet per rectum in from three to forty days, are reported in the surgical history of the War of the Rebellion. The actual escape of fæces, however, is an occurrence most to be dreaded by the surgeon, and, in common with any other like symptom, such as a gush of urine, indicating with certainty a laceration of the abdominal viscera, is the strongest inducement to laparotomy which in such a case most probably offers the only chance for recovery.

The probable occurrence of hæmorrhage, as indicated by an excessive amount of shock is also a strong incentive to active surgical interference, and is thought by many to justify an exploratory incision which allows the entrance of air into the abdominal cavity and thus momentarily checks the hæmorrhage. If, then, actual laparotomy is done the difficulties of the operation are much increased by the fact that the surgeon is not concerned with an abdominal cavity whose walls have been rendered flaccid and more or less atrophied by the long-continued pressure of a tumor, or where the bleeding area is circumscribed by the nature of the case; but that he has to seek for a bleeding point in a so-called cavity all of whose contents lie throughout in very close contact with each other, and where even the normal relation of the various organs may be disturbed and clouded by coagula, all of which may have to be carefully removed before the lacerated vessel is found. Hence it has been justly remarked that "the intestines and omentum should be thoroughly examined by a preconceived method rather than by the rough handling associated with illogical haste." In fact the true answer to the question of danger in these cases will be found to lie in the *amount of hand-*

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[1] Journal of American Medical Association, 1885.

ling of the viscera required in order to check the hæmorrhage, remove coagula or fæces, place intestinal sutures if necessary, and perform the toilette of the peritoneum.

It is, however, in the doubtful cases, where there is no proof of laceration of the viscera and the evidence of hæmorrhage is slight, that conservative surgery holds up a warning finger to the ambitious operator and, reminding him that the patient may recover under expectant treatment, points out the many difficulties and dangers of the operation as it is at present understood. Whatever new facts the future may bring to light it cannot be expected that laparotomy for penetrating wounds of the abdomen will ever become a routine procedure, but it may be confidently hoped that its position will be a high one amongst those operations which are only to be attempted, with strict observance of cleanliness, by a surgeon possessing some experience of the parts affected.

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THE PLEA OF INSANITY AND EXPERT TESTIMONY IN THE GOODWIN CASE.

Last August (27th), Mr. Goodwin, of Lawrence, Massachusetts, went into the office of Mr. Swan, and after a quiet talk shot him dead through the back of the head. There had been no altercation or violent talk overheard, and the two men were within easy sight and hearing of a clerk. Goodwin at once telephoned to the police to arrest him, and, upon their not coming, went to the station and gave himself up. He was in great need of money and claimed that he had been overreached and defrauded by Swan, as was probably true, in regard to some investment of his and in business transactions arising out of them. He acknowledged that he had gone to Swan's office with the intention of shooting him in case he did not get satisfaction for his wrongs, which were real, in part at least and perhaps altogether. So far Goodwin acted with all the method of the sane man, and there was, as he said, reason for extreme anger on his part at his treatment by Swan. He was an ill-balanced man, intensely devoted to one idea at a time and with fixed ideas so strong as in some cases to suggest the doubt whether they were wholly the false beliefs of a sane man, if not entirely the morbid delusions of an unsound mind. He was apparently quite honest in his statement, for instance, that the jury would bring in a verdict, in his case, of justifiable homicide.

Goodwin's father was preacher, poet, painter and farmer, eccentric, with a quick, violent temper, and subject to periods of mental depression. He died in Libby prison. His son showed similar qualities in early boyhood. A great-uncle's insanity was perhaps an exaggeration of the family tendency, perhaps accidental. Goodwin had been a prisoner at Andersonville during the war of the rebellion and came away emaciated, dull, stupid, and almost in a condition of mild, simple dementia from the starving, exposure and various horrors of that place. One friendly witness testified that the particular murder was a surprise to him, although he had seen Goodwin in a state of mind when he might have killed some one else.

Mr. Goodwin was shown to be clearly not of a thoroughly sound and normal mind. Indeed, no reasonable person familiar with his history, would think of maintaining that he could control his actions to the same extent as may be fairly expected of mankind in general, and yet few men well acquainted with mental disease, would testify that he was insane in the sense of being fully irresponsible for the deliberate and premeditated murder, even of a man who had grossly wronged him. It was the old question that came up with such force in the trial of Guiteau, when passion and party feeling were too strong for it to be fairly answered, at what point medical insanity or unsoundness of mind becomes legal insanity, or irresponsibility for crime; and there are some indications for the belief that Goodwin may have had, in a mild degree, the same form of insanity which, in Guiteau, was pronounced, primary insanity (*primäre Verrücktheit*).

In strict law, Goodwin should have been either hanged for murder, or acquitted on the ground of insanity. But, although the law does not recognize a limited responsibility, the court or the jury often does, and in this case, the judges evidently meant to make a verdict of murder in the second degree possible to the jury, in that they dwelt particularly upon the fact that the law does not define the amount of premeditation necessary to constitute murder in the first degree. The sympathy of the jury was naturally in favor of a man of narrowed limitations of self-control when exasperated to the last degree.

A distinguished surgeon of New York was called, as an expert, by General Butler, senior counsel for the defence, to answer the hypothetical question, which implied the insanity of Goodwin; but several physicians giving evidence for the government, without special training and experience in mental disease, upon protest from General Butler, were not allowed by the court to testify as experts — a step in advance, for which Judge Allen and Judge Gardner deserve the thanks of the medical profession and the community.

The verdict of murder in the second degree is, probably, quite satisfactory to the public, and to the scientific students of insanity, and we congratulate the attorney-general, as we have had occasion to do before, upon having prevented the plea of insanity from being used as a cloak for crime. Those politicians who think General Butler to be in his dotage, or breaking up mentally, evidently did not attend this trial, and have not conversed with the medical witnesses cross-questioned by him.

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THE CODEX COMMISSION'S REPORT ON PEPSIN.

Probably no medicinal agent is more extensively prescribed than pepsin, and there is, perhaps, none concerning whose real efficacy more doubt exists in the professional mind. The indications for its administration are not clearly established, nor is it certain that this substance, even with the addition of a dilute mineral acid, has precisely the same action in the human stomach on the ingredients of a meal as it has out of the body on albumen in a test tube. However this may be, there is a real interest in knowing the best means for determining the purity of this now standard medicament, for inert preparations abound.

It has been shown that it is not enough that the sample which is the subject of experiment shall dissolve a certain quantity of coagulated white of egg; this result may be obtained with pepsins of feeble digestive power, and simple solution is not peptonization.

Dr. Pierre Vigier, of Paris, appointed recently member of the Codex Commission to revise the pharmaceutical methods in use for the assay of pepsin, has published the results of a long series of experimental researches. He gives the following formulæ, which has been adopted by the Codex. A pepsin which will respond to this test is regarded as of good quality.

FORMULA A.

Take of Medicinal Pepsin in powder	0.50
Or Pepsin Extractive	0.20
Distilled Water	60.00
Hydrochloric Acid	0.60
Fibrin of sheep, calf, hog, washed and dried in the air	10.00

This mixture is subjected, in a wide-mouthed flask, to a temperature of 122° F. for six hours. At the end of this time, the filtered liquid ought not to show a precipitate, or become cloudy by the addition of a few drops of pure nitric acid, which is an indication that all the fibrin has been peptonized.

Vigier finds that the greater part of the pepsins of commerce have a digestive power greatly inferior to that required by the above standard. They may, indeed, dissolve fibrin in quantity very greatly in excess of their weight, but a copious precipitate will follow the addition of the nitric acid, which shows that the fibrin has not been peptonized, and, as is well known, the albumen is not assimilable except under the form of peptones. The only reagent which enables one to estimate the peptonizing power of a pepsin is nitric acid, introduced drop by drop; and, after numerous trials, Vigier has ascertained that it is best to employ for this test a fixed quantity of ten grammes of filtered liquid to which is slowly added, *guttatim*, nitric acid up to forty drops; above that quantity, the acid redissolves the precipitate formed.

The same experiments have shown that although the temperature of 122° F. (50° C.) is higher than that of the stomach, yet the maintenance of this temperature is necessary for a perfect result.

The Commission of the new Codex has, in accordance with these experiments, adopted the following criteria: "Pepsin in powder, or medicinal pepsin, obtained from pepsin extractive by the admixture of a certain quantity of dextrine, or starch, ought, in a quantity not exceeding fifty centigrams, to peptonize ten grammes of fibrin.

"The pepsin extractive (officinal pepsin of the Codex of 1866), which is found in commerce under the form of a brown extract, ought, in the dose of twenty centigrams, to peptonize ten grammes of fibrin."

The report of Vigier adds that these figures are not exaggerated; there are pepsins in the market, and among them that of Boudault, whose digestive power is twice as great as that indicated above. The fibrin employed is obtained by whipping the blood of a sheep, a hog, or a calf; that obtained from the blood of the ox is found, practically, not so good for the purpose.

Pepsin acts only in an acid medicine; the hydrochloric acid, which is the acid of the gastric juice, is that to which the preference should be given. The quantities of acid and water given in the above formula have been fixed upon after numerous tentatives, as those certain to give the best results.

An interesting experiment is given illustrative of the power of a limited quantity of pepsin to peptonize an indefinite quantity of fibrin, provided new supplies of acid are added at the same time. A complete artificial digestion having been obtained, in accordance with the conditions of the above formula, to the contents of the flask, still unmolested, a fresh quantity of fibrin was added, with a proportion of acidulated water equal to that already employed; at the end of six hours the digestion was perfect. This operation was repeated three or four times with the same result, only after the fourth digestion, the filtered liquid become slightly cloudy on the addition of a few drops of nitric acid. This experiment shows that the encumbering action of the peptones in artificial digestions diminishes in proportion as they are further diluted, and that the digestive power of the pepsin is augmented in the same ratio. It also shows that pepsin acts after the manner of living ferments; "from this," says M. Vigier, "we obtain a hint as to the beneficial effects of drinking freely during meals."[1]

The formulæ for the Wine and Elixir of Pepsin adopted by the Commission of the New Codex are as follows:

WINE OF PEPSIN.

Medicinal Pepsin	5 parts.
Muscadel Wine	100 "

ELIXIR OF PEPSIN.

Medicinal Pepsin in Powder	1 part.
Alcohol at 80	3 parts.
Syrup	8 "
Distilled Water	9 "
Flavor *ad libitum.*	

Twenty grammes of the Elixir or Wine of pepsin are equivalent to one gramme of pepsin in powder, and this quantity is necessary to digest ten grammes of fibrin.

As the strong alcohols precipitate pepsin from its solutions, it is only in a very dilute state that they can be used in conjunction with this medicinal agent; hence, for the preservation of pepsin, menstrua are chosen, as in the formulæ above given, which contains only ten to fifteen per cent. of alcohol. The amylaceous pepsins (like Boudault's), give better preparations with dilute alcohol than the saccharated pepsins.

The glycerites of pepsin, according to the Codex Commission, have little activity, and it is the same with respect to other preparations which contain associated with pepsin, other ferments, such as pancreatine, or pharmaceutical products, such at hydrochloric acid, coca, quinine, bismuth, iron, etc.

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[1] Bulletin gén. de thér., Nov. 30th, 1885.

The Commission, in concluding, emphasize the importance of the physician or pharmacist testing every preparation of pepsin of which he is the prescriber or vendor, in order that he may know the quality thereof, and if it be a faulty article, avoid its use or delivery. For such purpose, the very best criterion is the formula A. above given.

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MEDICAL NOTES.

— Mlle. Tarne, Doctor of the Paris University, has been appointed honorary physician to the Queen of Italy. This lady passed, four years ago, brilliant examinations. There are now three women who are house students in the Paris hospitals.

— Leopold von Ranke, now more than ninety years of age, presents the anomaly of a man who has never taken any physical exercise, and is yet in perfect health. The great German historian has almost lived in his library, working for fifteen hours a day, and he has laid out more work which he hopes to complete before his one hundredth birthday.

— Lieut. Greeley has recently returned to Washington. His health is greatly improved, and he is now quite robust, although still suffering somewhat from his back. He greatly enjoyed his stay in Great Britain, and is enthusiastic regarding the treatment he received there. Wherever he went he was heartily welcomed.

— The headlong haste with which certain of our countrymen have accepted Pasteur and his hydrophobia inoculations as the heralds of a new era in medicine, has received a check, and from no less a person than Pasteur himself. The correspondent of the *Boston Herald* telegraphs, under date of January 4th, that the great chemist that day received a dispatch from the president of the Pasteur Institute in New York, asking if M. Pasteur would receive a medical man, who knew French, to study in his laboratory and learn his methods. M. Pasteur said: "These gentlemen are in too much of a hurry. It is premature to attempt anything yet. Wait until we see how the cases already treated turn out. Wait until we see how the Newark children get along. Wait, at least, until March, when the series of experiments, already commenced, will enable me to make known facts and data much more specific and detailed than anything yet published. Of course, I feel very much flattered to hear that Americans have thought fit to give my name to the institute, but in the pure interest of science delay is needed, as everything so far is merely experimental." "What answer shall you send?" M. Pasteur replied: "I shall telegraph, 'Vous allez trop vite.'"

NEW YORK.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held January 14th, the president, Dr. Frank H. Hamilton read a paper entitled: What are Legal Limitations of the Right of Private Judgment in Surgery; Does the Omission to employ Antiseptics justify an Action for Malpractice? The committee on cremation made a report strongly in favor of this mode of disposal of the dead, and presented a resolution recommending a bill for passage by the Legislature which provides that the bodies of all persons who die of contagious diseases, such as small-pox, yellow-fever and cholera, shall be cremated under the direction of the municipal authorities. Action on the resolution will not be taken until the next meeting.

— The graduating exercises of the Training School for Nurses attached to Bellevue Hospital took place January 14th, at the Nurses' Home, in East 26th Street. Mr. William E. Dodge presided, and Dr. E. L. Keyes delivered the address to the graduates, of whom there were twenty-four. The annual report showed that two hundred and forty-four nurses had been graduated from the school during the past ten years, and that of these but five have died, twenty-two are married, and twenty-eight have responsible positions in hospitals as heads of training schools, matrons and chief nurses. One hundred and eighty-four still continue to practice their profession in hospitals or private families, and four of the nurses are connected with St. Paul's Home for Trained Nurses in Rome, Italy, where their services have been much appreciated by Americans visiting or permanently residing in the city. There is at present the full quota of students at the Bellevue school, sixty-four.

—The State Board of Charities held a three days' session in Albany, ending January 14th, and its annual report will shortly be presented to the Legislature. In it, it is stated, that there is no evidence of any considerable increase of pauperism in the State; but the increase in the number of the insane appears to be greatly in excess of that in population, and there is great necessity for further accommodations for this class. The evils arising from the shipment to this country, and especially to New York, of lunatic, imbecile, and otherwise infirm and disabled Europeans are fully set forth, and the conclusion arrived at that the remedy for this lies in the modification by Congress and more rigid enforcement of the Federal laws regulating emigration, by which these burdensome classes shall be effectually precluded from landing in America.

— The thirteenth annual report of the New York County Visiting Committee for Bellevue Hospital and other public institutions of the city calls attention to the fact that about 14,500 persons are now under the charge of the commissioners of charities and correction. Some improvements in the accommodations for these have been made during the year; but many others are still needed, and the prevalence of contagious ophthalmia among the children in the various institutions, due in great measure to imperfect quarantine, overcrowding, improper food, and bad drainage, as shown by the statistics recently collected by Dr. Derby and others, is especially commented on. A conspicuous example of overcrowding was found by the committee in the city female lunatic asylum on Blackwell's Island, which with a capacity for 1,250 patients, contained on October 1st, 1885, 1,629. "Trained nurses," says the report, "are greatly needed in the Bellevue Pavilion for the Insane. This pavilion is like a prison. No books, no occupation, not a strip of carpet, not a comfortable chair, not even a curtain to hide the grated windows." In regard to the condition of grammar school No. 6, on Randall Island, it says: "The absolute foulness of the air in which these apparently sickly children pass so many hours during the day beggars description. There is simply no ventilation whatever.

— An "American Pasteur Institute" has been organized, and among its incorporators is Professor Alexander B. Mott, of Bellevue Hospital Medical College. Its objects are defined to be "the gratuitous cure and treatment by the Pasteur system of inoculation, or such variations thereof, and improvements thereon, as science may develop, of all persons suffering from, or threatened with, or in danger of hydrophobia, or any other disease to which the system of inoculation may be found applicable, and the scientific examination of the causes, development, and improved means of prevention of hydrophobia and other diseases through inoculation or kindred methods." Dr. Billings, with the four Newark boys who have been inoculated by Pasteur, landed in New York from Havre, January 14th.

— A number of physicians have addressed a memorial to the Board of Health, requesting the latter to use its influence to secure the passage, by the Legislature, of an act which will protect medical practitioners, who, in good faith, report contagious diseases, against suits for damages, in case the affection does not prove of the character suspected.

— Mr. Am Ende, the Hoboken druggist who caused the death of two young ladies in August last, by compounding morphia in a prescription, in mistake, for quinine, has been acquitted, the defence being that the mistake was such as was liable to occur in any drug store, and that the defendant was suffering from overwork at the time.

— The reports of the Saturday and Sunday Hospital collection received up to January 15th, show the gratifying amount of $37,393.

— In consequence of the great reduction in the appropriation for the Board of Health for 1886 from $469,758 to $319,800, a large number of inspectors, sanitary engineers, clerks, and other officials, have been discharged; while the salaries of those remaining have been cut down about twelve and a half per cent.

— The report of the Board for the last quarter of 1885, shows that during that time, the sanitary inspectors made 85,934 inspections. 2,738 complaints of food adulterations were investigated, and 860 quarts of milk, and 173,719 pounds of meat and fish were condemned. The sanitary police made 29,256 inspections; 481 cases of contagious diseases were visited, 2,896 vaccination certificates were issued, 33,115 persons were vaccinated, and $1,429 was received from the sale of virus. Defects in plumbing and drainage were investigated in 25,660 cases. The report for the whole year, of Dr. Cyrus Edson, Chief of the Second Sanitary Division, shows that, in 1885, 7,006 specimens of milk were examined, and 1,701 quarts of adulterated milk destroyed. There were ordered destroyed, 72,700 pounds of candy, 540 pounds of head cheese, 37,905 pounds of canned goods, 5,160 pounds of cheese, 4,000 pounds of pickles, 212,000 pounds of fruit, and 790,410 pounds of meat and fish.

— There has been quite a serious epidemic of typhus fever in the Albany Penitentiary, and among its victims was the resident physician, Dr. Joseph W. Reilly, who died at his home in West Troy, January 15th, after two week's illness. Between December 1st and January 11th, seventeen of the inmates died from the disease.

— The fifteenth annual dinner of the Alumni Association of the Medical Department of the University, came off at Delmonico's, January 14th. Prof. J. W. Wright, in responding to the toast, "The Medical Department," said that the sum of $50,000 was needed for the erection of a building to contain a laboratory and dispensary, and a small medical and surgical hospital, and that one-half of that sum had been already conditionally promised.

Miscellany.

THE LATE DR. J. H. WHITTEMORE.

At a meeting of the trustees of the Massachusetts General Hospital on the 9th inst., upon the announcement of the death of Dr. James H. Whittemore, late resident physician of the Hospital, a well-deserved tribute was offered by the chairman in the following "minute," which was unanimously adopted, and ordered to be spread upon the records of the trustees:

MINUTE.

The death of Dr. Whittemore is deeply felt by the trustees. They recall the high qualities which fitted him for the service of this institution, and which, in his long connection with it, were constantly ripening.

His energy, his quick response to every call upon him, his administrative ability, his seizure of every opportunity to advance the work under him, his independence, his sympathy and his comprehensive grasp of the interests in his charge, alike those of patients, attendants, nurses, officers, staff and corporation, were easily recognized by all his associates.

He served the hospital and asylum for twenty years: for half this time as resident physician of the hospital. Each year of his administration has borne witness to his power and fidelity.

Always ready to suggest improvements and to receive the suggestions of others, he carried out a plan once determined with signal ability.

The loss of his devotion to the hospital is not to be measured by words. It is to be appreciated hereafter even more than at present, and yet there is no one of us, even now, but fully shares in the sorrow for his departure.

Nor is thankfulness wanting, both for the honorable career that has been fulfiled, and for the peaceful ending of sufferings and anxieties borne with a cheerful fortitude above all praise. His memory will long be cherished by the officers and friends of the hospital he loved and faithfully administered to the very close of his life.

THE SALEM, MASS., HOSPITAL.

The tenth annual report of this institution is issued by the Superintendent. The number of patients admitted to the Hospital during the past year was 140. Of these, 42 were medical, 98 surgical; 82 were males and 58 females. The average number of days passed in the Hospital by free patients was $32\frac{1}{4}$, and by those paying board, 13 4-7. Board was furnished to free patients 533 weeks, and to those paying board, 14 weeks. The Eastern Railroad bed was occupied 216 days, the Naumkeag Mills' 170, and the Salem Lead Company's 20, and 63 days' board was furnished to United States patients. The number of patients paying board was much less than in previous years, as, owing to the increase in the funds, the Trustees did not wish board exacted from any who could not easily afford to pay. Thus many were admitted free, who, in former years, would have been expected to have paid something, at least. The largest number of patients in the house at any one time, was 21; the smallest number, 8. The average cost of board was $2 per day. During the year, quite extensive additions have been made to the building of the hospital, and the trustees hope, the coming spring, to begin work on an isolated ward.

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PROLONGED GESTATION WITH ANENCEPHALOUS FŒTUS.

The prodigious size of many anencephalous fœtuses, says the *London Medical Record*, must have struck the most careless visitors to any large pathological museum; yet it does not seem to have been noticed, even by writers of monographs on teratology, with the single exception of Isidore Geoffroy St. Hilaire. Dr. Huber believes, from a case which came under his observation, that this abnormal bulk is consequent on a prolonged period of gestation. The case in question was that of an unusually intelligent and trustworthy woman, who stated positively that she menstruated last on August 15, 1869; first felt the fœtal movements on January 6, 1870, and was delivered on July 10, 1870, of an anencephalous fœtus weighing six Bavarian pounds. The fœtal movements, therefore, were felt on the 144th day, or 20th week of pregnancy, and delivery took place on the 327th day, instead of the 280th. The legal bearings of such prolonged gestation are obvious, and there is reason to think that prolonged gestation occurs more frequently than is commonly believed. Huber (*Klinik der Gebürtskunde*) reports two cases of 304 and 310 days respectively; and Löwenhardt, out of 245 cases, gives seven which extended beyond 305 days, as do Schlichting and others. In these, however, the fœtuses were normally developed.

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LABOR DURING HYPNOSIS.

Dr. Edward Pritzl announces in the *Wiener Med. Wochensch.*, a case of this kind, the first, he thinks, on record. The case is summarized in the *London Medical Record*, December 15, 1885. A young woman was under his care in a lying-in hospital who, he had reason to believe, would be easily brought into a hypnotic condition; and some preliminary trials showed his surmise to be correct. When, therefore, the case ultimately proved to be one in which narcotics should in the usual course be employed, Dr. Pritzl determined to give hypnosis a trial. In spite of her pain and the nervous excitement produced by the presence of several medical men, who wished to witness the experiment, the woman, after looking but a few seconds at the brilliantly illuminated thermometer bulb that was passed before her eyes, sank back unconscious. The following observations were made. The intervals between the pains lasted nearly two minutes; the pains themselves were more violent than is usual under a narcotic, and lasted on an average fifty seconds, being at their height actively aided by the pressure of the abdominal muscles, and the intensity of the latter was quite normal. The patient was perfectly insensible, but the left lower arm was cramped and the left leg became stiff. There was no change observable on the right side. She turned her head hither and thither as if she were angry, frowned and groaned. In the intervals, she resembled one asleep. In forty-five minutes from the time she became unconscious, a healthy child was born. In forty-five minutes after this, the woman was roused from her sleep, and would not believe she had been delivered, being hardly willing to own the child. The case up to the time of writing had taken a favorable course. Dr. Pritzl lays stress on the following points as remarkable. 1. It was easy to induce hypnosis in such a case as labor. 2. The pains were violent enough to arouse reflex action of the abdominal muscles but not to rouse the patient. 3. Evidently the hypnotic state accelerated labor; for it had been expected to last several hours. 4. The afterbirth stage, which lasted forty-five minutes, was remarkable for the character of the pains which, though short, were intense, and assisted by abdominal action; and the loss of blood was only about 300 grammes (mostly coagulated). Dr. Pritzl has similarly experimented in two other cases, which, though successful, were neither so rapid nor so perfect.

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Correspondence.

HUMANIZED AND BOVINE VACCINE VIRUS.

Providence, January 16, 1886.

Mr. Editor, — I again ask permission to reply through your columns to the statements of Dr. S. C. Martin. I have no desire to enter into a discussion as to the relative merits of humanized and bovine virus. I simply wish to show that, with proper care a stock of humanized virus can be maintained with character unimpaired for a long series of years, and also to show how erroneous is the purely imaginary picture which Dr. Martin draws of the effects of the virus which is now in use by the Health Department of this city.

During the thirty years that this virus has been used over 47,000 persons have been vaccinated by this department, and not a single one of these has contracted small-pox, though the disease has many times been imported into the city and has spread among the unvaccinated. Yet the number of those thus vaccinated who were brought into most intimate contact with small-pox was very great. Dr. Snow who was for twenty-eight years Superintendent of Health, and to whom is due the credit of maintaining this stock of virus, bases his confidence in its protective power on the large number of such instances which he had observed and many of which he recorded. Over and over again he vaccinated persons immediately after exposure to small-pox and who remained exposed to it, and found in every case that the typical vaccinia which followed proved perfectly protective.

To show that the symptoms which result from the use of this virus are very similar to those described by Jenner, as characterizing the disease, and very different from those which Dr. Martin theoretically thinks *ought* to be produced by this long humanized virus, the following description is given. It was written a week or two ago before Dr. Martin's graphic account appeared, by Dr. Charles H. Leonard, who has during the past fourteen years done 20,000 vaccinations in this city:

"After the insertion of the virus, the redness of the skin usually increases gradually until on the fifth or the sixth day it grows paler as a vesicle begins to form which by the eighth day has filled and covers nearly the whole of each scarification. It continues to enlarge until the ninth or tenth day and has a tendency to assume a circular form with a depressed center. The development of the vesicle is accompanied by considerable constitutional disturbance; the pulse is quick; the temperature rises from 99° on the fourth or fifth day to 101° or 102° on the seventh or eighth day; it then falls gradually, though the child is still feverish and chilly. The vesicles which on the eighth day were clear or translucent, on the next become turbid. and on the tenth day may become slightly pustular, and are surrounded by an areola which a day or two later is four or five inches across and may extend up to the shoulder, down to the elbow, and nearly around the arm.

"The vesicles begin to dry down by the twelfth day and at the fifteenth or sixteenth day will have solidified into brownish crusts while the surrounding inflammation will have greatly lessened or nearly disappeared.

"The crusts mature and fall off by the twenty-second or twenty-third day, yet they often adhere to the arm by their edges only, for several days longer. The crusts are roundish, mahogany colored, are thinner at the center than at the edges, and each leaves a broad superficial scar slightly depressed below the surface of the surrounding skin, and indented by numerous faveolæ."

In regard to a faveolated cicatrix not being indicative of a successful vaccination, that is, one which will protect against variola, I can only say that such a cicatrix has in this city been usually observed in those cases in which the protection was proved good by actual tests, while on the other hand, the deep smooth scar, admired by Dr. Martin, has been found on patients suffering from varioloid.

Yours truly, Charles V. Chapin, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 9, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	710	72	16.80	17.50	8.40	.80	1.82
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	181	45	6.60	19.80	4.40	–	1.11
Baltimore	408,520	121	38	10.79	14.94	2.58	.83	.83
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	146	41	15.18	11.04	6.21	2.07	1.38
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	32	11	15.65	25.00	6.26	—	3.13
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	21	7	14.28	38.08	—	4.76	—
Charleston	52,286	—	—	—	—	—	—	—
Lowell	64,051	22	4	9.11	27.30	4.55	4.55	—
Worcester	68,383	10	4	20 00	10.00	20.00	—	—
Fall River	56,863	23	12	47.85	—	—	4.35	17.40
Cambridge	59,660	21	5	23.80	19.04	9.52	—	4.76
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	15	5	—	20.00	—	—	—
Springfield	37,577	7	3	14.28	14.28	—	—	14.28
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	10	4	20.00	—	—	10.00	—
New Bedford	33,393	17	7	23.52	16.66	5.88	—	5.88
Salem	28,084	9	2	—	22.22	—	—	—
Chelsea	25,709	15	4	6.66	13.33	—	—	6.66
Taunton	23,674	8	1	—	—	—	—	—
Gloucester	21,713	11	1	18.18	18.18	9.09	—	—
Haverhill	21,795	5	1	20.00	20.00	20.00	—	—
Newton	19,759	3	1	—	—	—	—	—
Brockton	20,783	5	—	—	60.00	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Newburyport	13,716	6	1	16.66	33.33	16.66	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	3	1	—	—	—	—	—
90 Massachusetts Towns	—	44	13	15.89	18.16	6.81	2.27	6.81

Deaths reported 1,347: under five years of age 484; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 207, consumption 249, lung diseases 216, diphtheria and croup 95, scarlet fever 31, typhoid fever 16, whooping-cough 21, diarrhœal diseases 17, malarial fever 11, puerperal fever five, cerebro-spinal meningitis four, erysipelas four, typhoid fever three. From whooping-cough, New York 18, New Orleans two, Providence one. From diarrhœal diseases, New York 11, Boston and New Orleans two, each, Nashville and Cambridge one each. From malarial fever, New York and Baltimore four each, New Orleans three. From puerperal fever, Baltimore, New Orleans, Cambridge and Holyoke one each. From cerebro-spinal meningitis, New York two, Nashville and New Bedford one each. From erysipelas, New York three, Providence one. From typhus fever, New York three.

Cases reported in Boston: scarlet fever 40, diphtheria 21, measles 11, and typhoid fever three.

In 108 cities and towns of Massachusetts, with a population of 1,261,727 (population of the State 1,941,465), the total death-rate for the week was 16.98 against 18.18 and 15.63 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending December 26th the death-rate was 19.3. Deaths reported 3,289: infants under one year of age 749; acute diseases of the respiratory organs (London) 383, whooping-cough 126, measles 122, scarlet fever 55, fever 30, diphtheria 24, small-pox (Liverpool, three, Bristol one), four.

The death-rates ranged from 13 6 in Brighton and 28.4 in Bolton; Birkenhead 26.3; Birmingham 17.3; Blackburn 23.6; Hull 15.1; Leeds 19.3; Leicester 14.2; Liverpool 22.4; London 18.0; Manchester 21.7; Nottingham 24 7; Sheffield 22.0; Sunderland 20.8. In Edinburgh 21.0; Glasgow 25.; Dublin 22.8.

For the week ending December 26th in the Swiss towns, there were 31 deaths from consumption, lung diseases 22, diarrhœal diseases 11, whooping-cough five, typhoid fever four, puerperal fever three, small-pox two, diphtheria and croup two, erysipelas two, measles one, scarlet fever one.

The death-rates were: at Geneva 13.2; Zurich 13.6; Basle 18.9; Berne 27.3.

The meteorological record for week ending January 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 9, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 3	30.452	38.5	41.0	37.2	84.0	88.0	95.0	89.0	E.	S.E.	S.E.	9	5	6	O.	O.	R.	—	—
Monday,.. 4	30.130	42.6	47.0	37.2	100.0	98.0	94.0	97.3	S.E.	S.E.	S.E.	7	14	18	G.	R.	R.	—	—
Tuesday,.. 5	29.574	28.3	53.6	42.4	100.0	85.0	85.0	89.0	S.E.	S.W.	S.W.	11	7	12	R.	O.	O.	—	—
Wednes.,. 6	29.506	31.6	42.8	23.0	73.0	51.0	63.0	62.3	W.	N.W.	W	8	16	15	C.	F.	C.	—	—
Thursday, 7	29.680	19.0	26.3	13.5	51.0	64.0	66.0	60.3	N.W.	N.W.	N.W.	23	19	12	O.	C.	C.	—	—
Friday, ... 8	29.915	18.2	28.3	8.4	48.0	43.0	70.0	53.7	W.	N.	N.E	12	14	11	C.	C.	O.	—	—
Saturday,. 9	28.886	22.8	29.2	9.5	94.0	88.0	66.0	82.7	N.E.	S.E.	W.	38	12	20	N.	N.	C.	42.	1.68
Mean, the Week.	29.735	28.7	38.3	24.4				7.63											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 9, 1886, TO JANUARY 15, 1886.

McParlen, Thos. A., colonel and surgeon. Now waiting orders in New York City, ordered for assignment to duty as medical director, Department of the Platte, on January 24, 1886. S. C. 5, A. G. O., January 7, 1886.

Swift, Ebenezer, lieutenant colonel, United States Army (retired). Died near Hamilton, Bermuda, December 24, 1885.

SOCIETY NOTICES.

The Medical Society of the State of New York will hold its 80th annual meeting at the Common Council Chamber, City Hall, Albany, February 2d to 4th, 1886

Boston Society for Medical Sciences. — A regular meeting of the Society will be held on Tuesday evening, January 19th, at the Harvard Medical School, at 7.30 P.M. Communications: Dr. W. F. Whitney, "A Case of Fœtal Cretinism." Dr. J. W. Warren, "Preliminary Report on Experiments with Alcohol." Dr. Thomas Dwight, "Curious Anomaly of Nerves of Hand." Drs. Mixter and Newell, "Demonstration of new Injecting Apparatus." Chas. H. Williams, *Secretary*.

Norfolk District Medical Society. — A meeting for Scientific Improvement will be held at Room 7, Palladio Hall Building, corner of Warren and Dudley Streets, Roxbury, on Tuesday, January 26th, at 7.45 P.M. Communications: I. "Diphtheria," F. W. Vogel, M.D. II. "A Case of Femoral Aneurism," C. A. Bemis, M.D. III. "Epistaxis with Cases," C. W. Sparhawk, M.D. Refreshments will be served after the meeting.

S. Allen Potter, M.D., *Secretary*.

ERRATUM.

In the Report on "Recent Progress in Ophthalmology," in the last number of the Journal, page 31, for "Multiple Neuritis," read "Multiple Sclerosis."

APPOINTMENTS.

Dr. W. B. Godsmith, Medical Superintendent of the Danvers Lunatic Hospital, has accepted the appointment to succeed the late Dr. John W. Sawyer, as physician and superintendent of the Butler Hospital in Providence.

Dr. W. A. Gorton, first assistant physician at Danvers has been appointed to the vacancy to be created by Dr. Goldsmith's resignation.

OBITUARY.

JAMES H. WHITTEMORE, M.D.

Dr. James H. Whittemore, for the past nine years resident superintendent of the Massachusetts General Hospital, died in Boston on the 6th of the present month, at the age of forty-six. Dr. Whittemore's professional life was passed in the service of the trustees of the McLean Asylum, and of the institution at which his death occurred; and most faithfully did he perform the manifold duties which devolved upon him. Conscientious, energetic, possessed of great executive ability and gifted with a frank and winning presence, he was peculiarly suited for the position of chief executive of a large hospital. His genuine kindness of heart was apparent to all who met him, while at the same time he conveyed a well-founded impression of firmness of purpose and thorough knowledge of his special work.

Constantly dealing with people of every degree and calling in life, he was liked and respected by all, and by none more than by members of his own profession. He was an eminently *satisfactory* man in his official capacity to all concerned — trustees, staff, patients, and the outside thousands with whom his duties brought him in contact. Socially he was genial and courteous, and as a friend he was loyal and kind. The disease, epithelial cancer, to which his death is due, necessitated the amputation of one wrist and the loss of a portion of the opposite hand nearly two years ago. He bore the pain which preceded the operation without complaint, and to the last kept up a brave heart in spite of unavoidable forebodings of still greater misfortunes yet to come. His courage was of the finest type, and differed as widely from that displayed in the excitement of battle as it did from the passive endurance obtained by use of opiates.

So long as consciousness remained he never failed to take an active interest in his immediate duties, and even found time to express sympathy for others whose burdens were but straws compared with his own. The large concourse of people of all ranks in life present at his funeral, bore testimony to the esteem with which he was regarded. No man in this community had more friends, and those friends were fairly won. His memory will be cherished as that of an honest, brave, and able man who did thoroughly good work in life.

BOOKS AND PAMPHLETS RECEIVED.

Case of Cerebral Tumor. By A. Hughes Bennett, M. D., F.R.C.P. The Surgical Treatment. By Rickman J. Godlee, M.S.F.R.C.S. (Reprint from Medico-Chirurgical Transactions.)

A Case of Locomotor-Ataxy, with Disease of the Posterior Columns of the Spinal Cord. By A. Hughes Bennett, M.D. (Reprint from Clinical Society's Transactions.)

How we Treat Wounds To-day. A Treatise on the Subject of Antiseptic Surgery which can be Understood by Beginners. By Robert T. Morris, M.D. New York and London: G. P. Putnam's Sons. 1886.

Medical Education and Medical Colleges in the United States and Canada, 1765–1885. Illinois State Board of Health, Springfield, Ill., 1885.

Diphtheria and its Management: Are Membraneous Croup and Diphtheria Distinct Diseases? By Joseph E. Winters, M D., Clinical Professor of Diseases of Children, University of New York. (Reprinted from Medical Record, Dec. 5, 1885.)

Original Articles.

THE PAVILION IN HOSPITAL CONSTRUCTION.[1]

BY ARTHUR C. HEFFENGER, M.D.,
Passed Assistant Surgeon, U. S. Navy.

In writing this paper, I have purposely avoided entering into the details of ward construction, and confined myself, as much as possible, to general consideration of the true principles of hospital construction as exemplified in the pavilion system, and various ward types.

The field of hospital construction has grown to such immense proportions during the last twenty years, that it is only by the most careful selection and restriction that a paper, which aims at embodying its fundamental principles, short, yet satisfactory, can be prepared; so should facts appear to be too briefly stated, and a want of smoothness and fluency be manifest, I shall have to beg the leniency of the Society.

The present manner of sheltering and caring for the sick differs so widely from that in vogue a few centuries ago, that a comparison shocks the intelligence and humanity of our own times. In the middle ages, all institutions for the care of the sick in Europe, were in the hands of religious orders, who used them for their own profit and aggrandizement, and paid little attention to the suffering inmates. Indeed, this subordination of the welfare of the sick to the cupidity and rapacity of their religious masters became so notorious, Kurt Sprengel tells us, that the Council of Vienna, in the fourteenth century, ejected the ecclesiastics, and placed all institutions for the care of the sick under the jurisdiction of laymen. It was not till the sixteenth century, however, that St. Bartholomew's and St. Thomas's Hospitals in England, were put under lay management, and the Hôtel Dieu, in Paris, remained in priestly clutches till a much later period.

During those early days of the modern enlightenment, little, if any, consideration was given to the character of the buildings in which the sick were placed, or to their proper management, though Philibert Delorme, the noted architect and *protégé* of Catherine de Medici, who was the first architect of the Tuileries, realized the necessity of healthy houses, and in his *Traité Complète d'Architecture*, published three centuries ago, affirmed that ornamentation and elaboration of buildings in no way promoted their healthfulness, and that, therefore, they should give place to those structural features which contribute to convenience, health, and the ultimate prolongation of life. These excellent ideas of M. Delorme, unfortunately, made no impression, even upon the scientifically receptive minds of the day, and it was not till the eighteenth century, that earnest thought became directed to the crying necessity for a radical change in hospital construction.

The first great mind to clearly grasp this subject was that of M. Tenon, a member of the Royal Academy of Sciences, for it was he who originated the pavilion system, and thus brought to light the true principles involved in the construction of a healthy habitation for the sick. As the result of twenty years' laborious study, M. Tenon produced a great work, entitled "*Mémoires sur les Hôpitaux de Paris*," which excited so much interest in the Academy, that a committee was appointed, in 1787, to report upon it. The Committee, in their report, cogently set forth those studies and views of M. Tenon which eventuated in his proposed plan for a model hospital, the germ of the pavilion system of to-day; and I cannot better illustrate the ideas of this founder of modern hospital construction, than by giving a few extracts from this valuable report.

"M. Tenon, having thus first instructed himself by detailed investigations of all the hospitals of Paris, passes to a consideration of the Hôtel Dieu, which appears to be the principal object of his work, forming, as it does, the subject of the third and fourth memoirs, which are much more extended than either of the others. M. Tenon considers separately the buildings of the Hôtel Dieu and its dependencies, its furniture, its sick, and its attendants.

"In this examination, M. Tenon finds more to avoid than to imitate; there is useless multiplication of administrative offices, complication of administration, confusion of the departments, and an improper accumulation of sick in a space too small for the 3,400 patients which the Hôtel Dieu accommodates; calculating only four sick per bed, there are 2,600 in the single building of the Rue de la Bucherie, and on an area of 970 'toises'; 'the disposition of the staircases is bad: they are without air, and are infected. . . . . We will not enter into the details of the article which treats of the furniture, and we will only repeat a curious and interesting extract as to the convenience of placing three, four, and six patients in the same bed; the physical causes, from which the danger and sickness of the patient result, are developed thereby, and this result, which has been inferred from an extract in the first report of the Committee, is known to the Academy.

"M. Tenon devotes himself next to the dimensions of the wards, and shows that their length is regulated by the number of the beds, and their width by the eighth of a man, from which it results that for two rows of beds, the width of the wards must be 25 'pied'; lastly, that their height is regulated by the class of patient. Inflammatory diseases require high rooms; old or debilitated people, who require warmth, must have rooms less lofty. M. Tenon has devised a means of comparison, in this respect, of wards one with another; it is to consider the quantity of air each patient has to respire, and its circulation and renewal. The Hôtel Dieu, in confounding all the departments, and bringing together all classes of diseases, develops the cause of a frightful mortality, and has shown M. Tenon the necessity for the classification of these diseases, and for their separation, as much as possible. There are, above all, in the Hôtel Dieu, six classes which should be separated in a well-ordered hospital; those who are attacked with contagious diseases, lunatics, ordinary sick, wounded, pregnant or lying-in women, and the convalescent. . . . . M. Tenon proposes also to separate malignant fever and dysentery.

. . . . "The State has the greatest interest in caring for individuals in good health, but especially, wounded by accident, and mothers in the flower of their age, both of which renew the population. These two subjects have been treated by M. Tenon, with a care proportionate to their importance. He remarks and proves that everything which is essential to the wounded — pure air, cleanliness, and quiet — are wanting at the Hôtel Dieu. He asks that the wards for the wounded shall be well ventilated, kept clean, separated from any bad odors, and preserved from the noise of the house and the street traffic. He asks for wards for inmates in preparation for operation, wards to carry out the operation, and wards to achieve the cure. . . . .

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[1] Read before the Naval Medical Society, Washington, D. C.

"As for the lying-in cases, we will not repeat here the table which the notes and observations of M. Tenon (of which this memoir is the result), have enabled us to trace in this report to the Academy; we have shown to us the confusion of all the parts of this department, the want of air, damp, and all other causes of danger which threaten the lying-in cases. . . . . We could not, then, say anything on the mortality, which is the result of the bad arrangement of the Hôtel Dieu; we did not have the abstract of the registers. M. Tenon has procured it, and it goes over a period of eleven years. The result is to show that, whilst the mortality of the British Hospital is one in fifty-one, that of the Hôtel Dieu is one in fifteen and two-thirds, a frightful mortality, and which, alone, would necessitate the reform of the Hôtel Dieu, for it is as well to observe that it is not a question either of a period of epidemic, or where puerperal fever makes ravages. The mortality in these cases has often been half, and sometimes, nineteen out of twenty. M. Tenon, to remedy this mortality, proposes to entirely separate lying-in cases from the other sick — above all, from the wounded; to put a smaller number in the same wards; to ventilate these wards; to shelter them from damp and noise; to separate healthy pregnant women from unhealthy; and for the sake of morality, prostitutes from poor and honest women. . . .

"Above all, he recommends that the different species of convalescents should be separated — small-pox, itch, and all those recovering from contagious diseases. They should have their own separate promenades, and even their own wards.

"We had already announced this work in the report which we have made on the actual state of the Hôtel Dieu. . . . It is the fruit of a twenty years' study of hospitals, that the Committee had charged M. Tenon to publish. . . . We look upon this work as the most profound, and the most complete of its kind, and we believe it deserves the approbation of the Academy, and to be printed under its privilege.

"At the Louvre, September 5, 1787, Lassone, Tillet, Laplace, Daubentar, Darcet, Coulomb, Lavoirsier, Bailly.

"I certify the present extract to be conformable with the original, and the judgment of the Academy, at Paris, September 7, 1787.

"THE MARQUIS DE CARDORCET."

In the foregoing extracts, we see laid down the soundest principles of hospital construction and management; principles upon which, with but slight modification, the most modern hospitals are built and managed, though they were announced a hundred years ago.

M. Tenon seems to have been the first to clearly appreciate the necessity of proper form, dimensions, and arrangements of a ward. His rules for determining the dimensions of a ward are unique, and the idea of regulating the height according to the class of patients to be accommodated, deserves special mention. To him belongs the credit of laying down the law that every patient should have a generous and stated air-space, and that due regard must be paid to the proper circulation and renewal of the air furnished. He condemned strongly the pernicious habit (at the present day, almost impossible to credit), of huddling two, three, and sometimes six patients, into one bed, and finally forced its abolition. His subtle and masterly insight into the nature of wounds, and the parturient state, and his rules for the management of surgical and lying-in cases, challenge the admiration of the foremost thinkers of the day, for in spite of all the searching investigations of the last decade or two, we have not greatly outstripped this profoundly knowing Frenchman. It was he who first classified patients with scientific intelligence, and insisted that various groups of diseases should be separated as much as possible, that the sick might have every attainable chance for recovery, or, at least, not die from other diseases contracted in hospital. To fully carry out this idea of classification, separate buildings of sufficient size only to accommodate the patients of each group in a hospital of ordinary capacity, would be needed; and these buildings, judiciously situated with regard to each other and the administration building, would constitute the general hospital; and such, in fact, is the pavilion hospital of to-day.

The model hospital, which M. Tenon designed to illustrate his views, consists simply of two two-storied pavilions, indirectly connected by a central building of three stories. The pavilions are raised three or four feet above ground, and are built on vaults. The ground-floor ward in each pavilion, is of parallelogram form, and arranged to accommodate twenty-four patients, one being for men, and the other for women. They are warmed by stoves, and in the centre of each, is partitioned off a small room for a night nurse. On the first floor, these wards are divided into five, three of which are for women, and two for men. Of the women's wards, the first is for fever cases, the second for wounded, and the third for operation cases; and of the men's, the first is for wounded, and the second for operation cases. The ward offices are placed in small buildings attached to the free extremity of each pavilion. The central building connecting the pavilions, consists of an oratory on the ground floor, operating theatre on the first floor, and quarters for nurses on the second floor. The administration building is a long, low structure, placed a hundred feet in front of the pavilions, and is connected with them by corridors at either extremity. The only access to the hospital is through the centre of the administration building, a point strongly insisted upon by the projector. Many excellent arrangements are found in this building, but especially deserving of notice, are the receiving, dressing and bath rooms, and the disinfection chamber.

It seems remarkable that, notwithstanding the strong endorsement of the Academy, the advanced ideas of M. Tenon should have been permitted to lie fallow for over half a century, while not only France, but the entire world, suffered daily untold miseries for want of their application. But alas! this is one of many instances where the labors of great minds have preceded their century. It does not appear to have occurred, even to the Academy, that, for the benefit of mankind, the Tenon principles should be enunciated over the civilized world, and their practical application insisted upon at home; and it was not till 1839, that a project was originated by the *Assistance Publique* of Paris, to build a pavilion hospital, when M. Gauthier, the architect, was instructed to make his designs conform to "the suggestions issued in 1788, by the Commission of the Academy of Sciences, and the recommendation of M. Tenon, in his work on the construction of hospitals." This hospital was a long time under construction, and, after many modifications, was finally opened under the name of "Hôpital Lariboisière,"[2] by Napoleon III. in the year 1853.

Although a magnificent structure, and greatly in advance of all other hospitals of the day, the Lariboisière cannot be said to have fully exemplified the ideas of M. Tenon. It is much larger than his recommendations warrant, for it ostensibly accommodates six hundred and thirteen patients, though really containing, at all times, at least one hundred more; the pavilions are too high, having three stories, where his design calls for two only, and are too close together; the wards are too large, and the water-closets offensively near them; and some of the pavilions are in objectionable proximity to the administration buildings. The systems of ventilation and warming introduced were excellent for the period, though far from satisfactory at the present day. The pavilions on the right are ventilated and heated by the systems of MM. Thomas, Laurens, and Grouvelle. Fresh air is forced into the wards by means of a fan, being partially heated as it passes over steam-pipes in the horizontal shafts, and further heated before delivery, by steam-stoves. Foul air passes out through vertical shafts. The air thus furnished, though sufficient in volume, is superheated, and, therefore, not wholesome for respiration. The pavilions on the left are ventilated and heated according to the system of M. Duvoir-Leblanc. The same horizontal and vertical shafts are used as in the pavilions on the right, but heating is done by the circulation of hot water, instead of steam, and an aspiration chimney, into which all the vertical shafts empty, draws foul air out of, and consequently, fresh air into the wards.

The Duvoir system furnishes air at a much lower temperature, though not in as large volume as the Thomas-Laurens-Grouvelle, and is much less expensive, both in first cost and maintenance. The drainage of the hospital has been bad from the beginning, and little has been done to improve it. The mortality has clearly demonstrated its many faults, and the fearful death-rate among the lying-in cases, finally forced the construction of a detached puerperal ward, after the system of M. Tollet. The Hôpital Lariboisière, though in many ways imperfect, has yet rendered most excellent service to the world by properly directing the course of modern hospital construction, which has evolved the splendid pavilion types of to-day.

(To be continued.)

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THE CAUSE AND CARE OF CONTAGIOUS DISEASES.[1]

BY S. H. DURGIN, M.D.

I have not been fortunate in having a rare and interesting case or group of cases to report for my paper to-night, and have therefore selected a very common and practical subject. Contagious diseases have been known and described, so far as their physical and rational manifestations are concerned, more or less accurately since the days of our earliest writers on medicine, but it is not history, the peculiar physical appearances or the therapeutic treatment of these diseases which we shall dwell upon at this time.

It is rather the cause, care and prevention that we will discuss briefly. I hope to provoke discussion and ascertain how much uniformity of opinion there exists in the profession to-day as to the origin, care and prevention of these diseases.

The belief that disease is visited upon man by an angry Deity as a part of the plan, belongs to a remote age, although we would not be obliged to go beyond the limits of our own continent to find people still adhering to this heathenish delusion, and treating all interference to prevent the spread of epidemic and contagious diseases as attempts to antagonize the Almighty in his methods of disciplining men. This kind of ignorance and superstition coupled with an unwarranted prejudice against vaccination was shown in the recent epidemic of small-pox in Montreal.

I shall not attempt to speculate on the origin of the first case of any of the contagious diseases; I shall only remark, in passing, that there is no evidence to show that the first case was not produced by the same living, perfect organism that produces the same disease to-day. The first proposition I have to emphasize in my paper is that certain diseases are contagious and that they arise only by contact with a specific organism which comes directly or indirectly from a preceding case of the same disease. As examples of what may be called contagious diseases, I will mention small-pox, scarlet-fever, measles, diphtheria, cholera, typhus fever, typhoid fever, relapsing fever, yellow fever, puerperal fever, whooping cough, chicken-pox and glanders.

Strictly speaking, some of these are contagious and some are infectious, but as the terms are generally used so interchangeably, I shall, for convenience, only use the word contagious. It is presumed that the great majority, if not all of you have seen sufficient evidence, either in practice or in the recorded history of the diseases named, to satisfy you that they are all contagious. A doubt is sometimes raised as to diphtheria, typhoid fever and cholera, but when we look over the vast amount of evidence recorded by careful observers concerning each of the three diseases, we cannot fail to recognize the fact that whatever positive evidence there is, is in favor of their contagiousness. Much negative evidence has been used by authors and by practitioners to show that typhoid fever particularly, was not contagious, but while we are not inclined to attach much importance to negative evidence when opposed by that of a positive character, we find by moderate observation and research that there is a preponderance of the latter over the former in favor of the contagiousness of all of the diseases named.

Some attribute the cause of typhoid fever to the decomposition of animal matter and especially to human, fæcal matters. Others say that sewer-gas produces it, while others say that typhoid arises from decomposing substances only when those substances are mixed with the germs of the specific typhoid poison. I find in the first volume of Ziemssen, after a discussion of the different views on this subject, the following: "Daily observation is sufficient to show that the decomposition of organic and excrementitious substances is not in itself sufficient to produce typhoid fever;" and again "We are forced to the conclusion that besides external conditions favorable to the development of the typhoid-poison, something else is necessary.

"The most convincing experiences show that typhoid fever never originates in any unusual amount of decomposing matter nor from any circumstances favorable to decomposition, but is always preceded by the introduction of a case of the same disease."

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[2] So named in commemoration of the Countess of Lariboisière, who, about that time, gave her entire fortune to the administration of the Assistance Publique.

[1] Read at the Boston Society for Medical Observation, Jan. 4, 1886.

Dr. Sternberg, in speaking of the infectious diseases of the lower animals, says that "the infective agent is in each case a living microörganism known as 'bacteria' and belonging at the very foot of the scale of living things." He also says that "there is good reason for believing that the infectious diseases of man are also caused by pathogenic disease producing organisms of the same class. Indeed this has already been proved, for some of these diseases and the evidence as regards several others is so convincing as to leave very little room for doubt."

Dr. Billings, in his article on Hygiene in "Pepper's System of Medicine" says, "The diseases which spread by contagion until they form epidemics are those which have from the earliest times attracted the most general attention. They are also the diseases which have given rise to the most bitter controversies among medical men as to the means of their propagation and the best methods of prevention. Plague, cholera, yellow-fever and typhus are those with regard to which this difference of opinion has chiefly occurred, one party considering their chief cause to be contagion, or specific germs derived directly or indirectly from the bodies of the sick; the second party declaring that they are due to filth plus an unknown something, which is variously termed epidemic constitution, pandemic wave, Providence or X. The great majority of opinions at present is in favor of the view that they are all contagious, but not all, or always, contagious from person to person, that they spread from infected localities, which localities receive their infection from cases of the disease."

It seems to me that when we have arrived at a point where we can say that a given disease is contagious; that there is a something which passes directly or indirectly from one person suffering from a given disease, to another person and produces the same disease, and that this same process of perpetuating the disease has been going on for ages, that there is no material change in the character of the disease, that it is still governed in its appearance, progress and effect by the same laws which have governed it from the first, we are in a position where we can reasonably ascribe to this something which is so potent, so immutable in itself, and so unvarying in its effect, the character of a complete, living identity. Not the accidental product of decomposition, putrefaction, sewer-gas, filth, or of chemical action of any kind, but the product of its own simple parent.

It appears that the principal investigators in this field of research are arranged in two classes, one maintaining that chemical action alone is found in fermentation, putrefaction, contagion, etc., and the other that minute organisms are the cause and are indispensable to, all these processes. The one group has given us probabilities, theories and promises, the other, including such men as Koch and Pasteur, has given us practical and positive demonstrations in favor of the germ theory of contagious diseases.

The theory that any contagious disease can be caused by two or more different things is without any known demonstration and is opposed to all reason and analogy. There is no more reason to suppose that the soil or filth or sewer-gas can produce diphtheria, typhoid fever, or any other contagious disease, without first having been impregnated with the specific poison or germ from a preceding case than there is to suppose that corn or wheat may be produced from the earth without first having planted the proper seed. The fact that these diseases are so frequently associated with uncleanliness, with defective drainage, overcrowding and many other abominations, has made it easy to suppose that these conditions are the causes of the diseases while they are in fact not even necessary accompaniments.

From 1878 to 1884, 8782 cases of diphtheria were looked up by the Boston Board of Health and the premises where each case occurred carefully examined. It was found that over twenty-one per cent. of the premises were in a perfectly good sanitary condition. From 1877 to 1883, 3,659 houses were examined in blocks in different parts of the city, including the most recently built and best houses, and without reference to any reported cases of disease. It was found that defective drainage alone existed in forty-three per cent. of all examined. From 1881 to 1885, 2,896 houses where typhoid fever was reported, were examined, and twenty-six per cent. were found in good sanitary condition.

Some eight or nine years ago a large number of cases of diphtheria occurred in a cluster of houses in an outlying part of this city. Considerable alarm was felt by the people living there, and the sewer which ran through the place was vigorously condemned as the cause of the outbreak of the disease. I visited every family in which a case of the disease occurred, and examined the premises. I found scarcely any objectionable feature in the sanitary condition of the place. The sewer had a good pitch and was in good condition. Not all of the houses had any connection with sewers, but had vault and cesspool situated at a distance from the house. I found that the first cases occurred in the family of a milkman who lived near by and who supplied and delivered milk to nearly every family where a case had occurred. The milk and cans were handled in close proximity to the sick, and the small contaminated brook close to the house furnished the water for washing purposes.

The germs of cholera, yellow fever, typhoid fever and perhaps of others, find easy lodgment in the soil, in cesspools, vaults and drains, and a favorable pabulum and environment for their growth and multiplication. It is believed by some that the germs of yellow fever and perhaps of typhoid fever, after leaving the person must find lodgment in some suitable medium and undergo a certain change or development before they can produce the same disease in another person.

The difference in the course taken by these poisons, in their passage from person to person may be explained by the theory of a difference in their ponderability. Those of small-pox, scarlet fever, measles and typhus fever being light, pass readily through the air and give quick evidence of their contagious character, while the poisons given off from typhoid fever, cholera and yellow fever, being heavier, find their way from person to person more slowly, through the medium of water, soil, cesspool, vault or some other unclean material. It is known that in the *habitat* of yellow fever, persons occupying the lower floors of a dwelling or lying near the ground are much more liable to take the disease than those who use the upper floors.

It may be asked what advantage there is in giving up the idea that these diseases may arise from sewer-gas, drains, animal decomposition, etc., without the presence of the specific germ. I would say that it is easier, in a warfare of any kind, to deal with the enemy when we know where to look for it.

If we believe the origin of the poison to be in the drain, vault, cesspool or soiled earth, we are most likely to disregard the fact that the sick person is the source of an infinite multiplication of the poison. I would not detract a particle from the value of cleanliness or the necessity of care and treatment of all foul matters, but it seems to me that we should, if possible, recognize the true source of the enemy and direct our energies to the best advantage.

What are the most effective means for preventing the spread of these diseases? I believe that with almost universal consent of sanitarians we may say, absolute isolation of all cases, and the disinfection of everything that has become infected by a case.

The best form of isolation is without doubt in hospitals where the contagion may be concentrated and all means of communication between well and sick can be kept under control.

I would remove all such cases to a hospital except where proper isolation could be secured at home.

We have had an example in Boston, of what may be done with a contagious disease when the power and facilities for isolation are given.

We can but hope that the day is not far distant when we shall have the facilities for isolating diphtheria, scarlet fever, measles and many other contagious disease.

Can we depend upon disinfectants for the absolute destruction of these disease-germs, and if so, what are they?

The first question is well answered by Dr. Sternberg in a prize essay a few weeks ago, as follows:

"Evidence of disinfection may be obtained, 1st. From the practical experiments and experience of those engaged in sanitary work; 2d. By inoculation experiments upon susceptible animals; and 3d. By experiments made directly upon known disease-germs."

I think there can be no reasonable doubt as to the power of certain disinfectants to kill all living micro-örganisms or disease germs. I believe that all bacteriologists agree as to this fact, but find a great difference in the power of some germs over others to retain life in the presence of the disinfectants.

The germ containing the spore is found to live where the germs without spores are readily killed.

According to Sternberg, there is no reason to believe that spores exist in the germs of cholera, smallpox, scarlet fever, diphtheria or yellow fever.

The agents found by experiment to be most useful in destroying disease germs containing spores are, fire, steam under pressure, boiling in water, chloride of lime and bichloride of mercury, and for those not containing spores, fire, boiling in water, dry heat, chloride of lime, solution of chlorinated soda, bichloride of mercury, sulphurous acid gas, carbolic acid, sulphate of copper and chloride of zinc.

Practically, it will be found best to destroy by fire such articles as are too badly soiled or worn to be of value; everything that may be wet without injury should be boiled in water for at least one hour; articles which cannot be wet without injury should be fumigated with burning sulphur, or subjected to the action of superheated steam. Three or four pounds of sulphur to each 1,000 cubic feet of space should be burned as rapidly as possible with the room tightly closed, and all articles therein so scattered and hung about as to permit easy access of the gas. The room should remain closed at least six hours.

To disinfect by steam, the articles should be hung about in the tightly closed room, and the temperature raised to 230° F., and held at that point for ten minutes, or 220° F. for fifteen minutes.

Floors and other hard surfaces may be washed with a solution of mercuric chloride (one drachm to the gallon of water) or a solution of the fresh chloride of lime, four ounces to the gallon of water. Nothing should be carried from the sick room before being disinfected. Articles which can be wet may be placed in one of the above solutions, kept in a wooden receptacle until such time as they can be removed for boiling.

All discharges from the bowels, bladder or stomach of patients suffering from typhoid fever, cholera or yellow fever should be received in vessels containing one of the above solutions in quantity greater than the infective material itself, and thoroughly mixed before being disposed of.

Gargling or spraying the diphtheretic throat frequently with an active disinfectant and frequent bathing or oiling the skin of the scarlatinal patient may measurably prevent the escape and dissemination of the poison.

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SUBLUXATION OF THE RADIAL HEAD IN CHILDREN.[1]

BY H. W. CUSHING, M.D.,

Surgeon to Out-Patients, Carney Hospital.

The cases to be reported, seen soon after the publication of Mr. Hutchinson's article on this subject,[2] illustrate very well the lesion described by him, and furnish examples of an injury producing an obscure, and, at times, puzzling group of symptoms.

An accurate diagnosis of injuries to the elbow joint, especially in children, is often a difficult problem to solve, and any addition to the surgeon's knowledge of these lesions, which will enable him to diminish the number of cases he is forced to class under the ofttimes unsatisfactory diagnosis of "sprain of elbow," is gladly welcomed. And this lesion appears to be a correct explanation of the group of symptoms about to be described.

The injury is apparently much oftener met with than the brief mention of it in surgical text-books would lead one to suppose. A large proportion of cases are patients five years of age, or under. Hutchinson states that he was unable to produce it experimentally in subjects over five or six years. Lindeman,[3] in his report of twenty-four cases, finds all under five years, and a majority between nine months and two years.

In most cases it is the result of a sudden traction on the extended upper extremity, such as a child receives who, led by the hand, stumbles, and is prevented from falling by the jerk with which its nurse restores it to an upright position. The same conditions obtain when a child is dragged along by the hand, as is frequently seen, or lifted over an obstacle, or into a chair or vehicle. This explains why so many of these cases are found in children under five years of age, since this is a period of life during which the custom of lifting or leading children by the hand causes frequent exposure of weak and incompletely developed articular structures to violence of the nature just described. This lesion is also said to result from a blow or fall received on the posterior surface of the semi-flexed elbow, which forces the head of the radius directly forward, but this is probably of rare occurrence.

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[1] Read before the Boston Society for Medical Observation, January 4th, 1886.

[2] Annals of Surgery, August, 1885, J. Hutchinson, Jr., F.R.C.S.

[3] British Medical Journal, December 5, 1885, Sydney H. Lindeman, M.R.C.S.

Opinions differ as to the manner in which this lesion is produced. The sudden force applied to the fore-arm in these cases causes a displacement of the radius downward, so that its head is withdrawn from the orbicular ligament to a greater or less extent.

Mr. Hutchinson's article contains the only report of a dissection of this lesion that I have found, and is briefly as follows. He calls attention to the shape of the radial head; and to the difference in depth and contour of the radial and ulnar sides, the former of which is a rounded surface, while the latter is rectangular in outline.

These surfaces and angles, he concludes, play an important part in replacing the head of the radius within the orbicular ligament by their change in position during supination and pronation. He found by experiment that in subjects under five or six years of age, forcible traction during supination causes a slipping up of the orbicular ligament, with or without rupture of the suborbicular membrane or capsule. This was demonstrated by dissection, and he believes that the lesion consists, in most cases, in an escape of the head from the grasp of the orbicular ligament. In these cases, where the force is great, there is also probably a rupture of that part of the capsule connecting this ligament to the neck of the radius. As shown by his figure, the dislocation is a partial one, and the radius is still more or less in contact with the lesser sigmoid cavity.

Lindeman thinks the tendon of the biceps, one of whose actions is flexion and supination of the forearm, is an important factor in causing the displacement, and pulls the radius forward out of its position.

The anatomical arrangement of the articulation seems to indicate that the lesion is produced as follows: The force applied at the wrist by traction on the hand affects the radius mainly, since that bone occupies a greater portion of this joint, and is transmitted through it to the elbow, where the radial head is held in place by a group of ligaments, of which the anterior and external lateral act as guys to the orbicular, which in turn, holds the radius in its normal position. The orbicular is itself attached to the radial neck, and this is the weakest point in the structure. In the position of the joint in which the accident occurs, the posterior fibres of the external lateral ligament are relaxed, and the tense anterior ligament, with possibly the anterior fibres of the external lateral, is the one which is left to support the orbicular against the traction from below, which it is strong enough to do. The force is thus directed to the insertion of the orbicular about the radial neck, at the anterior portion of its circumference; this yields, and a subluxation is the result.

The direction forward which the radial head almost invariably takes, is probably due to the yielding of the ligament at this point, and possibly also to the traction of the bicipital tendon. The extent of displacement varies with the elasticity of the tissue, and the rupture or non-rupture of the orbicular insertion. The rupture occurs anteriorly, since, as just stated, the anterior ligamentous attachments are tense in this position, and the force is exerted here first, while the posterior structures are relaxed. This change of position of the radius causes the traction to be transmitted to other structures, and further injury is avoided. The weakness and elasticity of infantile tissues is probably the explanation why this lesion is so uncommon in adults, where such mobility of osseous structure is absent, and such an injury would cause a "sprain" only.

The clinical history is that the patient is injured in a majority of cases, as above described. Often a click or thud is noticed, or something is felt to give way, by the person holding the child's hand. The patient cries with pain, and the arm drops motionless to the side, with the elbow semi-flexed, and the hand partly pronated. The attendant is frequently puzzled to determine whether the wrist, elbow, or shoulder is the seat of the trouble, the latter being often designated as the location of the lesion. If the subluxation is reduced, either spontaneously or unconsciously by the parent during passive motion or other manipulation, all symptoms suddenly vanish, and nothing remains except a slight tenderness over the radial head, which soon disappears. If unreduced, the pain and impairment of motion persist, and medical aid is sought.

From a physical examination of the patient the surgeon usually obtains the following data: The injured arm hangs motionless by the side, with the elbow somewhat flexed, and hand semi-pronated. Attempts to use the latter. cause marked pain. Surface changes are usually absent, unless the accident was of such a nature as to cause additional lesions. No deformity exists except when the subluxation is marked, in which case the projection of the radial head causes a slight prominence below the external condyle on the anterior surface of the elbow. Tenderness over the head of the radius is the most constant symptom. In some cases, an increased surface temperature exists, with slight swelling. By careful manipulation, the projecting edge of the radial head can be felt, but it is easily overlooked, and the joint appears perfectly normal so far as its anatomical details are concerned. In some cases, flexion and extension are painful, but usually supination only causes discomfort. In most cases, supination alone is limited apparently by a mechanical obstacle. If not reduced by the above manipulation, the arm drops back into its former position, a symptom considered by Goyrand as pathognomonic.[4] Limitation of other movements of the elbow, if present, is due to muscular resistance.

If untreated, or the affected articulation is imprudently used, the pain and tenderness become more marked, and it is not improbable that the commencing periostitis or synovitis may transform what was originally a simple injury into a lesion, which results in the destruction of a joint. When the intimate relation of the injured tissues to the periosteum of the radius and the synovial membrane of the elbow is considered, this seems quite possible, and, as Mr. Hutchinson suggests, this may explain the mysterious origin of many cases of chronic arthritis of the elbow in children.

The rapidity with which all symptoms vanish after reduction, a thing which frequently happens unexpectedly during examination, is a striking peculiarity of these cases.

The diagnosis lies between sprain and dislocation, other injuries to the elbow joint being easily eliminated, and the weight of opinion being opposed to Goyrand's theory that the symptoms are due to a displacement of the interarticular fibro-cartilage of the wrist in front of the carpal extremity of the ulnar.[5]

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[4] Boston Medical and Surgical Journal, September 18, 1862, R. M. Hodges, M.D.

The diagnostic points are: the source of the injury; the localized tenderness; the limitation of supination only, and the rapid relief following reduction. The rotation of its head is apt to give the impression that the radius is in its normal position, and the surgeon is at a loss to account for the limitation of supination, which is almost the only abnormality discovered. And his perplexity is not at all diminished when he finds that suddenly all symptoms have disappeared as if by magic, leaving no trace of their previous existence.

The prognosis is generally good if the reduction occurs spontaneously, or the case is promptly treated. A majority of the patients probably recover without difficulty, but, as in other dislocations, a displacement may recur. The danger is from inflammatory processes being aroused by the imprudent or excessive use of the articulation directly after the injury, and I believe that quite serious trouble can follow such neglect or carelessness. Case V, in which a localized synovitis was apparently present, illustrates this, and the cases reported by Mr. Hutchinson have apparently led him to the same conclusion.

The treatment of these cases is easy. The movements of the patient, the manipulation of friends, or the examination of the surgeon with reference to diagnosis, often render further trouble about reduction unnecessary. It is, however, usually accomplished without difficuly by first semi-flexing the elbow, in order to relax the bicepital tendon, and approximate as closely as possible the displaced ligament and the edge of the radial head. Then with the forearm grasped by the left hand, supinate steadily with the right, while the left thumb over the radial head pushes in a backward direction. With a slight click or thud, the obstacle to supination suddenly yields, the head is felt to slip back into place, and the movements of the joint become normal.

In a recent article[6] it is claimed that flexion of the elbow to, or a little beyond, a right angle combined with full pronation of the forearm, is an easier and surer way to reduce the displacement; for the part of the radial head opposed to the curve of the orbicular ligament during pronation, is its thin rounded edge, over which the ligament easily slips; while full supination, by presenting a deep edge with a rectangular contour, renders reduction more difficult.

The after-treatment varies according to the symptoms presented. Rest is the most important factor. When slight tenderness, with or without pain, alone exists, as in spontaneously reduced cases, or unreduced ones where the arm has been kept quiet, rest in a sling for twenty-four to forty-eight hours prevents subsequent trouble. Here the displacement was probably quite limited, and the injury slight.

In cases complicated by contusions or secondary inflammation, with swelling, marked tenderness, and pain, rest is absolutely necessary. The elbow should be fixed by an internal angular splint, and the subsequent treatment should be that usually employed for sprains or other dislocations, and their possible sequelæ.

In marked subluxations, extension of the elbow should be avoided for at least two weeks after the injury, so as to allow the ruptured ligament to unite; otherwise risk of causing a fresh dislocation by the action of the bicepital tendon will be incurred.

It is not improbable that occasionally these dislocations remain permanently unreduced. In such cases, unless fixed by resulting inflammatory changes, one would expect considerable mobility of the radial head. This would account also for a slight abnormal projection met with in adults. Mr. Hutchinson reports two such cases. Lindeman has seen several patients where permanent enlargement of the elbow has resulted.

The cases alluded to at the commencement of this article are the following:

Case I. —— —— aged four, was brought to the Surgical Out-Patient Department of the Carney Hospital with the history that, on the preceding day, while being dragged by the hand, she had suddenly cried out as if in pain, and when released, was unable to use the arm, which was held motionless at the side. Pain followed all attempts at passive or voluntary motion. On the following morning, the symptoms had disappeared, and when examined at the Hospital, the only trace of an injury was a slight tenderness over the head of the right radius which, two days later, had also vanished.

Case II. —— —— aged three, was injured September 12th, 1885. A baby carriage, behind which she was standing, with its post-transverse bar grasped by both outstretched hands, was suddenly jerked away from her. She cried out at once from pain. The arm was seen hanging stiffly by the patient's side, and any attempt at examination or passive motion was resisted. Seen at the Hospital thirty-six hours later, unable or unwilling, on account of pain, to move hand or elbow. The left arm was held by the side with the elbow somewhat flexed, and the hand semipronated. The patient's efforts were apparently directed to prevent motion of the elbow joint. Comparison by inspection with the right elbow gave negative results. By palpitation a slight tenderness over the radial head was found. Passive motion showed the movements of the elbow unimpaired except that of supination whose arc of motion was limited to one-half its normal extent, although the head of the radius apparently rotated freely. Passive motion also caused pain, especially marked during supination. It was also present to a moderate degree during flexion and extension. During examination, while the elbow was held semiflexed, and the writer was trying to ascertain the exact position and arc of rotation of the radial head, the latter was suddenly felt to change its position with a peculiar sensation, resembling that felt during the reduction of a dislocated humerus as the head slides into the glenoid cavity, and at once the articulation recovered its normal extent and freedom of motion. This change occurred during supination, and only a slight amount of force was exerted when the unexpected reduction occurred. The arm was confined in a sling for forty-eight hours, and the patient was then discharged with a perfectly normal joint.

Case III. —— —— aged four, was treated at the Boston City Hospital by Dr. H. L. Burrell, to whose kindness I am indebted for the necessary data for this record. The patient was injured on the preceding evening, while being lifted by the hand from the floor to a chair. The symptoms reported were pain, not localized by the parents, and that motion of the arm was avoided by the patient. No treatment. When first seen at the Hospital, eighteen hours after the accident, the above-reported symptoms were present. The arm hung by the side as usual, in the characteristic position. There was no change in the surface or contour of the limb. Tenderness over the radial head; supination limited one-third, and accompanied by pain. Other motions of the elbow normal and free. No deviation from the normal anatomical relations of the joint noticed. Reduced unintentionally by supination (elbow extended), while being examined to ascertain the position of the head of the radius. Treatment: sling for forty-eight hours. Discharged well.

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[5] L'Union Medicale, November 23, 1861, Goyrand of Aix.

[6] British Medical Journal, January 2, 1886. J. Hutchinson, Jr., F. R.C.S.

CASE IV. ——— ——— aged six, also a patient of Dr. Burrell, was injured by being seized by the left hand, and swung around. Inability to use the arm caused the mother to suspect an injury to the shoulder. Pain considerable, but not located. No especial treatment. Two days later, the father, while "pulling" the arm, felt something suddenly "snap," and the patient's condition was much improved. Seen at the Hospital the following day. Position of arm normal. No deformity or surface change except a slight swelling below the external condyle. There was a slight tenderness and increase of surface temperature at this point. Motion of elbow normal except a slight limitation of supination from muscular resistance. Treatment: internal angular splint, sling. Apparatus removed four days later, and patient discharged. Recovery perfect.

CASE V. ——— ——— aged eleven, was a patient of Dr. G. H. Monks, by whose courtesy I saw the case. On October 3d, 1885, the patient fell eight feet between a wharf and a vessel, into the water. Was seized by the hand, and pulled aboard the vessel. He received an injury to the right elbow, either by striking it on a log used as a "fender," which was floating between the vessel and the wharf, or by a wrench received while being drawn out of the water. He complained of pain, referred to the elbow, tenderness and impairment of motion. The injury was followed by moderate swelling about the joint, with ecchymosis and superficial abrasion on its flexure surface. Treatment: rubbing with liniment. Condition improved. A few days later, after prolonged playing with "clappers," a performance requiring pronation and supination of the hand in rapid succession, the patient became much worse. The pain increased, and motion of the elbow became quite limited. Was first seen by Dr. Monks at the Carney Hospital October 17th, two weeks after the injury. On the flexure surface of the elbow was the fading discoloration of an extravasation in the later stages of absorption, and a few crusts covering a healed abrasion of the skin. Inspection negative, except, perhaps, a slight puffiness under the external condyle. Marked tenderness, and an indistinct "doughy" feel about the head of the radius. Flexion of elbow diminished one-half, extension one-fourth, pronation normal, supination not especially limited, but painful. Diagnosis: subluxation of the radius with contusion, reduced spontaneously and followed by circumscribed periostitis or possibly synovitis, resulting from imprudent or excessive use of the affected part. Treatment: internal angular splint, sling, cold application to articulation. October 19th, the swelling had disappeared, and the tenderness was much diminished. No pain, and arc of motion increased. The patient continued to steadily improve. Apparatus was discontinued five weeks later, and after carrying the arm in a sling for a few weeks longer, he was discharged nearly well. When last seen, January 5th, 1886, there was some tenderness over the anterior surface of the radial head when the hand was supinated, and a slight limitation of flexion of the elbow. Pain follows excessive use of the joint, but the patient has no trouble if this is avoided.

CASE VI, also a patient of Dr. Monks, resembles Case I so closely that a detailed history is unnecessary. The injury occurred in August, 1885, from the patient being dragged along by the hand. Reduction had already taken place when first seen at the Dispensary. A slight tenderness over the head of the radius was the only abnormal condition found, which soon disappeared, and when last seen, the patient was perfectly well.

RECENT PROGRESS IN MENTAL DISEASE.

BY HENRY R. STEDMAN, M.D.

CEREBRAL AND PSYCHICAL DISORDERS ASSOCIATED WITH LOCOMOTOR ATAXIA.

SEVERAL observers have very recently been engaged in working out independently the relations between cerebral disease (structural and functional) and locomotor ataxia.

The fact that symptoms of cerebral disorder as important and varied as vertigo, congestion and epileptiform attacks, aphasia, hemiplegia, etc., are not uncommon in the preataxic stage of tabes led Fournier[1] to the natural conclusion that psychical disorder might also be present under the same conditions. In corroboration of this view he finds in his notes seventeen cases in which mental complications have appeared in this stage of the disease. He reports as samples three of the cases. One was characterized by mental enfeeblement, loss of energy, fatigue on slight mental exertion, together with dulness and depression. This state lasted about a year, and then suddenly disappeared. A second case developed strange fancies, poor memory and a depressed, morose and hypochondrical state of mind with suicidal ideas. These symptoms also disappeared entirely and gave place to others of the usual tabetic variety. The third case was ushered in by two classes of symptoms, namely, disorders of sight and myoses and mental disturbance, almost identical in kind with that of the first case; mental inactivity and enfeeblement. The psychical symptoms were not of long duration and seemed to yield to specific treatment. Several years later a new set of symptoms more plainly tabetic, supervened, and finally tabes dorsalis of the classic form developed. The transient nature of these attacks will be noticed. They may also be compared pathogenically to the motor manifestations of tabes, such as ocular paralyses, etc., which are not uncommon in the preataxic stage.

In addition to these passing attacks there are also permanent disorders of the intellect in this stage. The tabes in these cases is marked by an assemblage of psychical symptoms resembling ordinary general paralysis, or more accurately that instructive group of cases which M. Fournier has described as pseudo-general paralysis of syphilitic origin. Mental symptoms of this kind, however, do not develop at the very outset, but usually after unmistakable signs of the locomotor ataxia have appeared. Its chief features are, in brief, impaired memory, alteration of character, disposition, habits and morals, finally mental weakness and incoherence culminating in terminal dementia. He reports in this connection a remarkably complete case of what he terms cerebro-spinal tabes of cerebral origin, in which symptoms nearly identical with typical general paralysis ushered in and masked tabes dorsalis which in its turn manifested itself unmistakably, and finally the characteristic lesions of both diseases were found to be well-marked at the autopsy. There are also some very rare forms of transient mental disturbance complicating tabes; witness the delusional mania succeeding the lightening pains of the disease in the case reported by Dieulafoy, the melancholic stupor in the case of Burlureaux, and the melancholic frenzy of another case of Fournier's.

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[1] L'Encephale t. 4, 1884, p. 641.

Beattey[2] has also reported within the past year investigations in this direction. His results, though not new, are interesting as corroborative of Westphal's recent results. He states that the study of the deep reflexes in general paralysis of the insane is exciting great interest among a small body of workers, their presence or absence tending to show that there is a close connection between general paralysis and other diseases such as tabes dorsalis, and affording to some extent a basis for classification of a disease which at present includes, in a common description, forms differing clinically and pathologically. Whatever may be the real nature of these phenomena, whether purely reflex, or merely local, the interesting fact remains that whatever increases or diminishes reflex action, generally increases or diminishes the phenomena under consideration.

In sixty-five of his cases of general paralysis, the knee jerk was considered normal in eleven, slightly exaggerated in eight, decidedly so in eighteen, diminished in five, and absent in eighteen. In five cases, the amount differed on the two sides. In the eighteen in whom there was no knee jerk, tabetic symptoms were not marked, being marked by the general paralysis. The latter was, however, in these cases of the demented type chiefly grand delusions, exaltation and excitement being generally absent or far from prominent.

The result of the autopsies in three cases of general paralysis, in which sclerosis of the spinal cord was diagnosed during life by the absence of the knee jerk, was, in each case, distinct sclerosis of the posterior columns of the cord throughout its entire length, extending, in one case, into the medalla oblongata. The sclerosis was most extensive in the lumbar region. He believes that this lesion will be found in most, if not all cases of general paralysis in which the knee jerk is markedly absent, and that although these cases are insufficient to prove a rule, they appear to him to confirm the indication of an organic connection between the two diseases.

Dr. R. M. Canfield,[3] in a recent lecture before the Hunterian Society of London, recalled the fact that Mickle had pointed out the close relation existing between locomotor ataxia and general paralysis, showing that they go hand in hand much oftener than could possibly be accounted for on the ground of simple coincidence. Quite a large number of cases were, he believed, soon to be published by a London gentleman confirming Mickle's observations. This seemed to him also to point toward the central character of the disease. Wilkes, he believed, had lately discarded the former pathology on grounds previously set forth in this lecture, but went so far as to say that this is no disease at all, but rather a collection of symptoms dependent on no localized lesion, and that they, collectively and individually, occur without any direct significance. Dr. Canfield thought it improbable that such a train of symptoms as we meet with day after day, bearing such a close relation to each other, and following such a decided course as these do, should not be dependent upon some definite pathology. True, the disease may rest upon the borderland of the so-called atrophic troubles, but it seemed to him that we must look to the motor centres themselves for its true genetic pathology, and perhaps we should come to recognize locomotor ataxia as a functional trouble.

THE ALLEGED FRAGILITY OF BONES IN GENERAL PARALYSIS.

The weight of opinion has long been in favor of an alteration of the bony system in general paralysis, occurring as an essential pathological element of that disease, and expressed by a marked tendency to fractures. This Christian[4] does not believe, although he does not dispute the diagnosis of asteomalacia in certain recorded cases of general paralysis. He denies, however, that osseous change of this nature forms a part of the systematic *ensemble* of that disease.

The arguments heretofore advanced have been based upon isolated cases and statistics. The employment of direct method of inquiry, namely: microscopic examination of the bony tissue of general paralytics — a simple and easy line of investigation has been strangely enough neglected. The cases hitherto reported he shows to be untrustworthy for want of exact diagnosis. The statistics of the subject are open to the same objection. Old fractures of the ribs are often met with which have occurred before the patient's admission to the asylum, and even before the disease began. Then, also, many are due to external violence, the amount and nature of which are not properly estimated. The different practices in regard to non-restraint in different countries and asylums, is another source of fallacy. Lauder Lindsay, who has given special attention to the question, comes to the conclusion that if England is the home of non-restraint, it is also the land of fractured ribs in lunatics. In that country, most of the fractures of that class have been due to external violence. This fact of their frequency is imputed by their English alienists not to undue violence on the part of attendants, but to the diminished resistance of the bones, occasioned by the disease, and consequently osteomalacia is diagnosticated. The number of falls which general paralytics meet with in the course of this malady are as frequent as those of a child, and far less easily prevented. No other form of insanity is so prolific (excepting possibly epilepsy), and yet Christian, in his six years and a half among two hundred and fifty general paralytics, has not met with a single fracture in one of these patients. Ingels, of Gand, confirms Christian's statement, and adds that for twenty-five years that he has been in charge of the asylum at Ginslain, he has observed very few fractures, and almost never had he seen them in general paralytics. Morel, for seventeen years in charge of the female lunatics at Gand, stated that he had met with *no* case of fracture of the ribs, and only three or four other fractures, one of which occurred in an ataxic patient.

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[2] Brain, April, 1885, p. 64, vol. viii.

[3] Lancet, July 18th, 1885.

[4] Annales Medicales Psychologiques, November, 1885.

GENERAL PARALYSIS WITHOUT INSANITY.

M. Luys has recently made a valuable contribution[4] to the subject of general paralysis without insanity. A somewhat detailed abstract of this paper is necessary, in order to clearly bring out the writer's instructive views on this mooted subject. The article is devoted to that entire class of cases met with, in which are present all the symptoms of general paralysis without insanity, who die in a short time, and reveal at the autopsy lesions which are identical in character with those of general paralysis (such as, for example, the excessive growth of the cerebral connective tissue) but which differ as to the region of the encephalon invaded.

In ordinary general paralysis with psycho-intellectual troubles, such as pronounced delusions, etc., and a train of somatic disorders, the morbid process is confined chiefly to the cortex, the seat of psycho-intellectual activity. The following cases, however, show by the plainest pathological characteristics that when the bodily element only is concerned, when the symptoms are motor ones exclusively, for example, impairment of articulation, purely automatic excitation with *secondary* enfeeblement of the mental faculties, it is not the higher or intellectual centres which are the seat of the disease but far different regions of the brain, namely, the base, those portions which are especially concerned in the expression of bodily acts.

Thus it will be seen that in disease as in health it is possible for these two portions of the brain to act independently of each other.

In the first case we have a woman of thirty-eight years, with no history of syphilis. In a few months she runs rapidly through the purely somatic phases of general paralysis, for while under observation the delusional ideas peculiar to complete general paralysis were never manifested. The malady in her case aborted, as it were. She manifested only the usual train of physical symptoms, tremor of all the limbs and of the tongue, next, progressive paresis attacking collectively the motor powers causing, in a short space of time, inability to walk) and compelling her to lie in bed, and finally complete paralysis of the sphincters. At the autopsy those portions of the nervous system which supply in the physiological state the motive power of the bodily functions were found to be in a state of advanced disorganization. The cerebellum was small, shrunken and sclerosed. Moreover, the sub-thalamic regions of the cerebrum (the locality of red nuclei of Stilling, the gray substance of Sömmering, the accessory bands) which receive the fibres of the superior cerebellar peduncles and which assist in the transmission of its intra-cerebral nerve force, these regions were the seat of sclerosed indurations which had destroyed the active elements of nervous power. The physical forces disappeared hand in hand with the inroad of the sclerosis and its obliteration of the centres from which those powers spring.

But the effect of the sclerosis of these regions was not confined to motor impairment. It had also led to the destruction of the transmission paths of sense impressions between these centres and the cerebral cortex. This is a complete and adequate explanation of the apathy, indifference and hebetude manifested as the case progressed, keeping pace with the progressive and rapid invasion of a portion of the thalamic region — a region which M. Luys still holds to be the true port of entry for sensorial impressions.

The absence of marked lesions, partial atrophies, etc., of the cortex and of adhesions of the pia mater as well as the rapid progress of the mental enfeeblement confirm the opinion that the mechanism of the dementia must be ascribed to the lesions of the lower but related centres spoken of, rather than to any destructive lesions in the cerebral cortex.

In the second case are found the same somatic troubles of general paralysis also originating in localized sclerosis of the regions of somatic activity at the base of the brain.

The patient was a woman of forty-six, rational on admission, but weak in body and mind, though able to give an account of her condition. The disease had lasted eight months, beginning with severe frontal headache. On admission profound asthenia obliging her to lie down constantly; tremor of tongue and hesitation of speech. She had not one delusional idea. She answered questions correctly, and for three months no sign of active mental trouble appeared, although she had a tendency to insomnia and would leave her bed occasionally. At these times she was a little disturbed and had the nightmare more or less. The mental manifestations were rather those of enfeeblement, her range of ideas being limited. This dementia, only impending when patient was first seen, made rapid progress and was nearly complete five weeks after her admission. At this time the muscular exhaustion was extreme and kept her confined to bed.

Her intellectual obtusion was so great that she could only with difficulty pronounce certain phrases in the form of guttural sounds, but they were correct and relevant ones. At same time and occurring chiefly at night convulsive phenomena developed. From this time these symptoms became rapidly more and more accentuated. The convulsions continued, the mind became almost blank, she required to be fed by tube, but to the last she was able to respond "yes" or "no" to certain questions, thus showing that the perceptive centres of the brain were not yet notably impaired. Manifestations of consciousness still appeared in the form of certain articulated sounds.

At the autopsy there were found no adhesions of the membrane nor marked softening of the cortex, and, in short, there were none of the usual appearances of general paralysis on the cortical surface. But at the base of the brain the red nuclei of the tegmentum and vicinity on both sides were indurated and stiff to the touch. In running the finger lightly over the indurated points their firmness in the less resisting and softer substance was plainly felt. The cerebellum was small and atrophied. The central fibres of the laminæ were thin, narrow and filiform, so much so that the central white substance was very markedly reduced. Cerebellar cortex somewhat thinned. The left corpus dentatum was very perceptibly hardened. It had the appearance of a stiff, reddish, embroidered pattern which stood out from the surface of the section. The structure of the pons was firm and indurated en masse. The olivary bodies had a wavy and rigid appearance in sections and felt like hard shells, also projecting above the surface of the cut. The bulb and its vicinity, as well as the pons was equally and markedly rigid, indicating the presence of numerous sclerous infiltrations. The surfaces of the fourth and third ventricles were greatly thickened and could be raised in pieces like bits of moist parchment. The subjacent gray substance was softened and intersected by numerous capillaries, careful microscopical examination of indurated parts showed that the fundamental lesion found scattered here and there through the whole extent of regions invaded consisted of an advancing hyperplasia of connective tissue forming in places depots of infiltration.

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[4] L'Encephale, November, 1885.

These observations show that if in certain cases the somatic troubles of general paralysis do not develop with a complete train of ambitions or hypochondriacal delusions. If the morbid process, so to speak, aborts and remains limited to the automatic centres it is because the higher centres of the brain remain comparatively intact and the morbid action becomes localized either in the spinal cord or in the regions at the base of the brain.

Dr. Savage [5] states that he has seen several who for years have exhibited bodily symptoms in every particular coinciding with those found in the patients in his asylum suffering from general paralysis of the insane, and yet without the slightest evidence of insanity, even without any loss of memory or of self-control, so that in fact, the patient was sound in mind although a general paralytic in body. The reason, he believes, that the condition has hitherto been misunderstood is, that asylum physicians rarely see cases in general hospitals; and general physicians only occasionally have the chance of watching true general paralysis. In his opinion, general paralysis may develop in any of its forms without mental symptoms for a considerable length of time, but unless cut short by some intercurrent or accidental cause, mental deterioration shows itself before the end. The symptoms may be only those of weak-mindedness, and may be so slight that comparatively little importance is attached to them.

SYPHILIS AND INSANITY.

Contributions to the relations of the above disorders to each other have been unusually frequent of late, the drift of opinion being toward decided scepticism as to the influence of syphilis in cases not only of general paralysis, but also of pure insanity in syphilitic patients. There is also but little difference of opinion as to the efficacy of antisyphilitic treatment in such cases.

The proceedings of a medical society in Berlin [6] a few months ago contain the latest view of this intricate question, and as most of the points involved are presented and by competent observers the account of the discussion is well worth perusal.

Mendel called attention to the fact that the Congress at Copenhagen in 1884, showed plainly enough that opinions still differed widely on the question of the relationship of syphilis and general paralysis. But for several years past observations have multiplied and these relations have become better established through most reliable statistics. It is clear that the statistics of large public asylums cannot be utilized, as patients treated there have their mental faculties, particularly the memory, too much impaired to enable them to say with any accuracy whether or not they have had syphilis ten or fifteen years previously. It is different in private asylums, for there the family physician, the parent's relatives and friends can give the necessary facts. In this way Reinhard, who is still not a believer in syphilis as a cause of general paralysis, has found that in the upper classes, general paralysis had been preceded in 73.3 cases out of 100 by syphilis, while in the lower classes he had found (probably from inability to obtain reliable statistics) but 16.7 out of 100 cases. It is through relying on statistics that certain authors deny all relation between syphilis and general paralysis, while others are equally confident that every general paralytic is syphilitic. The objections (aside from that of the inefficacy of anti-syphilitic treatment) which Mendel considers at all serious regarding a positive relationship of this kind, is that in general paralysis it is rare to meet with syphilitic lesions in other organs (he estimates that ten paretics out of one hundred will be found to have other organs also affected). But, on the other hand, the same statement holds true in cases of undoubted syphilitic cerebral lesions, gummata for example.

In order to demonstate the relationship in question, Mendel has had recourse to experimental investigation. He recalled in the first place certain recent experiments in which a dog fastened to a revolving table with the head toward the periphery and subjected to 130 rotations a minute. He died in about half an hour. On opening the head general hyperæmia and meningeal hæmorrhages were revealed. But in the case of an animal subjected to 110 revolutions in eight or nine minutes the process being repeated each day for a fortnight, all the symptoms of a cerebral affection were produced, namely, ataxia, paresis of the legs and of the muscles of the face, trunk and nape, change in his barking, and trouble with the urinary excretion. At death, several months later, after he had run through all the motor symptoms of a general paralysis, the lesions of this disease also were found, namely, pachymeningitis, chronic adhesive arachnitis, internal hydrocephalus and cortical intestinal encephalitis.

By investigations in the same direction Dr. Mendel endeavored to ascertain whether a moderate hyperæmia could not produce the same troubles after the walls of the cerebral vessels had been rendered more permeable. Following Popow, who has shown that corrosive sublimate produces alterations in the walls of the vessels of the cerebro-spinal system, he injected into a dog, each day for about a month, half a syringeful of a solution of 0.025 gr. of corrosive sublimate in 50 gr. of water. At the end of that time the animal was subjected to moderate rotation as above described for some minutes. He died four days later, and numerous hæmorrhages of the cerebral cortex were found. Another dog received for the same time three-fourths of a syringeful of the same solution and was left undisturbed for two months. He was then given each day from eighty to ninety rotations within three or four minutes. He died in five days with the symptoms of general paralysis. The reader, in applying these results to man, stated that in a large number of cases general paralysis had its prime origin in changes in the cerebral vessels, the walls of which, as had been demonstrated in the majority of cases of general paralysis, had become more permeable and under the influence of an active hyperæmia allowed the blood globules to escape, thus forming the starting of an interstitial inflammation. The vascular alteration may possibly, but by no means certainly, be due in some cases to syphilis, in others to the excessive use of nicotine, alcohol, or mercury. This hyperæmia which these antecedent changes make possible and which give rise to the cortical lesions of general paralysis, may be due to excessive emotion, traumatism, intense heat, etc. Here we have all the factors which are necessary for the production of general paralysis.

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[5] On Insanity and Allied Neuroses, 1884.

[6] Reported in Annales Medico Psychologiques, November, 1885.

It should not be surprising that no benefit follows syphilitic treatment in cases of this class, as the lesion is not a pure specific alteration but merely an inflammation resulting only partially from syphilitic change.

Dr. Westphal dissented from these views. He placed no value whatever on statistics, and declared that it was extremely rare to find syphilitic lesions at the autopsies of the insane, no matter what the form of mental disorder, and that the proportion of ten in one hundred was far too great. As, on the other hand, there were no characteristics by which syphilitic changes in the cerebral vessels could be recognized, all conclusions on the subject were premature. Moreover, Dr. Mendel had said nothing regarding the calibre of the vessels affected. The larger vessels were almost never involved in general paralysis, and as to the smaller ones, he had not even described the alteration they underwent, which was probably an hypertrophy of the tunica adventitia, a change which occurs under a variety of circumstances and which has not the influence upon the circulation which theory ascribed to it. As to violent emotions they figure as an etiological factor, not only in general paralysis, but in a number of other forms of insanity.

Hospital Practice and Clinical Memoranda.

FOUR CASES OF PLACENTA PRÆVIA.

BY OLIVER S. LOVEJOY, M.D., HAVERHILL, MASS.

CASE I. October 23, 1883, I was called in great haste to see Mrs. X., who was said to be flowing more than was good for her and needed assistance at once. The patient, I was informed, was about six or seven months along in pregnancy. She recently rode some twenty-five miles over a rough road, and had commenced flowing before she reached home. On examination found the placenta in the bed, but the child had not been expelled from the womb. The flooding had entirely ceased though there was a large quantity of blood in the bed. The womb had closed quite firmly over the child's head, and it occupied some time to remove the fœtus. This mother was well-developed, healthy and strong, and had had one child some two years previous. Had a good getting up and was none the worse for the loss of blood.

CASE II. January 6, 1884, had been to some distance to visit a patient and was on my way home, when called into a house I was passing to see a sick woman. The husband kindly informed me he guessed there was not much the matter, only the wife was a little nervous and thought she ought to see a physician. The woman was in bed; said she expected to be confined in a few weeks but did not think it was then time; had no labor pains but was flowing badly; had had one or two hæmorrhages before, but not so severe. She was a large woman, weighing about two hundred pounds. This was her sixth or seventh pregnancy, all former labors had been natural. On examination of the bed I should have said two or three quarts of blood had been already lost, though I was informed there were two gallons or more. On farther examination per vaginam, the placenta was found to cover the os completely, which was open to the size of a silver dollar, not rigid but flaccid; no membranes could be felt. The finger was passed through the centre of the placenta and the membranes ruptured. A very large amount of water escaped, immediately followed by a loop of the cord and hand and arm. I attempted to return the cord and arm, but most signally failed, and as the mother resisted every effort to do so, I sent to the city for an assistant and ether.

Very little hæmorrhage after the escape of the water. I plied the patient well with Squibb's fluid extract of ergot, but could get no labor pains. After assistance arrived I found the placenta hanging out of the womb. Removed it entire and separated the cord. Then without the use of ether turned and delivered. The child weighed something over ten pounds. On the fourth or fifth day after delivery called to see the mother and found her sitting up knitting a sock for one of the older children.

CASE III. August 13, 1884, was called to Mrs. X., in labor. Had visited her one month previously, at which time it was supposed labor had commenced. She was flowing badly at this first visit, and I was informed three or four floodings had occurred previously varying in time from two to four weeks. When I arrived at the bedside, found she had fainted dead away, and the bed was literally soaked in blood. Here was an entirely different case from the others, it being the first pregnancy and the patient a little bit of a woman, who in her *best estate* never weighed over ninety pounds, could ill afford to spare any blood, and was pale and chloroic at all times. The womb was but slightly open and the placenta firmly adhered about the os. The pains irregular, occasionally quite firm, then weak or entirely absent. In this case, as in the preceding one, the cord prolapsed and had ceased to pulsate. The child being evidently dead I concluded to deliver as soon as possible. I attempted to apply the forceps but the womb was not sufficiently open to do so. Opened the child's head and delivered. The mother was extremely prostrated from the great loss of blood, but before I left the house reaction had taken place and she did very well. Ether was given by an assistant.

CASE IV. November 6, 1884, 6 o'clock, A.M., received a note asking my assistance as soon as possible in a case of placenta prævia. The patient, a woman of some twenty-six or twenty-seven years of age, was in labor with her third or fourth child. She had had no pain and the womb was but slightly open. The flowing at this time was not as profuse as it had been at an earlier stage. The foot of the bed had been raised and the vagina was full of large firm clots of blood. The bed was full of blood, a large-sized vessel was one-fourth full, and I should think there was three pints in a slop-pail. The foot of the bed being raised had allowed the blood to flow back and there were not many dry threads in the garments on her person. She was plied with ergot and brandy as long as the stomach would retain them, and had fainted a number of times, and was almost pulseless. The cord as usual was prolapsed and had ceased to pulsate before my arrival. The os at this time was open to the size of a half dollar and the placenta could be felt to one side. I opened the head and removed the child as soon as I could sufficiently open the womb. I did not attempt to use forceps for fear of another gush of blood, which would have been quite likely to have proved fatal. The patient made a good recovery.

In two of the above cases the placenta passed before the child, and with them the flooding ceased.

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DILATATION OF PHIMOSIS.

BY CHARLES W. HARWOOD, M.D., OF WORCESTER, MASS.

About five weeks ago, H. S., a young man of twenty-four, came to consult me in regard to a phimosis. The prepuce, stretched to its utmost would allow a circle of less than three-eighths of an inch in diameter to be seen of the glans. As he contemplated marriage he was desirous of relief, but dreaded the operation of circumcision.

I had seen in the *British Medical Journal* (November 8, 1884, and January 31, 1885) articles upon this subject, the first of which articles has reappeared in *Braithwaite's Retrospect* for July; but as I was not able to procure readily the instruments described, I improvised one which, though ludicrously simple, perfectly answered the purpose.

It was made from an ordinary clothes-pin. I split the pin through to the end, and, cutting away to a proper angle the inner side of the shorter arms, I had twin levers of the first class, which a rubber band at the point of bearing kept together. The ends and edges of the longer arms were carefully filed smooth. I also provided half a yard of elastic cord which, when wound around the shorter arms, gave the necessary power.

I inserted the well-oiled ends of the longer arms between the prepuce and glans, and found that I could obtain by my rubber cord any degree of dilatation; but the stretching was far from being so painless as one of the correspondents of the *Journal* asserts. Accordingly, before my next trial I applied the four per cent. solution of cocaine, using four drops, and after ten minutes four more. Then waiting ten minutes longer, I inserted the instrument and dilated the foreskin readily, and without causing the slightest pain.

I repeated the operation twice a week, and now the prepuce easily passes over the glans.

The instrument costs altogether less than five cents, and as it will accomplish its work readily and painlessly (thanks to cocaine) I have thought it worth presenting to the notice of the profession.

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Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

January 4, 1886, Dr. E. M. Buckingham in the chair.

Dr. H. W. Cushing read a paper on

SUBLUXATION OF THE RADIAL HEAD IN CHILDREN.[1]

Dr. Fifield said that the subject of the paper was one that had excited discussion for a long time.

The injury occurs in both adults and children. In adults the cause is a fall upon the hand which may occasion displacement of that member anteriorly or posteriorly. In children the cause is due to lifting the child by the arm or hand.

There have been two autopsies in children; one where the head of the radius was found resting on the outer condyle; in the other a portion of the cap of the radius was found broken. Sometimes it is impossible to reduce the deformity.

As early as 1837, Gardner, and at the same time, Goyrand of Aix, investigated the subject and both said that the dislocation was due to a displacement of the triangular fibro-cartilage at the wrist-joint.

One theory that has been advanced to explain the deformity is, that the projection on the radius is hooked beneath the ulna, until strong supination is made; but this is untenable, owing to the distance between the bones being too great. It has been thought that the turn of the head of the radius upward carried with it a portion of muscle that produced the dimple so often seen.

Dr. R. M. Hodges has written a paper upon the injury, which had been accepted as an authority.

Dr. Fifield spoke of the extreme ease with which the deformity could be reduced; at times the head of the radius actually slips back while the surgeon is examining the patient.

An injury which was extremely liable to be confounded with a dislocation is "paralysis from twist or sprain;" in this injury there is of course no sub-luxation but the arm hangs limp at the side.

The diagnosis is said to rest upon, the head of the radius being felt in its normal position in the "paralysis from a twist or sprain."

Dr. McCollom had seen three cases of the injury; the first went back very easily and quickly; the others were etherized, on account of the painfulness of the examination, and were then easily reduced. In the last case there was a marked swelling. The first case was treated with a simple figure-of-eight bandage but the others were immobilized for a little time by an internal angular splint. He called attention to the custom of nurses and parents carrying children across walks, etc., by seizing and lifting them by the arm.

Dr. Spear said that he could emphasize the statement made by the reader that all cases do not recover spontaneously. He described a case where there had occurred a dislocation of the head of the radius which had been followed by partial anchylosis preventing the individual from carrying the hand to the head.

In some English publication he had seen that an osseous outgrowth from the injured periosteum was the cause of limitation of motion at the elbow-joint. He considered that this arm was an example of that condition. In the arm he spoke of, the rotation was perfect but the flexion was impaired by osseous outgrowth. He inquired if the reader had found any recorded cases where this osseous outgrowth had taken place.

Dr. Cushing said that Hutchinson had reported an acute osteitis following the injury, and that permanent enlargement of the elbow-joint is mentioned by Linderman.

Dr. C. P. Putnam spoke of a case where the dislocation had recurred five or six times in a few years. The dislocation had been so easily reduced that the parents of the child had sometimes reduced the luxation.

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[1] See page 77.

Dr. S. H. Durgin then read a paper upon

THE CARE OF CONTAGIOUS DISEASES.[2]

Dr. A. H. Nichols remarked that while it was true that a few authorities (like Murchison) believed that certain zymotic diseases might be generated by the introduction of filth in a state of fermentation, on the other hand, a larger number of those who favor the theory of spontaneous origin do not deny the causative influence of a specific poison. They simply assert that this specific poison may originate from causes independent of antecedent cases of the disease to which it gives rise: filth being reckoned but one among many predisposing causes.

Dr. McCollom thought that disinfection when thoroughly carried out would be found a very satisfactory sanitary measure. He did not consider isolation the only thing to be done in cases of scarlet fever and diphtheria, but was a firm believer in the usefulness of disinfection. He considered that the disinfection of typhoid fever stools was a very important matter. Of the many cases of typhoid fever which occurred this last autumn, a large number of the patients were found to have contracted the disease out of the city.

He considered that the well-water in many places, especially picnic grounds, was not an uncommon source of the disease. He felt that an advance had been made when physicians were required to report cases of contagious disease. He recalled the case of a child who while returning from the country was in the railway car with a person who had diphtheria; in about five days after the child's return it became ill with the disease. As a disinfectant he recognized the value of corrosive sublimate, but he disliked to use the solution owing to its close resemblance to water. He preferred to use Labbaraque's solution or the permanganate of potassium.

In cases of small-pox, for example, isolation is not the only thing; he considered the disinfection by burning sulphur a very important sanitary measure. Although vaccination has done much to check the spread of small-pox, Dr. McCollom felt that disinfection had demonstrated its value. As showing the efficacy of disinfection, he cited the fact that no second case of small-pox had appeared in this city, after the removal of the patient and a proper disinfection of the premises had taken place.

Further, no patient, to his knowledge, had ever carried the disease out of the hospital. The clothes were hung up in a room exposed to the fumes of burning sulphur at least for twenty-four hours. At the Boston City Hospital, a few years ago, a case of small-pox appeared; this was removed and only one case, as far as he knew, ever occurred after its removal.

At the jail, a few years since, he had an experience with isolated cases of small-pox. These cases were at once removed, and disinfection of the cell and clothing was thoroughly carried out. No cases appeared afterward.

Dr. C. E. Vaughan instanced the spread of typhoid fever in a family of seven persons, which was apparently due to the careless use of the water-closet in which the dejecta were placed.

Dr. J. B. Ayer said, I do not wonder that some observers feel that the theory of germ contagion does not explain *all* facts regarding contagious disease. It is, for example, hard to understand why physicians so rarely communicate disease in going from house to house.

Ten years ago I made inquiry regarding the origin of scarlet fever in my Dispensary cases and found only twenty-two per cent. traceable. At the same time I was surprised to find that numerous children escaped after exposure to the disease. I found instances where children who had kissed a scarlet-fever patient, or had slept with one, had not contracted the disease. But I am not inclined to give weight to this negative evidence, and I believe, with Dr. Durgin, that every contagious case depends upon germs from a previous case of the same disease.

I believe in the strictest isolation, and insist upon a sheet being placed outside of the sick-room door sufficiently large to cover the whole space and to allow with more safety the door to be opened at will.

I would not rely upon disinfecting fluids or powders in the room, but would recommend that this sheet be kept moistened with a strong disinfecting solution.

I do not bathe scarlet-fever patients with disinfectants, but *always use strong antiseptics in the local treatment of diphtheria.*

I believe in sulphur fumigation. Dr. Durgin has recently disinfected a children's home in this city successfully with seven hundred pounds of sulphur.

Dr. Haven inquired if Dr. Durgin had had experience in the use of arsenic as a prophylactic in scarlet fever.

Dr. Durgin replied that he had never used it.

Dr. Haven suggested that the objection to the colorless character of solutions of corrosive sublimate might easily be overcome by coloring the solutions with some simple coloring matter: permanganate of potassium colored the bed-linen, indigo was suggested.

Dr. J. F. Couch, of Somerville, said that it is pretty difficult to prove that there is any belief in the theory that disease is to be regarded as an evidence of the anger of the Deity. I must dissent from the view advanced by the reader, that the recent outbreak on the part of the French-Canadians in Canada was due to such a belief. A more rational explanation would seem to be that the old-time antagonism existing between the two races, the French and the English, found this method of expressing itself. My experience with the French people in the city in which I reside, leads me to believe that they have no special objection to vaccination.

I am fully in accord with the reader in his views of the contagiousness of certain diseases, and believe in the necessity of isolation and disinfection as advocated by him. Having a few years ago a special interest in this subject, I made, more particularly with regard to diphtheria, notes of the sanitary condition of the houses in which this disease occurred. My experience did not tally with the reader's, for while he found, in Boston, of the houses in which there were cases of diphtheria, only twenty-one per cent. in poor sanitary condition, I found fully ninety-seven per cent. in poor condition. I believe in the contagiousness of diphtheria, but I know of cases in which there had been no known exposure. Of the contagiousness of typhoid fever, more especially since my own unpleasant experience with that disease, I have no doubt. I am glad that the two members of the Boston Board of Health who are present express their belief in its contagiousness. A few weeks ago another member of the Board was reported in the *Sunday Herald* as saying that it was not contagious. Accepting the theory of contagiousness of the three diseases to which I have referred, it will be seen that to restrict the spread of these diseases it will be necessary to isolate the patient and thoroughly disinfect the premises. Except as applied to small-pox, disinfection is not in my opinion thoroughly done. Loose windows and doors not fitting snugly to their frames, require such an amount of packing to make the room air-tight, that, practically, we find the gas escaping from the room almost as fast as it is made by the burning sulphur.

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[2] See page 75.

There will be no material headway made against the extension of these diseases until the work of isolation and disinfection is as thoroughly applied to them, as it is in the case of small-pox, by the Boston Board of Health. Boards of health have all the power they need in dealing with such cases, and those of cities and towns adjoining each other should work together in dealing with contagious diseases.

Dr. E. H. Stevens spoke of a house where, after four fatal cases of diphtheria, the family had moved out; the paper was removed from the walls of the room, and the house was disinfected with burning sulphur. Another family moved into the house and had diphtheria.

Dr. Durgin replied to a question as to what instructions were given, to those who did the disinfections, as follows:

First. To tighten up the rooms, that is, to pack the window-frames with cotton, etc.

Second. Everything in the room should be so exposed, that the fumes of the burning sulphur should come in contact with it.

Third. Three pounds of sulphur to every one thousand cubic feet of space, is burned rapidly by the addition of alcohol.

Fourth. This is continued for six hours.

This fumigation is pursued after cases of small-pox, scarlet fever, measles, and diphtheria.

Dr. Stevens inquired regarding the treatment of the mattress, as he felt that it might be a direct source of contagion.

Dr. Durgin said that he should take off the covering, shake out the hair, and fumigate with sulphur.

Dr. Page mentioned, in connection with, and as bearing upon the remarks of Dr. Stevens, an instance wherein a mild case of scarlatina occurred in a family with two children, in which complete separation and isolation were faithfully carried out, the other child being sent away from home. After recovery, and before the return of the well child, the room was thoroughly fumigated with sulphur, the paper on the walls removed, the room repainted and repapered, the mattress steamed, and afterwards cleansed with naphtha, the family not feeling satisfied that steaming was sufficiently protective; and yet, within three months after the second child's return, she came down with scarlatina. Assuredly, this case could not have been owing to contagion, pure and simple. It must have originated wholly from infection.

On the other hand, while a general practitioner of medicine in an adjoining State, he had often noticed in his own experience, which was large, that it was not of infrequent occurrence, in epidemics of scarlet fever, to have *one* child out of a numerous family of children, attacked with the disease, and *none of the others*, notwithstanding no attempts at disinfection, isolation, etc., were made by the family; nor were any precautions taken by them to prevent the other children from mingling freely with the sick one. While he did not wish to intimate that disinfection or quarantine were valueless, he thought that the question of the susceptibility of patients to this particular disease, which varied greatly in children, as, in fact, it does in all contagious and infectious diseases, was one which was too often overlooked. This susceptibility, or rather, want of susceptibility, was also the probable explanation why so many children escaped the disease, even after they had been exposed to it.

Dr. Ernst said that he thought Dr. Durgin was mistaken in saying that the general opinion was that diseases and *disease-germs* have existed always in just the form, and with just the properties of which they are now possessed; that there is no reason for denying that an evolution of these forms may have taken place. The point to be settled is whether the pathogenic powers of a special form of micro-organism being proven, those properties can be altered by any means within our knowledge.

At this point, in reply to a question, Dr. Durgin said that he had always considered a contagious disease as "one which required an actual contact with the disease or thing." An infectious disease he considered "one that travelled through the air." He considered that the terms were used very loosely and interchangeably.

Dr. Ernst said there should be a more exact use of the terms *contagion* and *infection.* It is difficult, oftentimes, to discover what the authors using the terms mean by them. Dr. Durgin's definition seemed to be the one ordinarily accepted. Dr. Durgin speaks of two classes of physicians being opposed to each other in the matter of pathogenic properties in bacteria — the one affirming, and the other denying that these lower forms of life have any power for harm in the human system. Conviction has been so widely spread among physicians, that it cannot, at present, be said that there is a *class* of medical men who deny the pathogenic powers of certain of the bacteria — *provided* that only those are considered who know something of the subject, and it is to such that Dr. Durgin refers in his paper. It is rather the *botanists* who are arrayed in opposition to the assertions of the bacteriologists.

Dr. Durgin advances the theory that certain diseases differ in their power and rapidity of transmission, because of the difference in weight of the organisms producing them. This seems to be something new, and the grounds for such a statement are unfamiliar to me. My own theory in regard to these differences in weight, which differences are, I think, too slight to permit of any differentiation, but by differences in the nature of the various bacteria themselves. For example, the bacillus of tuberculosis grows only at a certain temperature higher than is ordinarily found in the air; this temperature must be constant for some time, and there must be other conditions of moisture, nutritive soil, etc., to permit of its complete development. This explains why, with no reference to differences in weight, tuberculosis is not more evidently propagated from one case to another than it is, and why it differs from Asiatic cholera — the bacterium of which flourishes with such very great vigor at a lower temperature, and in much less time.

Dr. Durgin and some of the other gentlemen have spoken of the specific organisms of a number of diseases as if these organisms were definitely isolated and recognized. This, notably in regard to small-pox, yellow fever, typhoid, and scarlet fever. If the bacteria of any of these diseases have been so definitely studied as to be certainly connected with the disease, it is strange that something more has not been said in regard to them. Certainly, the one who has isolated the bacterium of small-pox, should have made an effort to obtain the prizes waiting to reward efforts in that direction, and Dr. Sternberg's failure to find the specific cause of yellow fever is well known.

The report of the Committee on Disinfectants of the American Public Health Association, is a good one, and must be accepted, as far as it goes, for the present. It certainly reflects very great credit upon the members of the Committee who made it. From a scientific point of view, it is imperfect, however — as the authors themselves state — by reason of the few organisms experimented upon, and also because of the present imperfect condition of our knowledge of bacteriology. We should all be glad to know of the position of our Board of Health, and of the views which Dr. Durgin has expressed here this evening.

DR. C. P. PUTNAM inquired if fumigation with sulphur rotted cotton cloth.

DR. DURGIN said that he thought not, as a general rule, although very rarely the fumigated clothes of patients were quite tender.

DR. PUTNAM inquired if the bathing of patients with chloriated soda had any other effect than as a disinfectant.

DR. DURGIN considered that it was not unpleasant, and felt that it might aid in confining the disease to the bed. Carbolic oil was used in cases of small-pox.

DR. PUTNAM thought that chlorinated soda might make the patients sore.

DR. HAVEN suggested the use on scarlet-fever patients of corrosive sublimate soap.

DR. DURGIN, in reply to a question, stated that carbolic acid was used to wash the floors and walls of a room, and the burning sulphur to fumigate the room.

DR. J. L. HILDRETH said that he did not think that disinfection and isolation were carried far enough. He considered the law that prevented children from attending school for a specified time after recovery from the disease. He thought that the decrease of deaths that occurred in the community following the passage of this law might be explained by the subsidence of an epidemic. He mentioned some experiments which had been performed under the auspices of one of the local boards in England, which showed that the propagation of scarlet fever did not depend upon epidermal scales, and asked Dr. Durgin if he considered the desquamated epidermis as a means of spreading the disease.

DR. DURGIN replied that he knew nothing to prove that the scales were a direct source of contagion.

DR. HILDRETH inquired whether there was a definite safe period as regards contagion following a case of scarlet fever or diphtheria.

DR. DURGIN considered the two weeks' law an absurdity. He thought that when the skin was smooth after scarlet fever, danger was passed. He thought that the school law had greatly diminished the deaths from contagious diseases. The first year the mortality from scarlet fever was cut down three-quarters, and remained at a low point until 1883. The death-rate from scarlet fever at one time for a number of years, was from three to six hundred per annum, and immediately following the passage of the school law, the mortality dropped as above stated. For the last two or three years the mortality had been gradually increasing again.

DR. BUCKINGHAM said that the proposal to disinfect the skin of scarlet-fever patients by carbolized oil inunctions, is, in his opinion, dangerous, because of the rapid absorption of oil by the skin of these patients. He also said that he had seen a number of single cases of scarlet fever at various times, at the children's room of the dispensary, and, although the waiting room is often close and crowded, he had never seen any spread of the disease among the patients there in attendance. These cases had been mostly in the early part of their sickness, and he asked Dr. Ayer if, in his cases of exposure without contagion, there had been any observation as to stage. Of course his own observation was liable to the fallacies attending such inquiries in an out-patient room. He further inquired regarding the process of preparing patients for discharge from the small-pox hospital.

DR. MCCOLLOM said that the patients had six to eight baths, with a little carbolic in the water, previous to leaving the hospital.

DR. DURGIN closed the discussion, and said that he was a firm believer in the efficacy of the disinfecting of stools of typhoid-fever patients.

In answer to Dr. Couch he said that the Board of Health had always been in the habit of using large quantities of disinfectants in vaults, cesspools, and other foul places. Formerly sulphate of iron was used, but for the last two years we have used corrosive sublimate, which is much more powerful as an antiseptic and germicide. Although we might not suspect the presence of a disease germ, the use of these disinfectants is still called for to prevent decomposition, putrefaction, and foul odors.

He said that regarding the germ of small-pox and typhoid fever, he had considered that it existed by analogy. He continued: Dr. Ernst must have misunderstood me in regard to the discovery of the germs of small-pox and scarlet fever. I said I should be equally pleased with himself to learn that these germs had already been demonstrated.

The speaker felt that in speaking of germs, one naturally spoke of them as lighter than one another, for we know that the contrast in the contagiousness of certain diseases is very great; for instance, it is an established fact that in a yellow-fever epidemic, those who reside in the lower floors of a dwelling-house are particularly apt to contract the disease, while those who live in the upper stories are usually exempt from an attack. He fully accepted that the weight of a germ was not demonstrable, but considered that it was an instinctive way of speaking.

He felt that the susceptibility of the individual was a large factor in determining an attack of any contagious disease, particularly scarlet fever. Regarding the thoroughness of disinfection, he instanced a house on Charles Street, near the river, where several died with scarlet fever. The rest of the children were sent away. The house was thought to be thoroughly disinfected. On the return of the children, after a considerable lapse of time, scarlet fever again appeared. This was repeated twice in the cases of other children who moved into the house. He thought that the soil through a broken drain might become infected, and not reached by an ordinary disinfection. He did not consider that an example like this detracted materially from the advantages of disinfectants.

He did not believe in destroying the clothing of patients, or any article of value, but considered that efficient disinfection can be made sufficient.

In regard to the unsanitary condition of houses, and the comparison of the statistics of Somerville and Boston, he said that Dr. Couch had misunderstood his figures, for on investigation, only twenty-one per cent. of the houses were found in a *sanitary* condition, thus leaving seventy-nine per cent. in an *unsanitary* condition. This makes the comparison between the investigations not so unlike.

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PATHOLOGICAL SOCIETY OF PHILADELPHIA.

W. E. HUGHES, M.D., RECORDER.

Stated Meeting, January 14th, 1886, the President, J. C. Wilson, M.D., in the Chair.

Dr. T. S. K. Morton presented a cancer of the lower third of the œsophagus, with metastases to the stomach and liver, from a woman, aged sixty-one years, of good family history. Her illness commenced, by her account, eleven weeks before her death, with jaundice, vomiting, constipation, and lancinating pain in the right hypochondrium. The vomiting became uncontrollable, the matters several times containing coffee-ground material. After death, there was found a scirrhus cancer of the lower third of the œsophagus, extending to the stomach, with no narrowing of the œsophageal lumen. The retro-peritoneal glands were involved, and the head of the pancreas slightly. Scattered through the liver and stomach, were numerous secondary nodules.

Also cirrhosis of the liver, with perihepatitis, removed from the body of a woman, aged forty years, who had been an excessive consumer of strong spirits. Symptoms had been present for five years, the most prominent of which were general œdema, with marked ascites and diminution of the area of liver dulness. She died of an intercurrent attack of facial erysipelas. The liver weighed thirty-six ounces, and was strongly adherent to neighboring structures. At its entrance into the liver, the portal vein was much contracted, and below this point, dilated.

Also, amyloid degeneration following chronic dysentery. The patient, a girl, aged twenty years, had no history of syphilis; there was a perfectly good family history. She had been in poor health, but with no positive symptoms, for two years. Last summer, she had whooping-cough. After that, she improved steadily till three weeks before her death, when profuse diarrhœa, with high fever, set in. This was the first attack of looseness of the bowels she had had. Jaundice gradually developed. The liver was found to be enlarged. The urine contained albumen and casts. The diarrhœa persisted, the passages containing blood and pus. At the autopsy, the liver, spleen, and kidneys were found infiltrated with amyloid material, and the large intestine was, throughout, in a state of chronic dysenteric ulceration. Dr. James Tyson said this was the first case he had ever met with in which there was this association of amyloid disease with dysentery, as the etiological factor, although this seems the only possible cause in this instance, where the possibility of syphilitic disease seems excluded.

Dr. W. Osler thought it was well recognized that chronic dysentery might be followed by extensive amyloid disease. He had met with one or two instances in connection with chronic diarrhœa, which post-mortem examination showed dependent on chronic dysentery, with very much the condition of bowel present in Dr. Morton's specimen.

Dr. Osler presented a spindle-celled sarcoma of the retro-peritoneum, with extensive thrombotic degeneration, and gave a history of the case. A man, aged sixty years, was admitted to the University Hospital in September, 1884, with an abdominal tumor, which had been noticed for about six months. He had lost flesh and strength, but there was no pain. The tumor formed a solid mass, occupying a median position, extending above the umbilicus; could be readily separated by palpation from spleen and liver. The case was regarded as one of Lobstein's retro-peritoneal sarcoma. For several weeks, the patient passed daily, over seven pints of clear urine of low specific gravity, without sugar or albumen. The patient was subsequently admitted to St. Mary's Hospital, under Dr. O'Hara, and while there, Dr. Mears aspirated the tumor, the upper part of which had become soft, and drew off nearly two quarts of bloody serum. At the autopsy, the tumor was found to occupy a central position, was covered by peritoneum, and was attached to the tissues in front of the symphysis pubis, and seemed to have grown from the subperitoneal connective tissue in this region. The upper part of the mass was represented by a soft, fluctuating cyst, containing blood and shreds of firm thrombi; the greater part formed a solid mass, which, on section, presented a brownish-red color, was firm, dry, and had all the appearance of an old unstratified thrombus. In an area, at least, 7 x 8 inches, this remarkable condition existed. At the lower part, there were two or three grayish-white masses, evidently of a sarcomatous nature. The capsule was formed of condensed fibrous tissue, beneath which, in many places, were recent extravasations.

The weight was estimated as, at least, eight pounds. The lymphatic glands were not enlarged. The kidneys were fibroid. The liver presented several secondary masses, one the size of an orange. Microscopic examination showed the primary and secondary masses to consist of closely-packed spindle-cells. The reporter drew attention to the rarity with which spindle-celled sarcoma forms a large abdominal tumor, and to the unusual site of origin. The most interesting feature was the remarkable transformation which the greater part of the mass had undergone. This was attributed to repeated hæmorrhages, and the gradual conversion of the extravasated blood into a dry, hard thrombus. Such a thrombotic change in a tumor was most unusual, and he had not been able to find reference to a similar instance. A third point referred to was the polyuria, which was, doubtless, due to irritation by pressure on the renal nerves; and lastly, a reference was made to the facility with which the growth might have been removed.

Dr. J. E. Mears thought the growth could have been removed, though the removal would have been attended with some hæmorrhage.

Dr. Tyson would like to ask Dr. Osler what, in his opinion, was the effect of thrombotic degeneration on the histological elements of tumors; and again, is it possible for clots to be converted into the tissue of the original tumor, as is asserted by some?

The **President** remarked that the case was of much interest from a clinical standpoint, in view of the possibility of surgical interference, and asked Dr. Osler whether the conditions, as found *post-mortem*, suggested any means by which such a tumor as this could be diagnosticated from a similar growth, occupying the more usual position in the lumbar region.

DR. TYSON, in connection with the clinical history, called attention to a retro-peritoneal sarcoma, presented by him to the Society last winter, which had been mistaken by him and others, for a tumor of the kidney.

DR. OSLER, in reply to Dr. Tyson's first question, stated that the only remnants of sarcomatous tissue were two or three small, but very distinct, portions in the lower attached part of the tumor; the remainder had wholly undergone this thrombotic change, and in the upper part, had become converted into a blood-cyst. This change was, no doubt, slow, with first, a destruction of the sarcomatous elements by the blood-clot, and then a slow process of necrosis. There was no evidence, in any part of the tumor, of an invasion of the coagulum by the sarcomatous elements, as is not infrequent in thrombi in other regions, as he had seen in the portal and renal veins. The chief interest in the specimen lies in the remarkable extent of the thrombotic change. Looking at the clinical aspect, he had diagnosticated the case as one of retro-peritoneal sarcoma, from its large size, its being so centrally placed, its slight movability, its distinct separation from liver, kidney, and spleen, not being placed more on one side than on the other, and from the fact that palpation in the lumbar regions gave no pain, or other evidence of kidney lesion. It was firmer above the brim of the pelvis than any other tumor he had ever examined. One remarkable feature about these tumors is their painless character; this man complained of no pain, and in two other similar growths which he described at length, pain was not a symptom.

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Recent Literature.

Elements of Inorganic Chemistry, Descriptive and Qualitative. By JAMES H. SHEPARD, Instructor in Chemistry, Ypsilanti High School. Boston: D. C. Heath & Co. 1885.

This is an excellent elementary treatise, particularly well adapted for use in high and preparatory schools. The book is written with special reference to the method of instruction recommended by the author, which contemplates, in addition to didactic instruction by the teacher, a considerable amount of experimental work by the student. A scheme of qualitative analysis is included.

A Treatise on Practical Chemistry and Qualitative Inorganic Analysis. By FRANK CLOWES, D. Sc., London, Professor of Chemistry at the University College, Nottingham. With illustrations. Third American, from the fourth English edition. Philadelphia: Lea Brothers & Co. 1885.

The adoption of this book in America, and the demand for a third American edition, justifies the favorable opinion which we have previously expressed concerning it. In the present edition, the original plan of the book has been maintained, but it has been carefully revised, and, in parts, rewritten, and some additions have been made. We recommend this work as an excellent laboratory guide and text-book.

Medical and Surgical Journal.

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THE APPOINTMENT OF SURGEONS IN THE MARINE HOSPITAL SERVICE.

THE Annual Report of the Supervising Surgeon-General of the Marine Hospital Service for the fiscal year 1885 contains, as always, various matters of interest, and refers to one subject that is of national importance. Although the service has often demonstrated its usefulness, Congress has never made suitable provision for the appointment of medical officers. Bills to this effect have been repeatedly introduced and favorably reported by committees, but have never yet been reached for consideration, and the examination and appointment of medical officers is still a matter of regulation only.

The important duties which are entrusted to the surgeons of the Marine Service make it more and more important that a select class of men should be attracted to the corps, and it is difficult to imagine that any one would seriously urge the appointing power to cause the setting aside of regulations so obviously in the interest of humanity as those that require an examination for admission to the medical staff, simply to obtain a place for a friend, however needy, but experience has shown that nothing short of law will prevent such attempts with each recurring change of administration. Dr. Hamilton firmly believes, and we trust not without reason, that the merit system will ultimately prevail, and become firmly established.

It is hardly necessary to recall the fact that this service is not occupied alone with the health of the sailors of the merchant marine, but that in addition to other duties, the quarantine service of the United States continues, as for the past three years, under the management of this bureau. Additional interest is given to its operations by reason of the extensive epidemic of cholera which has appeared in Spain, and reappeared in its old haunt in the south of France.

This service consists, first, in a foreign inspection service; second, in the home quarantines; and third, the inspection, when circumstances render it necessary, of trains coming from Mexico and Canada, the former as protective against yellow-fever, and the latter as against small-pox. The duties of the inspectors in foreign ports are to make a personal inspection of vessels bound to the United States, the emigrants intending to sail thereon, and their baggage and personal effects. The second and third divisions of the service are carried out by the medical officers of the service.

Whatever value one may attach to quarantine service, it is necessary that it should be entrusted to men of zeal and intelligence. In this way only can its best results be obtained, and it is little to ask of Congress that the bureau of which so much is required, should be strengthened by such enactments as shall secure the faithful enforcement of such regulations in regard to examination of candidates as already exist, that the present high character of the service be maintained, and proper inducements be held out to its medical officers to make the service their life-long occupation.

THE THERAPEUTIC INUTILITY OF CALCIC PHOSPHATES.

Recent experiments tend to throw doubt as to whether phosphate of lime, given for medical effect, is ever assimilated by the organism.

Heiden, of Pommeritz, experimented with twelve guinea pigs, all of the same litter; four were vigorous, four less strong, and four were very feeble. These were divided into sets, four in each: two strong guinea pigs being associated with two weak ones. To one strong and one weak one was given phosphate of lime mixed with the ordinary food; to the other two pigs of the set only food was given. The experimentation lasted forty-three days, and the sole result obtained appeared to be augmentation of calcic phosphate in the excrements.

Heiden concludes from these experiments that phosphate of lime is not assimilated.

The same conclusions result from the researches of other German observers. Weiske has shown that phosphate of lime added to the feed of milch cows, not only is not assimilated, but is not even eliminated in the milk. Sanson, professor of the school at Grignon, has repeated these experiments and arrived at the same conclusions, namely: that phosphate of lime, added to the daily rations of animals, is not appropriated, and all passes out in the fæcal matters and in the urine.

THE SLOANE MATERNITY HOSPITAL.

One of the daughters of the late Mr. Vanderbilt, Mrs. William D. Sloane, has announced her intention to erect and endow, in connection with her husband, a maternity hospital, to belong to the College of Physicians and Surgeons. It will be a building of brick and terra cotta, three stories in height, and one hundred feet long by seventy-five feet wide. With this building, will be presented to the trustees of the College a sufficient sum of money to furnish the necessary income to completely support it as an absolutely free institution. Exactly what will be the amount required for this purpose cannot yet be determined. It is to be known as the "Sloane Maternity Hospital," and will be erected immediately; its position being just west of the college buildings now in course of erection.

The college, through Mr. Vanderbilt's liberality, owns twenty-nine building lots, but ten of which are occupied by the college proper. Four others, at the corner of Tenth Avenue and 59th Street will furnish ample room for the Maternity, which is designed for twenty-five beds, and the plans for which are now being prepared by the architect of the college building.

Although this hospital will be under the control of the Faculty of the College of Physicians and Surgeons its business management will be in charge of a separate board of managers, consisting of five members, of which the president of the college is the chairman *ex officio*. The four gentlemen selected for the first board are William D. Sloane, representing the donors; Cornelius Vanderbilt, representing the board of trustees of the college; and Professors J. W. McLane and Francis Delafield, representing the Faculty.

A FATAL ERROR IN DIAGNOSIS.

The principal surgeons of the Hospital St. Spiridon, of Jassy, a city of Moldavia — Drs. Russ, surgeon-in-chief, and Scali, assistant-surgeon — lately committed the unpardonable blunder of mistaking a case of seven-month's pregnancy for one of cysto-sarcoma of the right broad ligament. An operation was undertaken for the removal of the supposed tumor, when a well-developed fœtus was found of the age before stated, and which lived several hours.

The details of this shocking affair are given in the *Gazetta Medicala Jassy*, a journal edited by members of the hospital staff. The mother died on the eighth day after the operation. The surgeons concerned in this case were condemned by the Superior Sanitary Council, with the recommendation to the proper authorities that their licenses be revoked. They, however, appealed to the Courts, and, after a hearing, were acquitted.

MEDICAL NOTES.

— It was announced in recent dispatches from Paris that "Sullivan and Jacques of Boston arrived here to-day to submit themselves to M. Pasteur's treatment for the prevention of hydrophobia. M. Pasteur refuses to inoculate Sullivan, as seventy days have elapsed since he was bitten." Jacques is Mr. Charles Jacobs, a native of Groton, where he still resides on the old farm of Oliver Prescott, Jr. Sullivan is John J. Sullivan, Mr. Jacob's hired man. In the first part of November last, a pet shepherd dog belonging to Mr. Jacobs was taken sick, and died in a few days, during which time the animal had licked an eruption on Sullivan's chin. A horse died shortly after, and, as some of the animal's saliva had fallen upon abrasions on Mr. Jacob's hand, he determined, although there was no evidence of hydrophobia in either dog or horse, to make assurance doubly sure, and go to Paris for treatment at the hands of the French scientist.

— It is suggested that oil of peppermint is very useful for burns. The oil is painted on the affected part with a camel's hair brush, and the pain is said to be immediately relieved.— *Therapeutic Gazette*, 15th September, 1885.

— The prize of 8,000 francs, offered by the Belgian Academy of Medicine for an elucidation by clinical facts of the pathogenesis and treatment of diseases of the nervous centres, and principally of epilepsy, has not been awarded; but a sum of 500 francs is offered, by way of encouragement, to the author of the essay bearing the motto, "Traditionem pondero, doctrinam respicio, sequor veritatem," on condition that he allow his essay to be printed in an abridged form, with the criticisms of the Commission.

— Professor Chiara has, we learn from the *London Medical Record*, given antipyrin in various pregnant women, and his conclusions are these: 1. Antipyrin in therapeutic doses has no appreciable action on the uterus. 2. Pregnancy does not modify the action of antipyrin. 3. When it is indicated to combat fever arising during gestation, antipyrin may be administered without fear. 4. Antipyrin favors the continuance of pregnancy by subduing the fever, as do other antipyretics.

— Baudet published, some time ago, a study of three cases of nephritis occurring in the same family, from which he was led to the belief that Bright's disease might, in certain cases, be hereditary. This hypothesis has received a certain measure of confirmation from another series of cases published by Kidd (*Ann. de la Société de Med. d'Anvers*, 1885), in which, out of the twelve children of a female suffering from Bright's disease, seven died of the same malady.— *Florida Medical and Surgical Journal, December*, 1885.

— *The Los Angeles Times* gives the following statistics of the climate of Santa Anna Valley, which will be found interesting to the health-seeker: Out of 365 days there were 332 pleasant days in 1880, 323 in 1881, 342 in 1882. For these three years the average temperature was 65°, 65¼° and 65½°. The average temperature for each month of 1885 ranged between 58½° and 73½°. The average velocity of the wind is about four miles an hour.

— Says the *Sanitary News*, of Chicago: "A Committee from the Massachusetts Medical Society, consisting of six physicians, has been appointed to urge upon the Legislature the advisability of the reorganization of the State Board of Health, by separating it from the Board of Lunacy and Charity. It was an act of lunacy to consolidate these three Boards in the first place, and it will be an act of charity to separate them again."

— Dr. H. P. Walcott, of Cambridge, has been in Washington during the past week, in his capacity of President of the Public Health Association. He is trying to unite the National Board of Health and the various State Boards, in support of a bill to establish a National Commission, to be made up of representatives from the various State Boards. We understand that a bill is in preparation with this in view, and that all the health associations will probably unite to urge its passage.

— In a supposed murder case in Detroit, the county physician testified that the victim, a woman, was killed by a blow on the head. Her two sons were placed under arrest. After the examination, the skull was brought to the city and examined by four physicians, who declared that death resulted from pneumonia, and that the fractures which the county physician found, were produced by himself in removing the top of the head to examine the brain. The two sons have accordingly been released.

— The digestibility of cheese depends a good deal, according to Klenze, on its physical properties. All fat cheeses are dissolved or digested with great rapidity, because the molecules of casein are separated only by the fat, and so the solvent juice can attack a large surface of the cheese at one time. Whether the cheese be hard or soft does not appear to matter, and there is no connection between the digestibility and the percentage of water present in the cheese. The degree of ripeness and the amount of fat have, however, considerable influence, for both these conditions render the cheese more friable, and so allow of intimate contact of the juice. Cheddar took the shortest time to digest (four hours), whilst unripe Swiss cheese required ten hours for solution. — *Lancet.*

— Dogs doomed to die in London do not suffer half so much as men who pay the extreme penalty. The unclaimed curs trot into the lethal chamber at Battersea, which is filled with narcotic vapor, produced by passing carbonic oxide over a surface of anæsthetic mixture, composed of chloroform and bisulphate of carbon. Apropos of this provision a correspondent of the *St. James's Gazette* says: "Perhaps some of those who read in one of the newspapers of the quick, painless and peaceful death suffered by the unclaimed dogs at Battersea may have been struck, as I was, with the thought that the criminals who are condemned by our law to suffer death are treated worse than the dogs. At Battersea, where the arrangements were planned under the supervision of Dr. Richardson, the dogs who are condemned to death are 'wheeled into the chamber, they lie down, curl themselves round, fall asleep, and so their lives are closed.' Surely such an ending for a murderer would not only be more humane, but would be more solemn and impressive than some of the scenes which are reported from time to time in connection with the present system of hanging."

— Our English contemporaries are calling attention to a number of recent deaths of ladies at the toilet through the catching fire of light evening dresses, owing to the inflammable material of which they are made coming in contact with a candle or gas flame. It suggests as a precaution that muslins and such light fabrics be steeped in a solution of sodium tungstate, which will render them non-inflammable, so that they may safely be worn in dangerous situations. Tungstate of soda is comparatively inexpensive, and, by the outlay of a couple of shillings, the dresses of the whole household may be protected from fire. To three parts of good dry starch, add one part of tungstate of soda, and use the starch in the ordinary way. Should the material not require starching, dissolve one pound of tungstate of soda in two gallons of water, well saturate the fabric, and then let it dry. It will not affect in any way even the most delicate color, and ironing does not interfere with the efficacy of the process. Muslin so treated may be held in the flame of a candle or gas lamp without catching fire, so that, although the part in contact with the flame may be charred, or even destroyed, there is no danger of its spreading.

— A correspondent writes to the *British Medical Journal*, that while the late Dr. W. B. Carpenter lost his life from an accident whilst taking a lamp-bath, yet that valuable remedy (of whose efficacy he was well aware), is in no way to be discredited in consequence of the accident. It would appear that an open gallipot was used to hold the spirits of wine, and that this was upset when he endeavored to rise from the chair. Those who are accustomed to administer such baths, use tin lamps with a broad base, which are difficult to upset, and are, moreover, provided with a wick and cover, and some with hot-water vessels placed over the lamps. The writer recommends, as the best contrivance for this purpose, the Malvern lamp (invented by the late Dr. J. M. Gully and Mr. Hamsher, of Great Malvern). It is made like a school-inkstand, with a movable top, which is removed when the spirit of wine, or methylated spirit, is poured in, and which subsequently serves to regulate the height of the flame. The hot-water vessel will be found unnecessary, as a can of hot water left open and placed between the feet, will answer all practical purposes, thus preventing congestion of the head, and shortening the process by its contribution of warm vapor. The extinguisher should be placed on the lamp by an attendant before the patient attempts to rise.

NEW YORK.

— Dr. Cyrus Edson, Chief of the Second Sanitary Division, has seized between six hundred and seven hundred oranges, recently received from Florida. It seems that they were frozen on the trees during the cold weather of the early part of January, and in consequence, have become unfit for eating.

— At the annual meeting of the Hospital Saturday and Sunday Association, held recently at St. Luke's Hospital, it was reported that $40,407 had, thus far, been received from the collections and gifts to the fund during the year. Other contributions to be sent in, it was announced, would increase the amount to $46,000, and it was hoped that the effect of an appeal recently sent out to a number of corporations, would bring it up to $50,000. The increased amount this year, as compared with last, has been mainly due to the larger collections in the churches. Last year, the hospitals received, after the expenses of the collection had been deducted, the sum of $29,917.

PHILADELPHIA.

— The Mutual Aid Association of the Philadelphia County Medical Society, instituted in May 1878, has now accumulated sufficient funds to enable it to enter upon its benevolent work, and to devote a part of its income to the purposes of its organization, which was principally to assist the families of deceased members where such assistance is urgently needed. This is the first time in its history when it has been able to respond to such calls, because its capital has not hitherto reached the minimum limit established by the by-laws, but it has been enabled to do some charitable work. It is capable of doing very much good, as we know from the history of the New York Society from which it derived its inspiration.

— The recent action of the County Medical Society with regard to the delegates to the American Medical Association, and the passage of the resolution urging a restoration of the *status quo* for the sake of "the promotion of professional harmony," has had quite the opposite effect at home, whatever may be the chances of its ultimate success at St. Louis, of which many entertain grave doubts. The election of the delegates has been contested on the ground that the election was irregular and opposed to the by-laws, which require that the nominations shall be made at the preceding stated meeting. This controversy will serve to infuse new life into the proceedings of the Society for some time to come, and will indirectly be of service in increasing the attendance upon the meetings, and therefore if an evil, it will not be an unmixed one. If all the members could be made to attend and vote, at the next quarterly meeting, it is not improbable that the action of the last meeting would be reversed, and the harmonious advocates of the original committee might find themselves left in the minority.

— At the Pennsylvania Hospital recently, during Dr. Da Costa's clinic, a case was shown which possessed unusual features, and illustrated the effects of a new remedy. A boy, eleven years of age, had been brought into the wards a short time before, suffering with chorea to such an extreme degree that he was completely helpless; he had no power to walk, could not feed himself, and could not even articulate words with sufficient distinctness to make his wants known. The muscular movements did not cease entirely at night. He was given hyoscyamine in doses of 1-200 grain, which was soon increased to 1-100 of a grain given three time a day. This remedy had been used in tremor with such marked effect as to lead the lecturer to give it a trial in chorea. The effect was very marked. In four days the boy was out of bed, and going about the ward, and he had steadily improved since. When shown, nearly three weeks after admission, the muscles were quite steady and the boy could walk naturally, and he was ready to go home.[1]

— Dr. H. C. Wood exhibited an interesting case at the meeting of the County Society held on the 20th inst. It was that of a young man, about twenty-five years of age, who presented the following interesting group of symptoms: hemiplegia and hemianæsthesia of the right side of his body, including the face; vertical hemiopia (the right half of the field of vision of the left eye was deficient; the right eye had been lost), decided diminution of hearing in the right ear, and persistent aphasia. In order to account for the symptoms, Dr. Wood inclined to the hypothesis of a double lesion, in the left hemisphere of the brain, one in the course of the motor tract in the internal capsule encroaching upon the optic thalamus, the other in the vicinity of the third frontal convolution, and especially involving the claustrum. The history of the case, unfortunately, was defective. The lecturer regarded a multiple lesion as an evidence of syphilis. At the same meeting Dr. Bruen presented a case of supposed syphilitic disease of the lung, which had improved under treatment, and Dr. J. H. Musser showed sections of a case of syphiloma of the lung, where both lungs were found invaded by numerous miliary gummatous deposits around the smaller arteries especially; there were no signs of attending inflammation of the mucous membrane, interstitial cellular tissue, or the pleural investment of the lungs; the patient died with acute meningitis, which may have been syphilitic also, as similar deposits were detected in the brain.

Miscellany.

ON A CONDITION OF THE INNER SURFACE OF THE UTERUS, AFTER THE BIRTH OF THE FŒTUS, OF PRACTICAL IMPORTANCE.

Dr. J. Braxton Hicks read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Cardiff, a note calling attention to a condition occasionally noticed after the expulsion of the fœtus; and which may easily give rise to mistakes of a clinically grave character. (*British Medical Journal*, October 10.) He says:—

When the uterus is emptied of the fœtus, the area of its inner surface is proportionally reduced. If the lining tissue also became contracted to the same extent as the muscular substance, then it would lie smooth and level; but, in some cases, this is not so; consequently, it is thrown into folds or waves, imitating in some instances, growths springing up loosely from the surface. But there is a still further state which adds much to difficulties of diagnosis, and, consequently, to danger in practice; for this inner membrane (I speak from the clinical point of view) is not unfrequently resting loosely on the muscular coat beneath, so that, when the fingers are pressed against it, it glides over the subjacent part, so as to feel very like a portion of the placenta, or the thickened membranes; so much so, that, in some cases, till I had traced it for some distance, I could not tell its exact nature. Where nodules of inflammatory deposit occur in the same case, there this portion is fixed firmly to the muscular tissue beneath, but beyond it is loose; and thus there is a great similarity to the placenta, I mean where the placenta has been already removed. The cases in which I have particularly noticed this condition, are those where I have had occasion to remove the placenta for adhesion. I have not noticed it where, for other reasons, I have passed the hand within the womb, as in ordinary turning; nor in, by any means, every case of adherent placenta. Yet, inasmuch as, in such cases, one does not specially look for such phenomena, it is impossible to say in what proportion it might exist. In the first case that I observed it, it was most marked. It was in a case to which I had been called, of very difficult labor, in consequence of miserably ignorant attempts at delivery, whereby both arms had been brought down over the back, and were drawn down outside the vulva, both humeri having been broken. The placenta was adherent, and in passing the hand to remove it, I was on the point of mistaking this loose lining of the womb for the placenta, and was about to detach it when, in passing my hand over the placenta, I concluded that it was the uterine surface covered by the smooth membranes. To make quite sure, I penetrated the placenta from the amnial surface, where I was quite sure of its presence, and worked outwards to the margin, and thus was able to safely remove it. I need not record more cases, for attention having been once directed to it, it will, I think, be readily comprehended. I am not aware of any one having noticed or pointed out the peculiarity before, though I can hardly think it could have escaped observation; but, in the excitement of the moment, the danger of mistaking the lining of the uterus for adherent placenta is undeniable, and this must be my excuse for occupying your time.

Correspondence.

HUMANIZED VIRUS.

Boston, 27 Dudley St., Jan. 25, 1886.

Mr. Editor, — Had Dr. Chapin been familiar with the effects of long-humanized virus, he would not have written either his first or second letter. The quotation from Dr. Leonard in the latter will conclusively prove to any one who knows what vaccination was in this country sixteen years ago, and is to a great extent in Great Britain to-day, that the stock of virus used by the Health Officers of Providence certainly cannot be that of long humanization, as claimed in the first letter, but must have been modified by renewal from the cow within a comparatively few years.

Virus after one, twenty, or one hundred human removes, is "humanized virus," but that is a very different thing from virus of eighty or even thirty years unbroken human transmission.

The picture I drew of the effects of the virus now in use by the Health Department of Providence, applied to that virus, as I distinctly stated, *if it had the pedigree claimed for it*, but that it is either an "erroneous" or "purely imaginary" picture of the effects of long-humanized virus, I utterly deny. It is based upon the careful study of a very great number of vaccinations with the stock of the National Vaccine Institution of Great Britain (preserved with religious care in a state of excellence unknown anywhere else, and which it would be folly to say was not the very best and most active stock of long-humanized virus extant) and also upon the writings of the most eminent observers from the time of Bousquet. If Dr. Chapin will procure some authentic long-humanized virus from the institution named, and watch its effects, he will see that my description is strictly accurate. My father's Report on Animal Vaccination to the American Medical Association in 1877, in which he gives an exactly similar description, was reviewed at great length by the highest authorities and in the leading medical journals of Great Britain. In that country through ignorance of animal vaccination and through prejudice the profession are overwhelmingly in favor of long-humanized virus, and its reputation is guarded with the utmost jealousy. In not one of these reviews was the slightest exception taken upon this point, as there certainly would have been, had it been open to such. Allow me to say that I never held that vaccination with long-humanized virus was not to a greater or less extent protective from variola: but I do hold that it induces an imperfect vaccinia, and that post-vaccinal variola is far from uncommon in subjects so vaccinated. Animal virus on the other hand, produces the perfect disease, and is naturally a far surer protection.

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[1] This case was made the subject of a clinical lecture, which can be found in the Philadelphia Medical Times for January 23.

A typical scar, and one proving the most perfect vaccinal effect, is not as was once universally taught in the schools, foveolate; but is characterized by rays or bands of cicatricial tissue. I do not admire a "deep, *smooth* scar," and never intimated that I did. I repeat most decidedly that the Providence virus cannot be the long-humanized, though I have no doubt that Dr. Chapin honestly believes it to be such. It was to guard against just such sources of confusion and wrong deductions, that I stated in my paper that the comparison suggested was not now possible here.

Yours respectfully,

Stephen C. Martin, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 16, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	652	263	14.84	14.55	1.05	.75	8.25
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	39	7.77	19.73	1.80	.60	4.20
Baltimore	408,520	144	58	12.42	15.81	.69	.69	8.28
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	105	26	6.65	12.35	.95	—	1.90
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia .	194,310	87	28	15.47	19.14	—	2.38	7.14
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	42	8	12.00	26.84	—	—	2.40
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	12	25.10	17.40	—	—	13.05
Charleston	52,286	40	14	7.50	15.00	—	—	—
Lowell	64,051	36	10	16.66	27.77	—	5.55	11.08
Worcester	68,383	18	11	5.55	16.66	—	—	5.55
Fall River	56,863	26	11	26.95	11.55	11.55	—	—
Cambridge	59,660	26	6	19.25	7.70	3.85	3.85	7.70
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	10	2	20.00	30.00	—	—	—
Springfield	37,577	13	0	7.69	7.69	—	—	7.69
Somerville	29,992	—	—	—	—	—	—	—
Holycke	27,894	5	2	20.00	—	—	—	20.00
New Bedford	33,393	10	6	20.00	20.00	10.00	—	10.00
Salem	28,084	11	4	9.09	18.18	—	—	9.09
Chelsea	25,709	5	1	20.00	40.00	20.00	—	—
Taunton	23,674	6	1	16.66	16.66	—	16.66	—
Gloucester	21,713	—	—	—	—	—	—	—
Haverhill	21,795	7	1	14.28	28.56	14.28	—	—
Newton	19,759	1	0	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Malden	16,407	3	1	—	33.00	—	—	—
Newburyport	13,716	5	1	20.00	—	—	20.00	—
Waltham	14,609	11	1	—	—	—	—	—
Fitchburg	15,375	0	2	30.00	—	10.00	—	10.00
Northampton	12,896	—	—	—	—	—	—	—
91 Massachusetts Towns	—	60	8	—	—	—	—	—

Deaths reported 1,513: under five years of age 516; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases whooping-cough, erysipelas and fevers) 192, consumption 231, lung diseases 242, diphtheria and croup 95, scarlet fever 22, typhoid fever 12, whooping-cough 18, diarrhœal diseases 18, malarial fever nine, puerperal fever five, erysipelas seven, small-pox two, measles three, cerebro-spinal meningitis two. From whooping-cough, New York 13, Baltimore two. New Orleans, District of Columbia and Providence one each. From diarrhœal diseases, New York six, Providence three, Nashville, Charleston, Lynn and Fall River two each, Boston one. From malarial fever, New Orleans three, Baltimore two, New York, District of Columbia, Charleston and Springfield one each. From erysipelas, New York four, Boston, District of Columbia and Fall River one each. From puerperal fever, District of Columbia two, Nashville and New Orlean one each. From small-pox, New York two. From cerebro-spinal meningitis, Fall River and Fitchburg one each. From measles, New York one. From typhus fever, New York one.

In 108 cities and towns of Massachusetts, with a population of 1,242,372 (population of the State 1,941,465), the total death-rate for the week was 17.16 against 16.98 and 18.18 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending January 2d the death-rate was 25.5. Deaths reported 4,360: infants under one year of age 959; acute diseases of the respiratory organs (London) 610, whooping-cough 168, measles 163, diarrhœa 49, diphtheria 41, fever 38, scarlet fever 34, small-pox (Liverpool, two, London and Bristol one each), four.

The death-rates ranged from 16.0 in Hull and 36.8 in Nottingham; Birkenhead 23.0; Birmingham 24.2; Bradford 21.7; Leeds 23.3; Leicester 21.5; Liverpool 27.9; London 26.5; Manchester 29.5; Newcastle-on-Tyne 23.5; Sheffield 18.4; Sunderland 19.6.

In Edinburgh 19.2; Glasgow 23.3; Dublin 37.1.

For the week ending January 2d in the Swiss towns, there were 29 deaths from consumption, lung diseases 24, diarrhœal diseases nine, diphtheria and croup six, small-pox and whooping-cough each four, typhoid fever one.

The death-rates were: at Geneva 10.1; Zurich 13.6; Basle 12.9; Berne 25.1.

The meteorological record for week ending January 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 16, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...10	29.363	9.8	14.8	6.6	55.0	58.0	68.0	60.3	W.	W.	W.	19	27	8	C.	C.	C.	—	—
Monday, ..11	29.928	8.8	15.0	3.0	76.0	49.0	57.0	60.7	W.	W.	W	14	12	14	O.	F.	C.	—	—
Tuesday,..12	30.366	-2.5	5.2	10.1	55.0	47.0	56.0	52.7	N.W.	N.W.	W.	12	12	6	C.	C.	C.	—	—
Wednes., .13	30.606	7.7	17.2	4.3	53.0	46.0	69.0	56.0	W.	W.	N.W.	8	4	8	C.	C.	C.	—	—
Thursday, 14	30.780	14.6	24.0	1.5	67.0	45.0	67.0	59.7	N.	N.	N.W.	10	10	8	C.	C.	C.	—	—
Friday, ...15	30.570	20.6	30.9	8.3	65.0	50.0	67.0	60.7	N.W.	S.E.	N.	6	3	6	C.	C.	C.	—	—
Saturday, .16	30.200	27.5	35.8	15.1	70.0	85.0	86.0	80.3	N.	N.	N.	9	12	12	F.	O.	O.	0.0	.00
Mean, the Week.	30.288	12.4	20.4	3.0				61.5											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING JANUARY 16, 1886.

Sawtelle, H. W., surgeon. To proceed to Los Angeles and Wilmington, Cal., as inspector, January, 1886.

Godfrey, John, surgeon. To proceed to Chattanooga, Tenn., and Rome, Georgia, as inspector, January 8, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 16, 1886, TO JANUARY 22, 1886.

Webster, Warren, major and surgeon. Sick leave of absence further extended nine months on account of sickness. S. O. 15, A. G. O., January 19, 1886.

APPOINTMENTS.

By the overseers of Harvard College in concurrence with the President and Fellows: Edward Lawrence Mark, Ph.D., to be Hersey Professor of Anatomy. William Lambert Richardson, M.D., to be Professor of Obstetrics.

RESOLUTIONS ON THE DEATH OF DR. JAMES H. WHITTEMORE.

At a meeting of the Boston Medico-Psychological Society held on the evening of January 21st, the following resolutions were unanimously adopted:

Resolved, That in the death of Dr. James H. Whittemore the Society has lost a friend who was one of the most active and valued of its original members, whose frankness, charm of manner, and unselfishness endeared him to all.

Resolved, That the Society desires to express its personal grief, its appreciation of his patient courage in suffering, and its sympathy with his family in their bereavement.

Resolved, That the Secretary be instructed to send a copy of these resolutions to the family of the deceased, and cause the same to be published in the *Boston Medical and Surgical Journal*.

J. B. Ayer, M.D.,
F. M. Turnbull, M.D.,
P. C. Knapp, M.D.,
Committee for the Society.

RESOLUTIONS OF THE BOSTON TRAINING SCHOOL FOR NURSES IN MEMORY OF DR. J. H. WHITTEMORE.

The directors of the Boston Training School for Nurses, deeply sensible of the loss suffered by the community in the recent decease of Dr. Whittemore, desire to give expression to their own great sense of loss in his too early death. Brought into close contact with him in all the details of working a training school for nurses, they ever found him ready to help and forward their work, while his liberality and openness of mind and constant, cheerful co-operation, have had much to do with the present position and activity of the school. The welfare of the nurses was always an object of his closest interest, and the admirable building in which they now live is the result of his energy and care, aided by a most liberal giver to the hospital The nurses will long miss his cheery presence among them, as well as his wise assistance.

The directors themselves, in carrying out their work, owe much to his consideration and courtesy; and their sense of loss and of admiration for his character and heroic endurance is deep and abiding.

To his family they would offer their deepest sympathy.

For the Board, Charles P. Curtis.
Ellen T. Vaughan.

RESOLUTIONS OF PLYMOUTH DISTRICT MEDICAL SOCIETY ON THE DEATH OF W. P. BROWNELL, M.D.

Brockton, January 22, 1886.

Mr. Editor, — In accordance with a vote of the Plymouth District Medical Society held at Brockton, Wednesday, January 20, 1886, I send the following:

Whereas, Dr. Nathan P. Brownell of South Scituate, a worthy member of this Society, died at his home, December 30, 1885, and while lamenting our loss it is hereby

Resolved, that to his family in their bereavement we tender our warmest sympathy, and to the community in which he moved our sincere regret at their loss of a high-minded physician, friend and citizen.

A copy of the above resolutions was also to be sent to his wife. The Society so voting. J. E. Bacon,
Secretary of Plymouth District Medical Society.

SOCIETY NOTICES.

Boston Society for Medical Observation. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, February 1, 1886, at 8 o'clock P.M. Readers: Dr. T. M. Rotch, "Cases of Interest in Practice." Dr. J. W. Elliot, "A Case of Salpingitis with Severe Symptoms: Removal of Tubes and Ovaries: Recovery." Report of the Committee on the Circulation and Distributions of the Journals.
H. L. Burrell, M.D., *Secretary.*

Suffolk District Medical Society. Surgical Section. — The regular meeting of the Section will be held on Wednesday evening, February 3d, at 8 o'clock. Communications: Dr. D. W. Cheever, "Chronic Obstruction from Congenital Malformation of the Bowels: Tentative Operation: Death." Dr. George W. Gay, "Laparotomy for Stricture of the Small Intestine: Death: Autopsy." S. J. Mixter, M.D., *Secretary.*

CORRECTION.

Boston, January 22, 1886.

Mr. Editor, — In the preceding number of the Journal I am reported as having said that "Da Costa has grounds for the opinion that pericarditis is not influenced by internal medicines." This should read "by salicylate of soda."

Yours very truly, F. Minot, M.D.

Boston, January 23, 1886.

Mr. Editor, — In the report of the Improvement Society in the Journal of January 21st, page 61, of the discussion of Dr. Abbot's paper on Pericarditis, I am credited with saying that I had never had a fatal case. This is incorrect, for I recall two such at least. Yours truly, G. H. Lyman.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Ausculation and Percussion. Embracing the Physical Diagnosis of Diseases of the Lungs and Heart and of Thoracic Aneurism. By Austin Flint, M.D., LL.D. Fourth Edition, Revised and Enlarged. Illustrated with fourteen woodcuts. Philadelphia: Lea Brothers & Co. 1885.

Lecture.

LECTURE ON HYPNONE.[1]

BY DR. DUJARDIN BEAUMETZ,
Physician to the Cochin Hospital, Member of Academy of Medicine, Paris, France.

At the session of the Academy of Sciences for November 9, 1885, I made known, in conjunction with Dr. Bardet, the hypnotic properties of a mixed acetone, known under the name of *aceto-phenone*, or *phenyl-methyl-acetone*, and to which I have given the name of *hypnone.*

Since this first communication, numerous experimental researches have been made on the physiological action of this body, clinical observations have multiplied, the modes of pharmaceutical administration have been perfected, so that to-day we can make an almost complete study of this acetone.

Discovered in 1857 by Friedel, aceto-phenone is the type of a numerous class of mixed acetones having for general formula, $C_{2n}H_{2n-8}O_2$, and which take their derivation from two organic acids, the one belonging to the fatty series, the other to the aromatic series, whence the name of *aromatic acetones* also given to this group of bodies.

This aceto-phenone, which has for atomic formula C_8H_8O, has different names, and if you will turn to the important work of Bourgoin,[2] you will see that it has been successively called *methyl-benzoile*, *acetylphenyle*, *acetylbenzol*, *methylphenylacetone*, *phenylmethylketone*.

For all these chemical appellations, we have deemed it best to substitute, from a practical and therapeutical standpoint, a smoother medical term, and have proposed the name of hypnone, which recalls at once the physiological properties of this body, and the chemical group to which it belongs.

Chemists embarrassed by the scientific exigencies which compel them to give to a substance which they discover names of greater and still greater complexity, seem unable to furnish smooth terms for medicinal substances, and we find the same inconveniences to which we have alluded, in the nomenclature of the new antipyretics. Hence, for the complex names of *dimethytoxyquinisine* and of *tetrahydroparamethyl oxyquinoline* have been substituted for sufficient reasons the briefer appellations, to-day accepted by every body, of *antipyrine* and of *thallin.* We have taken the same liberty with regard to aceto-phenone, for whose numerous synonyms, by the way, there seems to be little justification.

Hypnone is obtained by submitting to distillation a mixture of benzoate and acetate of calcium. It presents itself at the ordinary temperature in a liquid state. but it suffices to lower the temperature four or five degrees for this body to assume a solid crystalline state. Hypnone is a colorless, very mobile, very refractive liquid, boiling at 198°C. The specimen which served for our experimental researches had been very obligingly put to our disposition by M. de Laire. Aceto-phenone is a product of the laboratory; it has not yet been fabricated on a large scale by the arts, hence its retail price is still very high, almost two hundred francs per kilogramme. Limousin, who has studied with care the chemical and physical properties of this body, has shown that it is neither soluble in water nor in glycerine, but that it is very soluble in alcohol, ether, chloroform, benzine, and turpentine. Its density is very nearly that of water; one cubic centimetre weighs 1.6 gms. With the graduated dropping tube of Lebaigue, one cubic centimeter of hypnone gives from 39 to 40 drops. Every drop weighs about two and one-half centigrammes. The reaction of this body is neutral, but it is irritant and caustic and when applied to a mucous membrane, it provokes pain and severe smarting.

Hypnone has a very persistent odor which resembles at once that of newly-cut hay, of convallaria, and of cherry laurel water. This odor is so persistent as to render its administration in potion very difficult; however, M. Vigier, who in accordance with my request, has made a careful study of the best means of administering hypnone has proposed the two following formulæ; the one is a syrup, the other an elixir.

The whole may be thus reduced to the American style of formulating:

SYRUP OF HYPNONE.

℞ Hypnone gtt. xii.
Alcohol at 90° ʒ ii
Syrup Auratil Cort. ʒ x
M. Sig. Every teaspoonful has one drop and the dose is a teaspoonful to be repeated *pro re nata.*

ELIXIR OF HYPNONE.

℞ Hypnone gtt. xii
Alcohol at 60° }
Syrup of Tolu } āā ʒ iii.
Spts. Menth. q. s. to flavor
M. Sig. A tablespoonful when required.

PETIT'S SYRUP OF HYPNONE.

℞ Hypnone gtt. xvi
Alcohol at 90° ℥ i
Glycerine ℥ i
Simple Syrup ℥ ii
M. Sig. A tablespoonful when required. Each tablespoonful contains two drops hypnone.

All these preparations have been abandoned despite the advantages which they present, and this chiefly by reason of the great quantity of excipient in which one is obliged to dissolve the dose of hypnone necessary to provoke sleep. The only really good mode of administration is that of the capsule whether the hypnone be dissolved in oil, after the fashion of Limousin and Adrian, or whether ether be employed as the excipient, as in Clertan's pearls. These capsules contain from five to ten centigrammes of hypnone.

But before studying the therapeutical applications of aceto-phenone, we must describe its physiological and toxic properties. To our first researches on this subject, are added those of Professor Grasset of Montpellier, of Drs. Laborde, Mairet, and Combemale, and finally those of MM. Dubois and Bidot; the latter is even devoting his inaugural thesis to a complete study of hypnone. It is from the sum of these researches that we are able to-day to give a quite complete description of the physiological and toxic effects of aceto-phenone.

These physiological and toxic properties vary according to the animals which are the subjects of experimentation, and according to the mode of introduction of the hypnone. In the guinea pig, when fifty centigrammes (gr. vijss) of aceto-phenone are injected under the skin, a hypnotic torpor is engendered, which soon gives place to a comatose state, in which the animal succumbs in from four to six hours. At the autopsy, numerous sub-pleural ecchymoses are observed; the heart is arrested in diastole, and the flesh exhales the odor of aceto-phenone. When the dose is raised, the toxic phenomena are not increased; and this is explained by the irritant local action of the aceto-phenone and its little solubility from which results that whatever may be the quantity administered by the skin, it enters the economy in but feeble amount.

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[1] From advance sheets.

[2] Bourgoin. Encyclopedie Chémique, t. vii, p. 341.

The hare, like the guinea pig, is sensitive to the action of hypnone, but one may without injury and without causing death, inject two gms. (ʒss) of this substance under the skin. Hypnone entails loss of sensibility in the paw where the injection is made. The temperature falls from 39.6° C. to 38° C.; the urine has the odor of hypnone, and is precipitated by nitric acid; then the animal falls into an absolute inertia, but at the end of twenty-four hours he is perfectly recovered.

This local insensibility produced by hypnone is even more noticeable when the frog is the subject of experimeutation, and the paw where the injection of a few drops of hypnone is made, becomes insensible and loses its reflexes. If in the animal you dissect out·in each leg the nerve which supplies the gastrocnemius, you observe that while the nerve of the paw where the injection was made has lost its sensibility to electric currents, the other nerve has kept its sensibility perfectly intact.

In the dog the symptoms are variable according to the mode of administration of the medicament; when you employ the hypodermic method, hypnone, even in the dose of three gms. (forty-five grains), does not seem to produce any hypnotic effect, and this fact has been well established by Laborde, Grasset and ourselves.

When hypnone is taken into the stomach, you see sleep supervene, on condition, however, that the irritant action of the medicament on the mucous membrane of that organ does not produce vomiting. Laborde has devised a mixture of hypnone, of glycerine and of water, which is well accepted by the dog, and which in the dose of from one to two cubic centimetres causes insensibility in the animal. We have obtained the same effect with capsules of hypnone, which we have administered to dogs, and without always producing sleep, we have obtained a well-marked state of stupor and inertia, with a dose of twenty centigrammes. But these hypnotic phenomena are much more prompt and complete, according to Grasset, when the medicament is introduced into the lungs by intra-tracheal injection: in this event you obtain profound sleep without causing the death of the animal. It is not so when you introduce the medicament by the veins, in which event the symptoms attain their highest degree of intensity, and the animal always succumbs after this injection.

When in a dog weighing seventeen kilograms (about thirty-five pounds) you make an intra-venous injection of one cubic centimetre of hypnone, you produce a profound sleep with snoring; the analgesia and anæsthesia are complete, and there ensue marked modifications in the respiratory and cardiac functions. These modifications are chiefly characterized by a considerable depression of the arterial tension. The respiration becomes interrupted and irregular. At the end of a certain time the animal wakes, manifests incoördination and intoxication, and succumbs after from six to ten hours. At the necropsy you find appoplectiform lesions, with abundant sanguineous infiltration of the lungs, of the liver, and of the kidneys. The renal congestion is very marked, and causes sanguineous extravasations in the urine. It is worth remarking in this connection, that Grasset has obtained no hypnotic effect in the monkey with aceto-phenone.

To sum up; according to the foregoing experiments in animals, hypnone seems to have a triple action: (1) on the nervous elements, diminishing neurility; (2) on the blood pressure, which it lowers; (3) on the composition of the blood, which in toxic dose it modifies. It is to this triple action that it owes its hypnotic properties. In a clinical lecture which I have lately given on the "New Hypnotics," I have shown that in order that a medicament may be classed in this group it must lessen the cerebral circulation and the excitability of the nervous elements, and in his recent thesis Dr. Pinard has also laid down this principle. Hypnone having thus double physiological action, ought to be classed among the true hypnotics.[3]

Aceto-phenone is eliminated by the lungs and by the urine. It is worthy of note that an article which appeared prior to our communication to the Academy, Popof of Vorsovia and Meneki had asserted that aceto-phenone is transformed in the organism into carbonic and benzoic acid and is finally eliminated in the state of hippurate.

Aceto-phenone, moreover, is toxic, but it will not do unduly to exaggerate this noxious action. In animals this medicament is given in toxic, and not in therapeutic dose, and the very interesting results obtained by Laborde from intravenous injections do not absolutely correspond to what takes place when the medicament is given by the mouth.

When you introduce directly in massive dose into the blood a medicine which is but slightly soluble, and which is irritant, you modify unfavorably the conditions of experimentation with the medicament, and we may compare what takes place with aceto-phenone, with the results obtained with intravenous injections of chloral, a method once proposed by Oré, of Bordeaux, for obtaining surgical anæsthesia, but which has been abandoned by reason of the dangers which attend it. In these cases of intravenous injections of chloral, you get anæsthesia, it is true, but you also get hæmaturia and sub-pleural ecchymoses.

Moreover, as we shall shortly see, the only consequences following the introduction of hypnone into the human subject have been sleep. Even when in the same patient we have prolonged the doses for months, we have never seen any of those effects of denutrition which Mairet and Combemale have noticed in their animals; it is true that we have never exceeded the dose of fifty centigrammes. To finish what we have to say about the toxic action of hypnone, it would seem that the greater or less purity of this substance plays an important part in the production of these toxic phenomena. Experiments made in the physiological laboratory of the Faculty seemed to have settled this question.

These are the symptoms which are observed in a healthy man after the administration of twenty centigrammes (three and one-third grains) of hypnone. In the case of the ether-hypnone capsules, at the moment of the rupture of the capsule in the stomach, there is a sensation of heat followed by a few eructations having the penetrating odor of aceto-phenone; these symptoms are scarcely noticed when the capsules contain a mixture of hypnone and oil. Then, at the end of a time which may vary from twenty minutes to three-quarters of an hour and even an hour, the eyes close and sleep ensues. This sleep is ordinarily calm and it is quite deep; waking is generally easy, without that nausea and loss of appetite which so often attend chloral and paraldehyde. In other cases, however, headache is felt, that heaviness of the head, and that pain over the eyebrows which are so often observed after a drugged sleep. We have never observed any other modification in the economy; the absence of any chemical reagent has never enabled us to detect the presence of aceto-phenone in the urine. The blood examined by the spectroscope has presented no alteration; the respiration and circulation go on as in the normal state. At the same time, we have remarked in certain cases a notable increase of appetite, due, perhaps, to the local irritant action of the medicine.

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[3] Dujardin Beaumetz in Therapeutic Gazette, December, 1885. Pinard, On Sleep and on Medicaments properly called Hypnotics.—Thèse de Paris, 1885.

The hypnotic effects of hypnone are far from being constant, and you will see persons absolutely rebellious to this agent which seems rather to favor sleep than provoke it, being neither analgesic nor anæsthetic in doses of from twenty to forty centigrammes. Nevertheless — and this is an interesting point — its hypnotic action, according to Debois and Bidot, notably augments the anæsthetic effects of chloroform. These experimenters have shown that when you cause a dog to inhale a four per cent. mixture of chloroform, you do not produce anæsthesia, but if previously you take care to inject under the skin one cubic centimetre of hypnone, you then produce anæsthesia as profound as with a twelve per cent. mixture, and when the animal awakes, if you administer to it another cubic centimetre of hypnone, it falls asleep again. According to Dubois and Bidot, hypnone proves itself far superior in these cases to morphine. New researches are being made by these experimenters to ascertain if anæsthesia may not be produced by inhalations of a mixture of chloroform and hypnone. Aceto-hypnone also augments in a marked manner the hypnotic and anæsthetic action of chloral.

As for the therapeutic applications of hypnone, they have consisted almost exclusively in the treatment of insomnia; but insomnia is a symptom of complex origin, and it is necessary here carefully to discriminate the cases.

Having a very feeble analgesic power, hypnone does not seem to act in cases of insomnia caused by the persistence of pain, and in this respect this medicament has proved itself very inferior to chloral. It is the same when the absence of sleep is due to persistency of coughing, as in the phthisical, and we have had no well-marked results from it in such cases. When, moreover, the insomnia results from the febrile state, hypnone has little action, and is inferior to chloral and paraldehyde. But it is not so when we have to do with nervous insomnia, or with that sleeplessness which is produced by cerebral excitation, whether resulting from alcoholic excesses or from mental strain. Here hypnone is equal and even superior to the other hypnotics, and the observations of Huchard, as well as those of Labbé, are absolutely confirmative of those which we have obtained. In these cases aceto-phenone, in the dose of twenty to forty centigrammes, produces a calm sleep, without nightmare, followed by a tranquil awakening, and freedom from that nauseous state which other hypnotics so often determine. But, in order that hypnone may produce its hypnotic effects, it is essential that the patient shall not have been an habitual morphine taker. In morpiomaniacs it fails, as do most of the other hypnotics.

Hypnone has been administered by mouth, and generally in the form of capsules; the dose has never exceeded fifty centigrammes (seven and a half grains). As before said, we have never observed any other than hypnotic effects to follow its use, even after months of administration, nor have we been obliged to augment the dose to obtain the same results.

Hypnone must be administered in massive doses; when given in fractional doses its hypnotic effects do not appear; as Huchard found at the outset of his therapeutical experiments. It is essential, also, that the medicament be administered at the moment when the patient ought to go to sleep, and in most of our observations, sleep followed in a period of time varying from half an hour to an hour and a half.

We have made several attempts to introduce this medicament under the skin; it was in cases of obstinate sciatic neuralgia where the irritant local action of the medicament was not to be dreaded, since the worst would have been the production of those substitative effects which are sought for by the method of Luton. In the dose of ten centigrammes the hypnotic and analgesic effects were absolutely nil, but on the other hand, we found that we had provoked a very severe local irritation, contraindicating the further use of this mode of administration. Cases where hypnone has produced no hypnotic result are sufficiently numerous, nor has such effects been obtained by increasing the dose. This is what happened to Filehne of Erlangen, who at my request made trials of this new medicament; in his practice the medicine failed, even in doses of one cubic centimetre. My only explanation of this want of success is the complexity and multiplicity of the causes which provoke insomnia; it depends largely on the cause whether the remedy be efficacious or not.

Given, however, like conditions of experimentation, similar results may always be expected, and if you reserve hypnone for cases of nervous insomnia or for those determined by considerable cerebral excitation, you will in the immense majority of cases obtain good effects from hypnone in doses of from twenty to forty centigrammes (three to six grains) and you may expect exemption from all unpleasant after-consequences.

We think that hypnone ought henceforth to take its place in therapeutics by the side of chloral and paraldehyde, holding a rank inferior to chloral, however, since this acetone is deprived of analgesic properties, but almost equal to paraldehyde. We say almost equal, because in our way of thinking, paraldehyde, which is but slightly analgesic, determines sleep much more markedly than hypnone. We are persuaded that the different clinical and physiological experiments undertaken at this moment with this new medicament will confirm this first judgment.

We have here, then, a therapeutic agent, derived from that aromatic series which has furnished to therapeutics so great a number of medicinal substances, and we are persuaded that in continuing the study of this aromatic series, in the direction of their chemical constitution, we shall find still other substances useful in medicine.

From all that goes before, we think ourselves justified in drawing the following conclusions: (1) Hypnone is a mixed acetone of the aromatic series. (2) This acetone is toxic, and its greater or less degree of purity seems to have a notable influence on its toxicity. (3) Hypnone in toxic dose produces in animals sleep, analgesia, and anæsthesia: it diminishes the neurility of the nervous elements; lowers considerably the blood pressure, modifies the respiration, and alters the composition of the blood. (4) In a massive dose of from twenty to forty centigrammes hypnone has never produced in man any other appreciable physiological symptom than sleep; it is a hypnotic, especially applicable to nervous insomnia or that produced by alcoholic excesses, or too prolonged intellectual labors.

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Original Articles.

THE PAVILION IN HOSPITAL CONSTRUCTION.[1]

BY ARTHUR C. HEFFENGER, M.D.,
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A few years after the completion of the Lariboisière, the pavilion principle attracted attention in Great Britain, but with that form of generosity so often exhibited in the English character, it was quietly appropriated, and put into execution as an English conception. When in 1860 it was determined to erect the Herbert Military Hospital, it was officially stated that the building would be constructed upon the principles set forth in the "Report of Commissioners appointed to Enquire into the Regulations affecting the Sanitary Condition of the Army, 1858," and the "General Report on the Sanitary Condition and Improvement of Barracks and Hospitals," 1861; and these principles are almost entirely those of M. Tenon, more or less altered to bring them up to the standard of the day, as well as to make them conform to certain insular leanings.

The Herbert Hospital is without doubt a great improvement upon the Lariboisière; the pavilions are only two stories in height; the spacing is much more judicious; the ventilation is freer; and the drainage far better. Indeed the long two-storied pavilions of the Herbert indirectly connected by a central building are far more like those proposed by M. Tenon, than those of the Lariboisière. The Herbert ward, though receiving the almost universal approval of English experts, with Miss Nightingale among them, is nevertheless by no means perfect. It is too long, too low, and accommodates too many patients. The water-closets are too near the sick, and are not separated by cross-ventilated lobbies. The mortuary and separation wards are badly, if not dangerously placed, being in immediate relationship with the free sides of the extreme right and left pavilions respectively.

After the construction of the Herbert Hospital, the new ideas spread rapidly on the continent of Europe, Germany being the first, however, to seize upon and improve them. Between 1868 and 1876 several splendid specimens of pavilion hospitals were erected in various parts of Germany, the first opened, the Friedrichshain Hospital at Berlin, being by far the most complete in construction and appointments. In this type of German hospitals the medical wards are two-storied, and the surgical, one; the water-closets are well separated from the wards, and in fact the arrangements throughout are almost unexceptionable. The Moabite Barrack Hospital, of Berlin, deserves special notice, from the fact that it is the only large hospital of its kind on the Continent of Europe, which is strictly civil. It was built in 1872, sixteen single-storied pavilions being put up in three months, and eight more subsequently added. It was originally intended for infectious diseases, but soon became a general hospital, and, as such, is a pronounced success.

Russia shook off her Asiatic insulation under the scientific stimulus of her German neighbors, and showed her latent capabilities by building the Riga Hospital in the suburbs of St. Petersburg. This hospital was finished in 1873, and is supposed to be built on the plan of the Friedrichshain, but many alterations were deemed necessary, on account of the climate, and these changes have necessarily impaired the sanitary efficiency of the pavilions.

Notwithstanding the great improvements made in the construction and arrangement of pavilion wards in the German hospitals, both Great Britain and France continued to build multiple-storied pavilions, examples of which may be found in the Edinburgh Royal Infirmary, Glasgow Western Infirmary, and the new Hôtel Dieu and Hôpital Tenon in Paris. It is but justice, however, to the medical profession of Paris, to state that they condemned, in unmeasured terms, both these French hospitals, and the *Société des Medicins et Chirurgiens des Hôpitaux de Paris* went so far as to appoint a commission to report upon the new Hôtel Dieu, and the Society, after having discussed the report of its commission, unanimously passed the following resolution: — "As it, at present, stands, the new Hôtel Dieu is so constructed as to be absolutely contrary to the fundamental principles of hospital sanitary law."

The importance of general and special isolation in the treatment of the sick, was early recognized in the United States, and the practical application of the principle was splendidly illustrated in the army tent and barrack hospital, used during the War of the Rebellion. Our civil administrations, however, have been slow to appreciate the necessity for radical change in the usual manner of constructing hospitals, so that we have few built upon the pavilion plan, and the Johns Hopkins Hospital, of Baltimore, is the only one deserving of special notice. This hospital was designed, and is being constructed upon the most modern scientific principles, and much credit is due Dr. Billings, U. S. A., for the able manner in which he is superintending its construction. The design embraces twelve pavilions, only half of which, however, are to be erected at present. Two of the pavilions are octagonal in form, and two stories in height, while the others have only one story above the basement, and are of parallelogram form. Accommodation is furnished for three hundred and sixty-one patients. It is, undoubtedly, one of the best built and arranged hospitals in the world, and were it not for the two double-storied pavilions, and a very questionable location of the water-closets, might be considered well nigh perfect.

In the construction of permanent hospitals upon the pavilion system, two plans have been pursued; first, that of aggregation, or the super-imposition of two or more wards in the same pavilion; second, that of segregation, or the building of wards of one story only, but with the same service attachments as in the pavilion block. Both plans have their advocates among eminent men, but the bulk of opinion is now in favor of each ward being a pavilion hospital in itself, with its own accessories, and separated, as much as possible, from the other wards. It has been held that hospitals consisting of pavilions of one story in height, cover too much ground, and are, therefore, too expensive to erect in the large cities, where hospitals are mostly considered necessary; that they are very difficult to administer, and finally, are not any healthier than those in which the pavilions consist of two or more stories. In answer to these objections, it may be said, that hospitals being built, presumably, for the best interests of the sick, should be situated always on the outskirts, rather than in the crowded sections of cities, where their first cost and maintenance would be about the same, whether the pavilions were of multiple or single stories; and when the pavilion block has been reduced to a single ward, which thus becomes an individual hospital, with its own requisite service belongings, it is not easy to see how the difficulties of management can be augmented. As to the comparative healthfulness of the two plans of pavilions, though no positive statistics have been collected to show that pavilions of one story yield better results than those of two or more stories, yet upon sound scientific principles, they should, and it is the earnest belief of the majority of those who have considered the subject carefully, that they do. They can be more easily ventilated; they avoid dangerous over-population of surface area; community of service and atmosphere are reduced to a minimum, and weak patients have no exhausting stairways to ascend.

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[1] Concluded from page 75.

In determining the form of pavilion ward best adapted to the treatment of the sick, it is necessary to bear in mind the essential conditions to be obtained, namely, a sufficient areage and cubic capacity; an unobstructed flood of light at all times during the day; air in adequate volume, pure, in motion, and of proper temperature; and to ascertain which form most nearly fulfils these conditions with the least amount of artificial assistance.

The parallelogram form in general use, is of very ancient origin, and except in diminution of length, and rearrangement of windows and offices, underwent no alteration until the advent of the *Systême Tollet*, to be hereafter described. Just why these long hall-like wards have held such despotic sway over the minds of the medical fraternity, it is difficult to say, unless it is a pure matter of prejudice. They are far from cheerful, awkward to administer; equable heating is all but impossible, and draughts are continuous, and, of course, a constant source of danger. Clearly, with all possible artificial aid, they are far from fulfilling the essential conditions of perfect wards.

The nearly square ward designed by the late Mr. George M. Dexter, of Boston, and introduced into the Massachusetts General Hospital by the trustees in 1844, and further tried in the erection of a pavilion of one story in connection with that hospital in 1872, is a great improvement upon the old parallelogram, and should not be considered as developed from it. This ward is very cheerful and homelike, admits of almost an equal distribution of heat and light to all parts, is not draughty, and nearly every portion is convenient to the service building. It is a decided step in the right direction, but its corners and flat ceiling materially interfere with ventilation. It was recommended for adoption in the Johns Hopkins Hospital by Dr. Norton Folsom, in his suggestions for that institution.

The octagon ward constructed for the Johns Hopkins Hospital by Mr. J. R. Niernsée, the architect, though fulfilling in the main the same conditions as the square ward, by increasing the number of angles, of course, increases the difficulty of ventilation.

That form of ward which more nearly meets all essential requirements, I hold to be the circular. The great advantages of circular structures, especially when surmounted by domes, seem to have been first discovered by Dr. McKenna, a Scotchman, who happened to be in South America about forty years ago during one of the many revolutions which have repeatedly convulsed the petty republics of that continent, and who had the care of a number of wounded. The patients were treated in convent rooms, which were always rectangular, and in convent churches, which were always in the form of domed circles. Those patients treated in the churches did so much better, indeed marvellously better, than those cared for in the rooms, that he was struck by the difference, and induced to make a close study of the matter. This clever Scotchman soon became convinced that circular structures with domed ceilings were far superior to any other tried form for housing the sick. In 1854, when practising in Melbourne, Australia, he advocated the adoption of circular wards in a large hospital about to be constructed in that city, but without avail. Sir Andrew Clark, who recalled the views of Dr. McKenna before the Hospital Association of London in December, 1884, also related at that time how he had accidentally discovered the automatic ventilation characteristic of the domed circle, while inspecting the grand domed circular tomb at Delhi, in hot, calm weather. He inadvertently let fall from his card-case a small slip of tissue paper, which, to his amazement, instead of falling slowly to the floor was steadily wafted upward to the centre of the dome. Afterwards he made repeated experiments of the same nature in various parts of the circular domed temple at Calcutta, and always with the same result. It is quite evident that there are natural air currents directed upward from all parts of a room thus shaped, though the governing philosophy is by no means clear.

The circular ward was also originated independently by M. Baeckelmans of Antwerp, in 1873, and Professor John Marshall of London, in 1878. M. Baeckelmans's plans were made for the Antwerp Civil Hospital, the corner-stone of which was laid five years before Professor Marshall made known his ideas in a paper read before the Cheltenham meeting of the National Association for the Promotion of Social Science, in October, 1878. M. Baeckelmans's views were the outcome of scientific research, while Professor Marshall's were the result of endeavors to devise a large hospital capable of being placed on the site of the present University College Hospital. In January, 1882, I conceived the idea of circular wards from a study of the octagon pavilions accepted by the Johns Hopkins Hospital management. It occurred to me that a circular ward would not only have all the excellent points of the octagon wards, but would possess in addition greater cubage and areage, and from the absence of angles freer ventilation; and furthermore, when surmounted by a dome all these advantages would be greatly augmented. Knowing that the cost of a building bears a direct ratio to its wall length, it was patent that the circle having a minimum wall length for included areage should be naturally the cheapest structural form. I had never heard of any such form being advocated, and it was not till last year, during a correspondence with Dr. Billings, U. S. A., that I learned of the Antwerp circular wards, and of Professor Marshall's valuable paper.

From a review of the facts previously stated, it is evident that to M. Baeckelmans is due the lion's share of credit for having given to the world, both theoretically and practically, the best form of ward yet devised in which to treat the sick.

The wards in the Antwerp Civil Hospital, and in the Miller Memorial Hospital, at present the only completed types, are by no means as perfect as the system admits. I am convinced that the full benefits can be obtained only in a pavilion of one story, where the automatic ventilation characteristic of the domed circle can be best effected. To summarize; the circular ward surpasses all others in cheerfulness: it allows a flood of light to fall upon the patient from almost every direction; heat may be equally distributed in all parts; in areage and cubage it far exceeds any other geometric form yet used; and with the ceiling in the form of a parabolic dome the air space is vastly increased and ventilation rendered almost automatic.

The circular ward that I designed in 1882 has an inside diameter of 67.5 feet, a total areage of 3,578.47 square feet, and an areage per bed of 147 feet. It accommodates twenty-four patients, who have each 2,425.05 cubic feet of air-space, and 41.5 square feet of window. The ceiling is a parabolic dome, fourteen feet high at wall, and eighteen feet high in centre. Through the centre of the ward passes a heating and ventilating shaft. The ward offices communicate by a folding door, and through them access is gained to the general corridor. A sun-room is placed at a point opposite the offices, and the water-closets are judiciously situated and carefully cross-ventilated.

In England military hospitals at Milton and Seaforth, and poor law infirmaries at Hampstead and Burnley are being constructed with circular wards and Sir Andrew Clark intends building a large hospital with these wards at Valetta, Malta, so that the practical working of the idea under varied conditions will be soon demonstrated.

The system of construction originated by M. Tollet, a noted French architect and engineer, and known in France as the *Système Tollet*, was presented to the Academy of Sciences in 1876. It embraces all the best features of modern hospital construction, but M. Tollet only lays claim to originality in the construction of the inside walls and roofs of rooms in the form of a gothic arch ("*de forme ogivale.*") To do this he forms the sides and roofs of wards with curved wrought iron I-shaped ribs placed about five feet apart, the intervening spaces being filled in below with brickwork, and above with either brickwork, tiling or concrete. The outer surfaces of the ward are finished either with tiles or cement, and the inner surfaces, after being plastered are treated to three coats of oil paint. These wards are still parallelograms, and notwithstanding the gothic ceilings and rounded ends are still open to many of the objections to that form. It is claimed, however, that air never stagnates in them; that heating is easy, and ventilation almost perfect; that they afford ample areage, and enormous cubage; that they are incombustible; and finally, that they can be thoroughly cleansed with either flame or streams of water. The system has been applied to hospitals, barracks, schools, and other public buildings; and M. Tollet has insisted always that the buildings should be of one story only, and raised from the earth upon plinths, with thorough cross-base ventilation. Four hospitals in France, namely: the St. Denis, near Paris, Bichât on the ramparts of Paris, Bourges Military, and St. Eloi at Montpellier, have been constructed upon this system, and are pronounced by those who have inspected them and who are considered competent to judge, to be the most perfect specimens of hospital construction now existing.

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CASES OF FUNCTIONAL AND ORGANIC INJURY TO THE CENTRAL NERVOUS SYSTEM, CAUSED BY TRAUMA.[1]

BY G. L. WALTON, M.D., OF BOSTON.

The cases cited in this paper will serve to illustrate the two great classes, functional and organic, into which nervous injuries may be divided, and to bring out, in a general way, the diagnostic points of practical value.

The name, railway spine, has been long used to cover our ignorance, and many cases of traumatic neurasthenia, and traumatic hysteria have figured, and still figure, as concussion of the spine, myelitis, congestion of the cord, or more vaguely, as spinal injury. It was Page who first called attention to the rarity of organic spinal trouble from trauma without injury to the vertebræ, and the experiences of others, viewed in the light thrown by him on the subject, have confirmed his view that the large majority of the cases upon which claims are based, are functional, rather than organic.

It is important that each case should be put upon its proper basis, and especially, that functional cases should stand upon their own merits, instead of being made to appear incurable and dangerous maladies. Not that these cases should be considered trivial, even though they come under the category of hysteria and neurasthenia, for the sufferings of hysterical and neurasthenical patients are, by no means, necessarily imaginary, and their inability to perform the duties, and enjoy the pleasures of life, may be quite as complete as that of the sufferer from organic disease of the spine or brain. The tendency is, however, to claim, on the one hand, irreparable spinal injury, based on such symptoms as hyperæsthesia of the back and pain on movement, irritable bladder, and at the worst, hysterical paralyses or convulsions; and, on the other hand, trivial damage, the truth lying, generally, between these extremes. The question of simulation will not be alluded to in this paper, although, unfortunately, it plays a large part in the study of these cases.

In a case of this sort, the main questions presenting themselves to the medical expert are, (1) Is the case real or feigned? (2) If real, is the injury functional or organic? (3) What is its exact nature, and what are the chances of recovery? (4) Could such an accident produce such an injury?

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[1] Read before the Boston Society for Medical Improvement. January 25th, 1886.

It is only proposed to touch on the second of these questions: Is the injury functional or organic? As illustrations of organic injury, two cases of hæmorrhage into the spinal cord have been chosen, both seen in the Nervous Department of the Massachusetts General Hospital. It will be noticed, by way of diagnosis, that pain in the back, which is almost constant, and very persistent in the functional cases, is either wanting, or only temporary in the organic cases. It will also be noted that subjective symptoms, local pains, emotional tendencies, irritability, insomnia, and allied nervous states, are conspicuous by their absence, while in the functional cases, they play a very considerable part.

The first case is one of unilateral hæmorrhage into the cervical region of the cord, causing paralysis of motion on the side of the hæmorrhage, and of sensation on the other, the paralysis of motion being atrophic in the arm, and spastic in the leg.

Case I. A. G., American, laborer, aged twenty-five, fell, three years ago, from a ladder, about fifteen feet. The ladder fell with him, and he struck against the rounds or sides, so that he was bruised in the cervical and dorsal regions. He did not lose consciousness, but on attempting to rise, found his extremities helpless. Motion improved in the right arm and leg during six weeks; that on the left has remained nearly stationary, after a slight improvement. There was retention of urine for ten days, during which time the catheter was used. There was a sensation of constriction about the abdomen. There was no rectal trouble. The face was not drawn; there was no disorder of speech nor ocular disturbance. At present, there exists a left-sided hemiplegia, with toe-drop, spastic gait, exaggerated knee-jerk, and marked ankle clonus. The flexors, thenar muscles, and interossei of the left hand, are atrophied. There is no loss of sensation on this side. On the right side, there is no loss of motion further than a slight weakness in grip, and other movements of the arm, but there is a loss of sensation over the hand, and outside of the arm, and over the leg and trunk to the median line, extending up to the fourth rib in front, and the spine of the scapula behind. Over this entire area, the head cannot be distinguished from the point of a pin. There is no sensitiveness of the back, or back of neck, no disturbance of memory, or change of disposition. Pain has not been complained of in the back or elsewhere, since the time immediately following the accident.

The second case is, in many respects, similar.

Case II. M. R., thirty-nine, fell, thirteen years ago, from a wagon, striking on the head and shoulders. Motion was lost in all extremities, at first, but in a fortnight, power was recovered in the left arm and leg. Improvement commenced in the right in about a fortnight, and soon power was gained in the right leg, but the paralysis of the right arm, after a certain degree of improvement, remained stationary. There was no loss of consciousness, and no fever. The patient was seen two years later by Dr. Putnam, who found the right arm somewhat smaller than the left, both upper and lower. All motions were possible, excepting those of the muscles supplied by the ulnar and musculo-spinal nerves, but all movements were weaker than on the other side. Extension and straightening of the fingers were impossible. The patient could just manage to touch his thumb and little finger. Degenerative reaction was present in the interosseï and extensor communis digitorum. At present, the patient is perfectly well, excepting that there is complete paralysis of the extensors and interossei of the right hand, with loss of electrical reactions. The skin over the extensor aspect of the forearm is colder than that elsewhere. Careful inquiry regarding pain in the back, elicits the fact, that for a few weeks following the accident, there was pain in the back of the neck, and down the right arm, none elsewhere, and none there since, excepting that after severe exertion, he occasionally feels a prickling at the back of the neck. There has been no insomnia, no irritability, no loss of memory, or of ability to confine the attention. There has been no hypersensitiveness to sounds, sights, or movements, in short, no subjective symptom whatever. There has been no sensitiveness to touch of the spine or scalp.

In this case, the hæmorrhage, which was also into the cervical enlargement of the spinal cord, limited itself, finally, to a definite area in the gray matter, so as to destroy permanently, only the motor centres of certain muscles of the right arm and hand. The generalized paralysis at the onset of both cases, was due to the pressure upon other parts of the cord, which was withdrawn with the retraction of the lesion to its final dimensions.

In neither of these cases, was there pain in the back, either spontaneous or on movement, after the first effects of the accident had passed off; and of the immediate pain, it is extremely doubtful how much was due to the hæmorrhage into the cord, and how much to local bruising and muscle strain. In neither case, were mental or "nervous" symptoms present from the first. There were, however, infallible signs pointing to organic injury, namely, atrophy and loss of electrical irritability; and in the first case, ankle clonus, spastic gait, and a distribution of sensory and motor paralysis, which can only be explained by an actual unilateral lesion in the spinal cord.

These organic cases are, however, the exceptions among claimants for damages from falls, blows, and collisions. More common, are those of hysteria and neurasthenia, resulting from the shock, whether to the brain, the cord, or both, or whether to the sympathetic system, through dragging on the intestines, need not be discussed in this paper. In whatever part of the nervous system the injury expends itself, the damage is functional, not organic, and has been aptly compared, by Page, to the result of striking a magnet with a hammer; the magnet remains, apparently, unaltered, but it no longer performs its function. The comparison might justly be carried still farther, for by carefully graduated loading of the magnet, the magnetism may be brought back, although, left alone, it remains permanently inert. Similarly, the nervous system so shattered must, after a reasonable rest, be gradually forced to undertake more and more, or there is danger of the patient's degenerating into chronic invalidism, instead of going on to recovery, which is the result to be hoped for, although not always attained.

The locality of the injury in these functional cases, has been long a subject of argument. The term "concussion of the spine," promises to become obsolete, and even if it does not, such a diagnosis can hardly represent satisfactorily the full extent of the damage, whose symptomatology includes as much mental as physical disturbance. It seems more reasonable to look on the brain as, at least, the principal sufferer, and I ventured, some time ago, in an article on so-called "Spinal Irritation,"[2] to suggest the name "railway-brain," to supplant that of "railway spine," intending to include under that title, both hysteria and neurasthenia resulting from trauma.

CASE III. Mr. A., a large, stout man of about fifty-five, was thrown, with some violence, from a horse-car, striking on his hands and knees. He was kindly referred to me, some months after the accident, for treatment of his nervous symptoms, by Dr. Porter, under whose care he was at that time. Withdrawing from his complex of symptoms those which concern us here, we find him, at this time, extremely nervous and irritable, unable to concentrate his attention, or to think continuously. He is extremely sensitive to the slightest jar of the body, driving over the smallest obstacle seeming to cause him great distress. He has complained of pain and stiffness of the back since the time of the injury, and holds his back stiffly in sitting and walking. There is hyperæsthesia of the back, and certain spots on the limbs are so sensitive, that the lightest touch elicits signs of pain. The knee-jerk is greatly exaggerated. There is no atrophy, no paralysis, motor or sensory, no change in electrical reactions, no pupil irregularities, ankle clonus, nor other sign of organic lesion of the brain or cord. The symptoms are said to have dated from the accident, and there is no reason to doubt the fact, especially as there is no thought of claiming damages.

There may have been, and probably was, a predisposing tendency, in this patient, to functional nervous disease, although no special nervous family history was made out. Whether there was or not, the fall may be fairly considered the immediate cause of the symptoms, which have gradually improved. This case should be classed as traumatic neurasthenia, if we limit the term hysteria to cases presenting marked disturbances of sensation, motion, circulation, and the mind. This classification leaves mere nervous irritability and exhaustion under the head of neurasthenia. It is, however, neither possible nor necessary to make an accurate classification, in each case, between hysteria and neurasthenia. Both are, practically, functional diseases, and both may be produced in either sex, by a physical shock, in persons either predisposed, or not predisposed.

The stiffness and pain in the back on movement, in this case, probably represented the remains of a strain of the muscles of the back, and possibly, the ligaments of the spine. The duration of this symptom may be almost indefinite where the effort of breaking in the muscles by enforced exercise is neglected, especially if sensibility to pain is increased by the neurasthenical element, and most of all, if an artificial support, as a plaster-of-Paris jacket, is worn to relieve the muscles of the trunk. Pleasant as may be the temporary comfort of such treatment, its effect is, probably, to postpone recovery by over-favoring the weakened parts.

As examples of the possible, though exceptional, duration of such symptoms, I may mention two patients I have recently seen, each of whom brought on the trouble by lifting too heavy a weight, and favored it by subsequent exposure. In one case, the sensitiveness, pain, and stiffness of the back, supplemented by nervous prostration, has lasted over twenty years, and in the other, fifteen. The former is a claimant for a pension, but the latter claims no damages of any sort, but has worn, notwithstanding this fact, an elaborate artificial support for the past six years, without which, he says, he can neither work nor enjoy himself. I have strongly urged its gradual discontinuance, with regular gymnastics, and other tonic treatment, but whether the patient will summon the necessary strength of will, is a question for the future. In both these cases, organic diseases of the spine and vertebræ were carefully eliminated.

The following and last case may be classed under traumatic hysteria. It was referred to me for an opinion on the nervous element, through the kindness of Dr. Porter and Dr. Marcy, who had been consulted respectively, by the defence and the plaintiff.

CASE IV. J. M., twenty-three, who was well previous to the accident, was thrown about violently by the derailment of the car in which he was riding, the car rolling over down an embankment. He was able to get up and assist others, at first, but soon gave up, and remained ten weeks in bed. Headache and backache were severe and constant. There was retention of urine for a short time. In the notes of my examination, eighteen months later, and just before the trial, I find the following: Loss of sexual power is claimed to have existed since the accident. Improvement has been gradual and steady up to this time. He now complains of quite severe headache, generally at the vertex, with a burning sensation, and of pain in the entire length of the back, increased on motion. He walks stiffly; stooping forwards causes pain in the back and thighs. There is exaggeration of tendon, plantar, and abdominal reflexes. There is a tender spot at the vertex, and tenderness to the touch all along the spine, most marked in the upper dorsal, and in the lumbar region. Pressure over these spots causes an almost convulsive retraction of the back into an opisthotonic position. There are no other sensitive regions. He wears a plaster-of-Paris jacket, which seems to afford much relief, and to facilitate movement. There is anæsthesia of the legs, evenly distributed, and extending to a definite line around the trunk from the lumbar region. Over this entire region, pressure must be moderately severe before it is felt, and all stimuli must be excessive before causing pain. There is slight paresis of all movements of the legs. There is no bladder or rectal disturbance, no atrophy or coldness, no ankle clonus, no loss of electrical reaction; the legs are plump, and are of about the same size, by measurement. There is no disturbance of special sense, the pupils are alike, and react normally. My notes make no statement of his mental condition, but I have the impression that he complained of inability to confine the attention, and apply himself to continuous mental labor. There was a dislocation of the outer end of the left clavicle.

In this case, there existed definite loss of sensation and motion, which could only be of functional origin, considered in connection with the other symptoms. It should, therefore, be classed under hysteria. The persistence of the symptoms, in no wise militates against hysteria, a fact to which Charcot[3] has drawn particular attention, of late, in a lecture on hysteria in the male. Cases are certainly not rare in which symptoms of undoubted hysterical origin have lasted years, without material change.

My opinion, which did not include the surgical injury, beyond disconnecting it from the nervous trouble, was that the patient was suffering from, (1) the remains of strain of the muscles of the back, and, perhaps, of the ligaments of the spine; and (2) hysteria, brought on, probably, by the shock to the nervous system, and evidenced, mainly, by hyperæsthesia of the back, and anæsthesia and paresis of the legs. The chances for recovery I considered good, provided the patient should make the necessary effort.

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[2] Boston Medical and Surgical Journal, Dec. 27, 1883.

[3] Progr. Méd. 1885, No. 18. Reviewed in Neurolog. Centralblatt, June 1, 1885.

The sympathy excited by the sensitive back, and the plaster-of-Paris jacket, in this case, was, evidently, not inconsiderable, and the view of the case presented by the plaintiff's counsel, seemed to be, that loss of sensation in the legs, extending to a certain height on the trunk, must point to serious disease of the spine, at that height, and that the case would terminate in permanent and total paralysis. However far from the facts of the case this view may have been, it was not so absurd, after all, that it should be advanced, when we consider the hazy ideas which have long existed, even among the medical profession, and medical authorities, regarding the symptomatology, course, and prognosis of so-called "railway spine."

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Hospital Practice and Clinical Memoranda.

A CASE OF TRACHEOTOMY IN A NEONATUS.

BY H. H. HANSON, M. D., OF ANDOVER, VICTORIA CO., NEW BRUNSWICK.

November 7th, 1881, was called seventeen miles to see a patient who had been in labor three days, and as yet undelivered, although attended by three "*Meddlesome Midwives.*" On my arrival, I found patient apparently happy and contented, as the French generally are, under the most adverse circumstances. Lying prone on the floor, and surrounded by seven women and three of the "male persuasion," two of whom were enjoying the never to be lost sight of fumée; besides "enfants," innumerable.

During the patient's labor she informed me that only a small quantity of broth had passed her lips. I learned subsequently, that during the three days, she had taken about three gallons of pork and pea soup. The child's head had been born about thirty minutes and no pulsation in fontanelles could be detected. Lividity of features, cord around neck, and non-rotation of shoulders. The latter caused the non-success of the female obstetricians. The shoulders of the fœtus being rotated into position and the hook of a Hodge forcep introduced into axilla, delivery was instantly affected. Child's buttock was spanked, alternately sprinkled with cold and hot water. Before cord was ligatured a few drops of blood had been allowed to flow.

Artificial respiration was resorted to, for the period of thirty-five minutes, but all to no purpose. I was about giving up in despair when I thought of a trocar and canula I had in my instrument case (one used for Hydrocele). Placing a small stick of beech under shoulders of fœtus so as to throw the head back and raise the chest, I plunged the trocar and canula into trachea, and thoroughly inflated the lungs, which was in a few minutes followed by expiration, produced by compression of thorax. This procedure was maintained for about fifteen minutes, when to my satisfaction, I could faintly hear a struggle for existence. This was followed by more, until at last it was life, "in all its forms." The canula was taken away soon after, and a suture introduced through integument, and a piece of lint soaked in cold water applied, and kept on by means of adhesive plaster. The child made a good recovery, and is to-day fast becoming able to take its place at the hospitable board of its parents, amid the fearful havoc of pea and pork soup, buckwheat plugs, and "boudan."

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REPORT OF PROGRESS IN GYNÆCOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynæcology, Harvard University.

OPERATION FOR THE CURE OF STERILITY IN CASES OF CONICAL CERVIX, WITH FLEXION OF THE CERVIX UTERI.

Dr. Grailly Hewitt[1] describes a new operation for sterility in that class of cases characterized by a conical, elongated cervix, with flexion of the cervical canal, a condition described by Emmet as anteflexion of the cervix. He considers this condition due to imperfect nutrition, loss of tone, and gradually increasing bending of the cervix, which changes occur subsequent to puberty. The principal methods of operation hitherto recommended have been amputation of a portion of the cervix, and the posterior incision, as recommended by Emmet and Sims.

The operation which Dr. Hewitt performed in one case, was as follows: Having drawn down the cervix, he removed from the posterior aspect, in the median line, a portion of mucous membrane nearly an inch in length, and half an inch wide, and having done this, stitched the upper and lower margins together, the effect of the procedure being to shorten the vaginal cervix on its posterior aspect, to draw the os uteri backwards, and thus straighten the vaginal cervix, and increase its patency. When the stitches, three in number, were tightened, the vaginal cervix was made to look downwards, instead of upwards. The sutures were removed after a few days. Conception followed in the course of a few months after the operation.

He considers this operation an improvement upon the two other methods, because the uterus, as a whole, is less mutilated, and presumably, its functions may be supposed to be better exercised when the cervical canal and the os uteri externum are preserved.

ON HYSTERECTOMY.

Dr. Thomas Keith,[2] in this paper, while recognizing the marvellous improvements and results of the last ten years in operative interference in cases of fibroids, yet takes a thoroughly conservative view, and advises the operation of hysterectomy only in extreme cases. The removal of the ovaries and tubes, he says, is an operation full of promise, and, as regards his own work, the result is more satisfactory every time that it is performed. It will not, however, supersede hysterectomy, as there are cases in which, even when got at, the ovaries cannot be separated from the uterine tumor without too great a risk. He advises trying the simpler method first, in all cases where the tumor is small, and does not extend much above the umbilicus. The proportion of cases in which interference of any kind is warrantable is, perhaps, not greater than five per cent. The cases in which he thinks hysterectomy may reasonably be recommended are these:

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[1] British Medical Journal, June 13th, 1885.

[2] Edinburgh Medical Journal, May, 1885.

(1) In very large, rapidly-growing tumors of all kinds in young women.

(2) In all cases of real fibrous cystic tumors.

(3) In most cases of œdematous fibrous tumors which are not cured by removal of the ovaries. They occasionally grow to be very large, even weighing two hundred pounds, according to the author. Sometimes, large quantities of red serum can be removed with much relief, and in this way, the patients carried over the menopause, when the necessity for further puncturing ceases.

(4) In cases of large, bleeding fibroids, when removal of the ovaries cannot be accomplished, provided that the patient is not approaching the menopause. In these cases, as a rule, though there are many exceptions, menstruation goes on much beyond fifty.

(5) In certain cases of tumors surrounded by much free fluid, the result of peritonitis, provided that the fluid shows a tendency to reaccumulate after two or three punctures. Occasionally, when the fluid does disappear, its absence may, from some change in the osmosis, be followed by an extremely rapid growth of the tumor. It is important to remember that long-continued irritation of the peritoneal surfaces by large, solid tumors, is apt to be followed by degeneration of the peritoneum of a sarcomatous or cancerous nature. The microscopic examination of the fluid will, in such cases, keep one from falling into error. Dr. Keith has several times, where large, healthy, uterine fibroids were present, removed fluids swarming with cancerous elements, the source of which was found to be altogether in other organs affected with cancerous disease.

Then follow the histories of several operations, which are of use in showing the different ways of treating the attachments of uterine fibroids, or illustrating some other point of interest.

TREATMENT OF THE PEDICLE IN HYSTERECTOMY.

Pozzi[3] says the treatment of the pedicle in hysterectomy must differ from that in ovariotomy. First, because septic infection can take place through the cervical canal; and second, because the absolute prevention of hæmorrhage is very difficult. He makes the following propositions:

(1) When the cavity of the uterus is not opened, and there is slight hæmorrhage from the pedicle, the intra-peritoneal treatment of the stump should be employed, after careful suture of the edges of the wound, with insertion of the peritoneum, according to Schroeder.

(2) When the uterine cavity is opened, and the pedicle is too short and thick for the extra-peritoneal method, and there is moderate hæmorrhage, the stump should be dropped after ligaturing with silk.

(3) When the uterine cavity is opened, and there is slight hæmorrhage, and the pedicle is long enough, the extra-peritoneal method is to be preferred; here, the elastic ligature is a useful adjunct.

(4) For long pedicles which have a tendency to bleed, the extra-peritoneal treatment is best, and the elastic ligature alone gives security against hæmorrhage.

(5) With short pedicles which bleed freely, whether the uterus has been opened or not, the intra-peritoneal method is necessary; the elastic ligature is here, also, the only safe method.

(6) Numerous observations (Olshausen, Hegar, and Kaltenbach, Ahlfeld, Fischer), have shown that the elastic ligature can be left without injury.

(7) The temporary use of elastic ligatures aids greatly in the removal of all abdominal tumors. By tying a temporary ligature around the pedicle, and, if necessary, two others around the broad ligaments, one can operate almost bloodlessly.

ALEXANDER'S OPERATION FOR RETROVERSION OF THE UTERUS.

This operation, which was first brought prominently before the profession in 1883, by Alexander, is gradually becoming a recognized operation in Great Britain. It has been performed a few times in this country. It consists in exposing the round ligaments at the external ring, drawing them out, and shortening them, thus lifting the uterus. They are then secured by sutures in the new position, and the organ is held in anteversion.

Dr. W. M. Polk,[4] in a lecture on this subject, gives a history of a case, with some interesting hints as to the method of operating. The patient, who had been a sufferer for years, especially since her last confinement six years previously, was found to have a retroverted and flexed uterus, the body being felt low down in Douglas's cul-de-sac. Cotton pessaries, and other forms had been tried, but abandoned on account of pain and tenderness. The operation in question was, therefore, performed, and was successful in retaining the uterus in its new position.

In commenting on the operation, Dr. Polk refers to the ease with which the external ring is found in the male, and says the conditions are so different in the female, owing to the thick layer of adipose tissue, that it is only after incising the skin, adipose tissue, and superficial fascia, that the external ring can be clearly made out in many cases. Nor is the ligament a well-defined cord. Passing directly beneath the arch over the canal, is seen some tissue resembling unstripped muscular structure, which is vascular, intermixed with fat. This is really the extremity of the cord, and by traction on it, the cord will be brought to view.

A danger to be kept in mind, is sloughing and retracting of the cord within the abdominal cavity. This is due to the cutting off the vascular supply, which comes from two sources; a branch of the ovarian artery, which supplies most of the ligament, and a branch of the deep epigastric, which supplies the extremity. If too much traction is exerted on the ligament, or the extremity is tied too tightly, there will be interference with the circulation, and this accident may occur. Traction may be lessened by holding the uterus up with a cotton tampon or pessary, and the other difficulty may be avoided by passing the stitches longitudinally to the cord, and not bisecting it.

ARTIFICIAL SUPPRESSION OF THE MENSES.

Loewenthal,[5] in a paper read before the Fifty-eighth Meeting of the German Naturalists and Physicians, at Strassburg, attempts to show the practical side of his new theory of menstruation. He first speaks of the method of suppression of the menses, which consists in rest in bed, and hot-water injections. These should have a temperature of 50° C. (preferably, more), as he has observed that at a temperature of 46–47° C., they favor hæmorrhage. The rest in bed should be maintained for some time after the cessation of the flow. In a few cases, he has found cold water more effectual than hot in checking the menstruation. Then follow the details of twenty-three cases, which he had the opportunity of observing for a long time. Eighteen of these were well-marked cases of chronic chlorosis and anæmia, with very troublesome nervous complications, such as severe nervous dyspepsia, general hysterical symptoms, hysterical convulsions, and two cases of hystero-epilepsy. Of the remaining five, two were cases of marked hysteria, and three convalescent from debilitating diseases. In the case of these last, a quicker convalescence was the object of the treatment, and the author thinks it was attained. In the eighteen chlorotic cases, marked improvement began directly after the first suppression, without any other medication, and recovery occurred after from the second to the eighth. Of the two cases of hysteria, one became much better, the second not. In all these cases, the nervous, dyspeptic, and hysterical symptoms appeared after the beginning of menstruation, and were worse at each period Loewenthal has never seen any bad results follow this treatment.

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[3] Centralblatt für Gynäkologie, No. 39, 1885.

[4] Philadelphia Medical Times, August 22, 1885.

[5] Centralblatt für Gynäkologie, No. 40, 1885.

ONE HUNDRED AND SIX LAPAROTOMIES.

Dr. William Tauffer [6] gives the results of the one hundred and six laparotomies which he has performed. He groups the cases according to their anatomical relations, and in the first section, gives the details of fifty-nine ovariotomies. Of these, fifty-four recovered, and five died, giving a mortality of eight and a half per cent. The cause of death was septic infection in three of the cases. In one of the fatal cases, the tumor, in its development, had not only reached the uterus, but had, apparently, so acted upon its muscular structure, as to cause a hypertrophy of it, and an intimate growth of the cyst with the uterus. The cyst could only be separated with great difficulty, and left a surface robbed of its peritoneum, and liable to bleed. Hæmorrhage was the cause of death in this case. In two subsequent similar cases, he performed hysterotomy, as well as ovariotomy, with good result. In thirty-one cases where there was a well-marked pedicle, only one died; in nineteen with broad attachment, there were three deaths. In four cases, in which it was impossible to remove the whole cyst, he stitched the remaining portion to the abdominal wound, and drained through Douglas's pouch.

The second series comprises seventeen castrations, with no deaths. Twelve of them have already been published in the *Zeitschrift für Geburtshülfe und Gynäkologie, Band IX, Heft.* 1.

Of the third series, which comprises hysterotomies and myomotomies, seven cases were operated on with intra-peritoneal treatment of the stump, and of these, four died. A series of seven cases, where the pedicle sewn into the peritoneal wound was treated with chloride of zinc, recovered. In cases where the pelvis is so filled with the tumor, that it is impossible to remove it wholly, he recommends a combination of hysterotomy and castration. Having shelled out as much of the tumor as possible, he removes the ovaries, and applies chloride of zinc to the stump. In this way, large masses of the tumor gradually come away.

The fourth series comprised fifteen exploratory incisions, in ten of which there was malignant disease, and the tumors were not removed. Twelve of the fifteen died; ten in consequence of the character of the disease, and two from loss of blood.

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

January 25th, 1886, the President, Dr. F. W. Draper, in the Chair.

Dr. F. C. Shattuck briefly reported as follows:

A CASE OF ESSENTIAL PERNICIOUS ANÆMIA.

M. C., sixty years of age, married, and the mother of several children, entered the House of the Good Samaritan, November. 4. 1884. She was a woman of large frame, had always been very well and strong, and had been able to lift a barrel of flour, when younger. For some time, she had been a cook in a restaurant. Her symptoms were those of anæmia and debility, and dated back for, perhaps, a year, though she had worked till shortly before entrance. There was also moderate bronchitis. Under treatment, she gained six pounds in weight, and improved so much that, after two or three months, she was sent to St. Luke's Convalescent Home. There she grew worse again, and was re-admitted to the Samaritan in April. During the spring she was so ill that there seemed, at one time, but small hope of her recovery; but improvement set in, and in August, she was discharged, and went again to work. After working four weeks, she was obliged to give up, and went again to St. Luke's, but, steadily losing ground, was again transferred to the Samaritan, October 15th. After this, she was confined to the bed till her death, January 22d. The marked symptom was anæmia, with inappetence, occasional nausea and vomiting, and attacks of diarrhœa, which yielded readily to treatment. Arsenic, which seemed to have done her good service when she first entered the Samaritan, was given without success, as were several preparations of iron, and other tonics. During a fortnight, dialyzed iron, m. xx–xxx, was given daily, subcutaneously. One abscess, and some hard, painless nodules, not tender on pressure, which were found, after death, to contain iron, resulted. There was, at no time, fever or hæmorrhage, and repeated careful physical examination always gave negative results, except that some enlargement of the heart, with a systolic murmur, probably hæmic, was made out. I regret to say, that an examination of the blood, though frequently contemplated, was never made.

In the absence of any local disease, as well as could be determined, to which the anæmia could be attributed, the diagnosis of primary, or essential pernicious anæmia, was made, and was fully confirmed by the autopsy, which was made twelve hours after death, by Dr. Fitz, who will kindly show the specimens. No cause for the disease, apart, possibly, from overwork, was ascertained.

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[6] Wiener Medizin. Woch., Nos. 3 and 4, 1885.

Dr. Fitz described, as follows, the conditions found after death: The skin was pale, of a faint lemon-yellow color, and the fat tissue throughout the body, was abundant. The head was not opened. The heart was slightly enlarged, and showed extensive spotted fatty degeneration of the wall of the left ventricle. The blood was pale-red, and liquid. The gross appearance of the spleen indicated nothing abnormal, and its dark-red color was strongly contrasted with the pallor of other organs. On microscopic examination of scrapings, large and small red blood-corpuscles were found, and, occasionally, others of irregular shapes. Large finely-granular corpuscles, with red blood-corpuscles as contents, were rarely met with.

The kidneys were slightly atrophied, and contained abundant pigment granules. The liver was somewhat atrophied, the section of a uniform brownish color, the lobular regions indistinctly marked. The peripheral cells contained a moderate quantity of small fat drops. The common duct was obstructed with mucus. There was nothing noteworthy in the appearance of other organs, with the exception of the bones. The marrow of the fibulæ was uniformly red and translucent, the so-called lymphoid marrow. On microscopic examination, large, red blood-corpuscles were seen, of the size of marrow cells. They were often nucleated, the nucleus sometimes resembling the corpuscle in color, but more refractive; in other cases, they were granular, with a sharply-defined, annular border, resembling the nuclei of marrow-cells. The nuclei of the red blood-corpuscles were occasionally, nodular, suggesting a tendency toward subdivision into two or three smaller bodies. Numerous marrow-cells were found, containing one, two, or three small red blood-corpuscles. In addition to the above-described macrocytes, numerous minute red blood-corpuscles were seen. Multiform red corpuscles were numerous, biscuit-shaped, club-shaped, and caudate. Charcot's crystals were not seen.

The microscopic examinations were made on the day following the post-mortem examination.

Dr. J. B. Ayer reported a case of

CO-EXISTENCE OF SCARLET FEVER AND VARICELLA IN A CHILD TWO AND A HALF YEARS OLD.

A case of this kind, now under his care, has interested him, as John Hunter taught the doctrine, that the eruptions of two fevers cannot co-exist, and Hebra stated that he had never seen two forms of exanthemata in the same individual, at the same time; and did not believe that any one could furnish proof of its occurrence.

However, it is generally admitted, at the present time, that the co-existence of eruptive diseases is *possible*, although few cases have been reported. The patient, a boy, two and a half years old, was bathed at 11 A. M., January 9th, by a careful and experienced nurse, who saw no eruption upon the body at that time, being then on the lookout for eruptive diseases. He remained well until 10 P. M., the same evening, when he became restless and feverish, and vomited. At daybreak, a fine, uniform rash appeared upon the face, neck, chest, and back, quickly extending downward. At the same time, varicella vesicles were seen on the trunk, and their number multiplied rapidly. There was pruritus, caused, apparently, by the rash, and not by the vesicles. The fauces were reddened. The temperature, the first day, was 101.5°.

The rash was present three days, the highest temperature, during this time, being 102.2°. Later, the temperature did not rise above 99°. Crops of new varicella vesicles kept constantly coming out, till the end of the fifth day. January 16th, seven days from the outset, bran-like desquamation was noticed on the chest, followed, in a few days, by shreddy desquamation of cuticle; principally, upon the palms of the hands, and upon the fingers.

This is the ninth day of desquamation, and shreds of cuticle are still separating. It is probable that the process of desquamation will require another week. Unquestionably, in this case, the eruption of a mild form of scarlet fever has co-existed with that of a typical form of varicella *from the outset.*

As far as Dr. Ayer could determine, one disease has not been modified by the other.

RAPID ŒDEMA OF THE LARNYX.

Dr. Edes reported the case of a man, aged thirty-five, an athlete, in excellent health, who was exposed to cold on Tuesday; on Wednesday, had a chill, but went to business, returned early, and was seen in the afternoon, hoarse, complaining of great difficulty in swallowing. Fauces red, but not much swollen. No swelling of the tonsils. The next morning, the appearances were about the same, the voice almost gone, swallowing very painful. A few hours later, he jumped out of bed, said he was suffocating, ran through the entry, making a noise, which, from the description, seemed to have been that of obstruction to inspiration, and died in a few moments.

At no time previous to the final attack, had there been any complained-of difficulty of breathing, nor had dyspnœa been noticed by the attendants. The autopsy showed œdema of the epiglottis, and of the vocal cords, and neighboring parts of the larynx. There was considerable mucus in the bronchi.

Dr. Gannett who had made the autopsy, described the appearances found, which consisted of a marked degree of œdema of the submucous connective-tissue of the epiglottis, aryepiglottic fold and glottis. The appearance of the mucosa, of the pharynx, larynx, trachea and bronchi had been so modified by the use of a preservative that no conclusions as to its condition during life could be drawn. The appearances in general were those of death by suffocation.

Dr. Hooper called attention to his report in the *Boston Medical and Surgical Journal*, July 24th, 1884, containing mention of Mr. Jonathan Hutchinson's view, that catarrhal laryngitis is a very definite affection, common in the milder, rare in its severe forms, depending upon exposure to cold, and rapidly and completely passing off if the patient survive; but when severe enough, attended by paroxysms of dyspnœa, which are occasionally rapidly fatal. One report of an autopsy is given, made within an hour of death, in which the larynx and adjacent parts were in a state of extreme congestion, with much œdema, but without a trace of membrane.

Dr. Minot reported a case of

CHRONIC DISEASE OF THE KIDNEYS AND BLADDER.

The patient, a man forty-five years old, entered the Massachusetts General Hospital, under Dr. Minot's care. He had had repeated attacks of fever and ague ever since childhood, with occasional attacks of pain, swelling and redness of the wrists, insteps, fingers and toes. He had had stricture of the urethra for twenty years. There were tophi in the helix of one ear. The urine was alkaline, sp. gr. 1014; containing three-fourths of one per cent. of albumen, much pus, waxy casts, much renal and bladder epithelium, and crystals of triple phosphate. He became maniacal, and then comatose, and died in about ten days after entrance.

Dr. Fitz who had made the autopsy, reported its chief features. Œdema of both lungs was present. The heart was not hypertrophied, and the spleen was no larger than that of a child seven years of age. Its artery was small, and its cut surface did not show any special prominence of blood vessels or vasculæ. The follicles were distinct. Moderate amyloid degeneration of the smaller arteries was discovered on the application of iodine. There was amyloid degeneration of the intestines, but none of the liver.

The genito-urinary organs were the chief seat of the disease. There was an old stricture of the membraneous portion of the urethra about a third of an inch in circumference. The surface of the urethra was rough and white in the vicinity of the stricture, from the abundant formation of epidermis. The spongy bodies of the urethra were intimately connected with the perineal skin by dense and contracted fibrous tissue.

Behind this stricture the urethra was moderately dilated and the walls of the bladder were thickened to the extent of half an inch, chiefly by diffuse hypertrophy of the muscular coat. The mucous membrane was thickened and injected and the bladder was firmly contracted, its cavity containing about an ounce of offensive dirty-gray fluid. The ureters were not dilated, and their mucous membrane was of normal appearance. The left kidney, somewhat larger than normal, presented the characteristics of large white kidney and showed extensive amyloid degeneration. The right kidney was about one-fourth the size of its fellow: the diminished size resulting chiefly from the atrophy of all the pyramids excepting two, in consequence of chronic pyelitis over the atrophied portion of the kidneys. The perinephritic fat tissue was indurated and intimately adherent. Amyloid degeneration was present and the right renal artery was diminished in calibre at its origin, from chronic endarteritis, the evidences of which were also visible along the aorta. The anatomical diagnosis was stricture of the urethra and periurethritis, diffuse hypertrophy of the bladder, cystitis, diffuse nephritis, chronic pyelonephritis, amyloid degeneration of the kidneys, spleen and intestine, aplasia of the spleen.

Dr. G. L. Walton read a paper entitled

CASES OF FUNCTIONAL AND ORGANIC INJURY TO THE CENTRAL NERVOUS SYSTEM CAUSED BY TRAUMA.[1]

Dr. Webber said that he thought Dr. Walton does well in making the distinction that an excess of subjective and emotional symptoms belongs to functional and not to organic disease. He mentioned the case of a man who was injured upon a railroad two years ago, and whose right arm was affected by a twist or strain, the right leg being also affected. There is some loss of sensation which might be taken for functional, with more or less shamming, but that there is also a partial loss of electrical reaction. We know that the strain or twist causing a sprained ankle does mischief that may last during life, the patient being now better, now worse. There was here probably a similar strain of a nerve and its most probable seat was in the spinal canal.

Many cases of traumatic injury to the nervous system are undoubtedly central. The speaker referred to the effect of shock as probably sometimes causing disturbances of nutrition from which the patient may be a long time in recovering; or such disturbances may end in scleroma instead of in recovery. He illustrated his meaning with the case of a patient who for four and a half years after all damages had been settled, could not move his leg, but who nevertheless got well. We cannot say why this was, but disturbed nutrition would account for it.

Dr. A. H. Nichols said that in view of the difficulties in the way of diagnosis, and the impossibility of being absolutely sure, when such cases came before the courts great attention should be paid to the reputation of the patient for veracity.

Dr. Edes was glad that Dr. Walton had emphasized the cases in which organic lesions existed, for the reason that since the appearance of Dr. Page's book, the tendency had been to consider nearly all cases of "spinal concussion," "railway spine," etc., either feigned or hysterical. He had seen several cases in the hospital[2] where he had supposed from the presence of ankle clonus, spastic gait, etc., that organic disease of the postero-lateral columns existed. In one case where a man fell on his back across a wheel, and contraction of the upper limbs with paralysis of the lower resulted, he confidently expected to find a fracture, but there was none. The postero-lateral columns, however, were found to be sclerosed.

Dr. Folsom spoke of the difficulty in making a differential diagnosis between organic diseases in which the anatomical changes are slight, on the one hand, and those which are classed as functional (hysteria and neurathenia) on the other hand, especially as regards giving an opinion as to probabilities of recovery. He believed slight disseminated sclerosis to be quite common in many cases of so-called railway spine, for instance, as has recently been stated by Westphal.

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NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting held at the Carnegie Laboratory, January 18, 1886.

ELECTION OF THE OFFICERS.

The following officers were elected for the ensuing year: — President, Dr. Charles A. Leale; Vice-President, Dr. John Shrady; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. E. S. F. Arnold; Members of the Executive Committee, Drs. John H. Hinton and G. S. Wood.

Dr. Lawrence J. McNamara read a paper entitled,

A STUDY OF THE ETIOLOGY OF TUMORS.

The existence in the body of an independent growth, distinct in its histological elements, from the surrounding matter, drawing nutriment from the general system, and liable at certain periods of development to infect the organism, he said, had always been a perplexing, though fascinating subject to the observer. Advances in histological work had enabled us to make a partial classification of these new growths, according as they were formed on some type of existing normal tissue, as epithelial, muscular, nervous, or connective tissue. The group of neoplasms under which were ranked tubercle, syphilis, glanders, etc., had a distinct place as formations of an infectious origin; and were no longer considered as tumors similar to those now under discussion.

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[1] See page 102.

[2] See Boston Medical and Surgical Journal, September 14, 1882.

The class of tumors formed after types of normal tissue which are most frequently brought to the notice of the surgeons, were sarcoma and carcinoma. These were distinguished by secondary formations, or metastases, and the tendency to recur, from tumors of a benign character. These metastatic or secondary deposits bore the same relation to the structures in which they had found a resting place as the parent tumor. They assumed the changes in growth, development and invasions of organs, identical with the primary growth. The channels of infection were the lymph and the blood. In the ordinary cases of carcinoma, examination of the advancing mass showed infiltration of the normal tissue by epithelial cells. The lymphatics were found plugged with epithelial elements, and the glands contained the same distinct cells. In this formation, at least, it was unnecessary to imagine a virus, transmitted to the body from without, as the cause of the proliferation. There could be no doubt of the malignancy of cancers. The metastases, however, were always of epithelial formation, similar to the primary cancer, and the epithelial cells resembled one another in shape and appearance. The important fact lay in the misplaced epithelial cells. Like the forms of vegetable life, the cell was influenced in its activity by the nutriment which surrounded it; and a modification of this condition would lead to a change in its activity. The epithelial cell if placed in a tissue receiving more nutriment than its own, must, undoubtedly show some changes in its activity. The transplanting of the spur to the comb of a cock was a familiar example. In some cases of cancer of the breast it seemed to him that he could make out a distinct connection between the swollen epithelium of the duct and the cells beyond; and this fact had been mentioned by others also. The epithelium in the connective tissue and the duct, seemed identical in form and appearance.

The diagnosis of cancer could not be made until the epithelial cells formed nests in the connective tissue. If this epithelial element did not come from the proliferating interpapillary processes, it might have existed previously; and to suppose this was to admit the embryonic theory of Cohnheim. The arguments advanced by its originator, offered very convincing proof of the etiology of many complex tumors, like the sacral teratomata, the mixed tumors of the parotid, dermoid cysts, etc. Applied to the sarcomatous group of tumors, the theory had no direct proof of their embryonic origin. There could not be as much reason for accepting the belief that the epitheliomas of the lips, pylorus or rectum, originated from an embryonic epithelial cell displaced and started in growth by continued irritation, as for believing that the irritant might cause the invasion of the connective tissue by the proliferated epithelial elements.

In sarcomatous growths more difficulty was experienced in accepting this embryonic theory. Until proof could be furnished that these embryonic cells existed in the body and developed into a distinct tumor under favorable circumstances, the theory of Cohnheim could not be logically entertained. The transplanting of embryonic cartilage to the adult animal, and its development into a tumor, had been thought to prove the fact of the power of embryonic cells to live and multiply in a mature matrix. It was conclusive, however, that the embryonic cells would grow in the mature organism under favorable conditions. Another difficulty in determining the embryonic foci was the similarity under the microscope of embryonic cells, the round cell of inflammation, and the small cell of sarcoma.

DR. McNAMARA went on to say that the perplexing view of predisposition as the cause of tumors was found in many of the theories, and that it served the purpose of hiding their defects and increasing the obscurity in which the course of their neoplasms lay. Malignant growths had often been compared to the infective granuloma in their course and development. The changes which occurred in these infective neoplasms, such as necrosis and the like, might find counterparts in the malignant deposits of tumors. Clinically, there were other points of resemblance: but the infective granuloma, besides possessing the power of invasion of tissues, might be inoculated. Clinical efforts or experimental works had never been able thus far to connect a bacterium with the cause of tumors.

Still the infectious origin of sarcoma offered at present great attractions. The discovery of a vegetable growth as the cause of actinomycosis had some bearing on this subject; and the tumors these actinomycoses caused, were called, before their parasitic nature was proved, osteo-sarcoma, tuberculous tongue, etc. Sarcoma, when rapidly growing, presented changes of a similar character in the reactive appearance of the cells. If this variety of tumor was caused by a microörganism, it must be of a nature which requires very favorable conditions for its development.

If a microörganism were considered as the cause of carcinoma, the question as to why it should affect the epithelial cells alone did not seem capable of explanation. Microörganisms could not produce an epithelial or connective tissue cell; since one being could not form another higher in the animal economy than itself. The action of the microörganism was of an inflammatory character, specific in its nature. In carcinoma the inflammatory changes represented the action of the cellular matrix. The same might be said of sarcoma. The hyperplasia of the matrix was but an indication of the efforts of the tissue to cast out or destroy the foreign body. In conclusion, he remarked that it seemed that to no one theory could be assigned the production of these tumor growths.

DR. J. W. S. GOULEY thought that Dr. McNamara's position concerning the question of microörganisms was well taken, and said it was his belief also that it was not likely that a microörganism could end in an epithelial or any other kind of cell. The cell itself was sufficient to give rise to the mischief which was excited in cases of advanced cancer.

The President, DR. LEALE, remarked that the author of the paper had with a single sharp stroke thrown aside the theory of Darwin, when he stated that one being could not form another higher in the animal economy than itself. He then related a case in which he removed a scirrhus of the breast from a lady, three of whose sisters died of cancer. The family history showed that the father, who was a resident of Richmond, Va., had died of a "tumor of the stomach," the exact nature of which could not be ascertained, and that the mother had died of a “ tumor of the liver.” In this patient the cancer did not return in the breast, but three years after the removal of the mammary growth she died of metastatic cancer of the liver; the lungs being also finally implicated. One sister had cauliflower cancer of the uterus, and another scirrhus of the uterus. It was a curious fact that the trained nurse who attended the lady whose breast he removed, also had mammary cancer. One year afterwards he removed this also, and a year after that the axillary glands. It would be of interest, he thought, to know whether it was possible that there could have been a transmission of the affection from one individual to another in these cases.

Dr. Daniel Brown related a case which he thought might serve to throw some light on the etiology of tumors. A young lady, twenty-two years of age, residing in Eastern Pennsylvania, fell on a doorstep and slightly bruised her hip. Afterward no further effects were noticed for some sixteen or eighteen months, when she began to suffer considerable pain in that part. It was at first supposed that she had rheumatism, but afterward a diagnosis of hip-joint disease was made, and a blister was applied. In a few weeks she became unable to walk, and now a small tumor made its appearance over the femur. This growth gradually increased in size, and it was found to be an osteo-sarcoma The patient was brought to New York and placed under Dr. Brown's care, and at this time the tumor measured twenty-eight inches in its longest diameter, occupying the whole of the ilium, together with the upper fourth of the femur. The late Dr. James R. Wood saw the case in consultation with Dr. Brown, but it was thought best not to perform an operation. The patient finally died, and the growth was found to weigh between forty and fifty pounds. The chief interest of the case lay in the apparent development of this enormous tumor from so slight a cause.

Dr. McNamara said that the occurrence of several cases of cancer in one family as mentioned by Dr. Leale, might be due to predisposing causes, such as climatic influences, etc., to which they are all equally exposed.

Dr. Frank Grauer presented some pathological specimens for Dr. Janeway, who was unexpectedly prevented from being present. The first case was one of

EPITHELIOMA OF THE ŒSOPHAGUS,

in which there resulted a stricture of the latter, four inches in length. Both recurrent nerves were involved, and, during life, there was paralysis of both vocal cords, neither abduction nor adduction being well performed. Another interesting feature of the case was, that the first symptoms appeared after the patient had swallowed a piece of bone, which, he supposed, had become lodged. Tracheotomy was performed by one of the house physicians of Bellevue Hospital, in order to avert impending suffocation from the laryngeal symptoms. He died, as the result of exhaustion, as he was unable to swallow food, and had great distress in respiration. At the autopsy, there was found dissemination of the cancer in the liver, lungs, and bronchial glands. The main point of interest in connection with the case was, from the comparative rarity of the circumstance, the implication of both recurrent nerves by the pressure of the growth.

The second case, the specimens from which were presented, was one of

PRIMARY TUBERCULOSIS OF THE KIDNEY.

There was pyo-nephritis, and the right ureter was obstructed. The inflammatory process had extended from the kidney to the bladder, which was found to be in a condition of tubercular cystitis.

Dr. Gouley inquired whether there was any history in the latter case.

Dr. Grauer replied that there was not, the patient having been brought into the hospital *in extremis.* Very few tubercles were found in the lungs, and he thought that there could be no doubt that it was a case of primary tuberculosis of the kidney.

Dr. Gouley thought that the question might be raised, whether the tubercular trouble did not commence in the bladder, rather than the kidney. In at least two cases of his own, both of which terminated fatally, such was the case; and in one or two others, the tubercle commenced in the urethra. One of his cases, he had the opportunity of following up for a year. It commenced apparently with a mild cystitis, and this gradually became more aggravated, until the ureter and kidney were involved. The tubercular character of the trouble was not, however, at first, suspected.

Dr. Grauer said in reply that in this case the trouble in the bladder was clearly secondary to that in the kidney, since in the latter the disease was much further advanced than in the bladder; while the ureter was open at its lower extremity, where it enters the bladder, but above, towards the kidney, was occluded.

After the meeting, there was a collation and social reunion in the Library of the New York State Medical Association, in the Carnegie Laboratory.

Recent Literature.

Diseases of the Lungs. By Prof. Germain Sée, Member of the Academy of Medicine, etc. Translated by E. P. Hurd, M.D., with appendices by George M. Sternberg, M.D., and Prof. Dujardin-Beaumetz. pp. 394. New York: William Wood & Co. 1885.

The author of this work is already well known to his professional brethren as a teacher, practitioner, and writer of eminence; and the present volume may be regarded as one of a series to include, when complete, all the diseases of the lungs. “Bacillary Phthisis” appeared in France in 1884, and in an English translation in 1885; the book under review includes those pulmonary affections of a specific but non-tuberculous nature, and the translator tells us that another volume is in preparation. Our attention is thus limited at present to acute bronchitis, acute pneumonia, gangrene, syphilis, cancer, and hydatids of the lung.

That bronchitis may be a local inflammation due to simple atmospheric action on the bronchial mucous membrane and the skin, Sée believes; he says,[1] “ If there still remains a disease which may be rightly attributed to thermal influences, it is assuredly common bronchitis. Till a very recent period, cold was regarded as causative in all inflammations; the microbiological researches of the last few years have assigned to the general dogma of disease *a frigore* its proper place. The more important of these, the pneumonias, the pleurisies, the bronchites, as a whole, even rheumatism, have passed to the ranks of the infectious diseases; there remains but one acknowledged to be amenable to cold alone, namely common bronchitis, or *rheum* of the air passages." That simple primary pleurisy is an infectious disease is news to us, and we should be glad to hear the evidence in favor of such a view; that there is such a thing as septic pleurisy and that it is a thing far from rare we all know, but Professor Sée seems to class all pleurisies as infectious.

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[1] Page 6.

The only form of specific bronchitis systematically discussed is influenza, consideration of the bronchial and broncho-pneumonic inflammation of pertussis, measles, and diphtheria, being reserved for a work on the acute infectious diseases other than those of the lungs. Capillary bronchitis, and broncho- or lobular pneumonia may be the result of the extension of a simple as well as of a specific process starting in the larger tubes.

The nature of pneumonia is then summed up:[2] "It results from these different labors that the experimental demonstration of frank fibrinous pneumonia may be considered as accomplished. This pneumonia may be reproduced in animals, but this reproduction is impossible with ordinary irritant agents. In order that the characteristic lesions may develop, it is necessary that a specific agent, a special microphyte, shall be brought in contact with the pulmonary tissue, and there multiply. Ordinary frank fibrinous pneumonia, then, is an infectious disease, not in the sense of being a general disease, but in the sense of being a parasitic microbic disease. It is an inflammation primarily local, as Grisolle and Andral taught, but it is beside a specific inflammation produced and characterized by a definite microbe. It remains local as long as the parasite does not overpass the limits of the pulmonary parenchyma; it is then simple pneumonia. When it diffuses itself and becomes general, invading the neighboring organs or penetrating the general circulation, whether by way of the lymphatic or blood-vessel, it becomes infectant pneumonia." That the special agent is the ellipsoid coccus Sée is satisfied; to Friedländer's capsule he attaches no importance. To quote another passage:[3] "There is one question, nevertheless, which may be asked, to wit, whether the parasite is the same in all the epidemics of which we have account, or whether with the ordinary parasite there may not be conjoined in certain cases other microphytes? This is an affair for future researches to decide. For the present, and till further enlightened, we may affirm that fibrinous pneumonia, sporadic or epidemic, has always for its essential cause the ellipsoid micrococcus."

The contagiousness of pneumonia also demands further light, though there is increasing probability that it may be contagious.

Here is a short passage which we cannot forbear quoting:[4] "We do not attribute to variation of seasons, the importance which has been assigned to them by Jurgensen and those who have followed him in his way of demonstrating the infectious nature of the disease. If there were no other and better arguments with which to substantiate this theory, it would fall to the ground. Besides, the statistics appealed to as demonstrative, are absolutely puerile, and prove nothing. To one set of statistics, it is always easy to oppose another set."

That pneumonia ever terminates in gangrene Sée doubts seriously, following some of his own countrymen. In these doubts we do not think Sée justified; English, American, and German experience showing clearly that gangrene does occasionally complicate true pneumonia, especially in hard drinkers, though it must be remembered that gangrene is sometimes the primary, solidification of the lungs the secondary, condition.

Chronic induration of the lung may be the outcome of pneumonia, but a termination in caseification, tuberculosis, is characterized as "inadmissible." "Frank fibrinous pneumonia does not end in tuberculization. The facts given as such are mistakes of diagnosis. The inflammation, considered at the outset as fibrinous, was bacillary from the very start. The examination of the sputa does not to-day permit of any doubts in regard to this."[5]

We have thus allowed our author to state some of his more interesting conclusions in his own words. There are other points which we marked for notice, but we have already reached the limits which it is possible for a weekly journal to give to a book notice. There is a good deal of repetition in the book, and more energy as well as space is given to a condemnation of the obsolete treatment, well characterized as "spoliative,"—indiscriminate blood-letting and antimony — than would seem necessary at present. The book is interesting and cannot be read attentively without profit.

The translation is, on the whole, good, but is marred by altogether too many such words as "functionating" "tussigenous," "sectioning," "fermentiferous," "septigenous," and the like. "Debilitation" is found in Worcester, but does not seem to have been used since the time of King Charles. Here and there an error in proof-reading is to be found. F. C. S.

Diseases of the Nose and Throat. By Charles E. Sajous, M.D., Lecturer on Rhinology and Laryngology, Jefferson Medical School, etc. Illustrated with one hundred chromo-lithographs, from oil paintings by the author, and ninety-three engravings on wood. Philadelphia: F. A. Davis, Attorney, publisher. 1885.

This work is made up of lectures delivered by the author during the spring session of the Jefferson Medical College. We are told in the preface, that it is intended to furnish the general practitioner not only with a guide for the treatment of diseases of the nose and throat, but also to place before him a representation of the normal and diseased parts as they would appear to him were they seen in the living subject.

Ninety-seven of the chromo-lithographs are original. As the author has himself performed the part of artist, we presume he is much better able to judge of color than we are, and that of the plates in this volume, therefore, must pass as accepted. They are certainly well drawn, and the majority of them are very instructive. As a guide to the treatment of the nose and throat, we can cordially recommend this work. The chapters on the instruments used in cleaning and medicating the nasal cavities, pharynx and larynx, and also those on the therapeutics of these regions, set forth the general principles in a useful and practical manner, that will be fully appreciated by general practitioners and students. Specialists will be interested in the volume on account of the originality of the illustrations, and because it is a mirror of the author's own teaching and practice. It is extremely well printed and brought out by the publisher.

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[2] Page 56.

[3] Page 71.

[4] Page 73.

[5] Page 111.

Medical and Surgical Journal.

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SEWERAGE AND THE DISPOSAL OF SEWAGE IN POPULOUS PLACES.

A commission appointed in Massachusetts under a resolve of the Legislature of 1884, has just made its report [1] to the Governor of the Commonwealth on the methods of sewerage and sewage-disposal applicable to various portions of that State, for the relief of certain cities and towns and for the protection of water supplies. Although the investigations were made within rather limited areas and the recommendations have been adapted to the needs of one State, yet the general principles involved are the same everywhere in this country, and the conclusions reached will be of great interest to every community where the proper disposal of filth has become a pressing question.

The commission started with the ground pretty thoroughly prepared for them in the reports of numerous investigations during the last ten years, which have left very little to say, so far as the main conclusions are concerned, as to the methods most practicable under given conditions; and their recommendations agree with previous reports, especially of the State Board of Health. Their ability to spend a large sum of money (nearly the whole of their appropriations of $33,000) and to avail themselves of the services of an accomplished engineer, Mr. Eliot C. Clarke, with a large corps of trained assistants has enabled them to give specific directions, with detailed plans, to meet the requirements of the several cities and towns. From a considerable familiarity with the literature of the subject, we do not hesitate to say that the general report of the commission is the most concise, comprehensive and satisfactory statement of the sewage-question which we have seen; and the appended report of the engineer, beside giving great help to local authorities in settling their problems of drainage, treats the subject in such a broad way as to make his conclusions of practical value throughout the country, while every plan proposed is rendered entirely easy to comprehend by numerous maps admirably drawn and clearly printed. The method adopted, too, is the only correct one, namely, of considering whole river-basins together in drainage schemes, so that the advantage of one town may not be the detriment of another. Mr. Clarke's and the commission's conclusions were submitted to the distinguished engineers, Messrs. Joseph P. Davis, of New York, and Rudolph Hering of Philadelphia, for criticism, revisal and final approval.

The commission's first conclusion is that sewage is of little or no value, but that, although so much diluted as to be valueless, it is not diluted enough to be harmless; that if it can be done effectually and finally it is undoubtedly cheapest and best to cast the foul water entirely away into a body of clean water so large and so free that all trace of the contamination speedily disappears.

Sewage-irrigation they consider admirable if only a number of somewhat intractable conditions can be controlled. Where all things can be made to work together in harmony, it offers a reasonable probability of at least reducing the expense of getting rid of sewage to a minimum. Where an arrangement can be made to operate it in combination with filtration, so that private agriculturists may take the sewage in such quantities and at such times, as they may find it best for their crops, and when not desired can turn it upon filter beds, they think there would be a fair prospect of attaining the largest measure of utilization with the least possible complication and expense. For broad irrigation, pure and simple, the city of Boston, for instance, would need a levelled farm as large as the town of Brookline, upon which two and one-half times the annual rainfall, beside the rain, must be distributed each year, and in wet weather usually to the injury or ruin of most crops — conditions which make the scheme all but impracticable on a large scale.

Intermittent downward filtration is recommended as affording a practicable, economical and efficient means of cleansing sewage, if properly managed, and as having the advantage of being able to filter ten times as much sewage as any crop upon it can profitably absorb. It abandons all idea of profit and simply consists in the application of the maximum quantity of sewage upon the minimum area of land, permitting of only partial utilization, but of more perfect purification. It is susceptible of modification, with a view to partial utilization. It also can be easily and advantageously used in combination with farming enterprise, and is, indeed, an indispensable supplement to broad sewage irrigation.

The climate of Concord and Worcester, Mass., where the sewage of the prison and of the insane asylum is used in irrigation, and at the sewage farm in Pullman, Illinois, is never cold enough for the frost to prevent the flow and absorption of the sewage. The intense heat in summer has not in these places created a nuisance.

Precipitation and depositing processes, chiefly with the aid of lime, involve the disposal of many tons of sludge, a precipitated deposit which cannot be even given away, and they do not so completely purify the sewage as to prevent a nuisance if it is cast into clean streams in such quantity as to constitute more than a small per cent. of its volume.

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[1] Report of a Commission appointed to consider a General System of Drainage, etc. Wright & Potter Printing Company, State Printers, Boston, 1886.

In regard to manufactories, while the commission admit that there is a class of cases where it may be an open question whether it is not for the public interest to abandon a stream or sheet of water to the customary pollution of industry, so long as it does not imperil the public health, they yet say that the public have a right not to be poisoned by the air they breathe any more than by the water they drink, and that there is a foulness which is inadmissible even in a factory stream. Manufacturing refuse, to a certain amount or of a certain kind, may do no harm to a stream, but in many cases the pollution may be so offensive or dangerous as to require a remedy such as the commission think might be brought about by a coöperation of water owners, under the guidance of a board charged with the duty of mitigating the pollution of water-courses.

For the Mystic valley, seventy square miles, with a population of 130,000 to be served, including parts or the whole of Stoneham, Winchester, Woburn, Medford, Belmont, Arlington, Cambridge, Somerville, Melrose, Malden, Everett, Chelsea, Revere and East Boston, an intercepting sewer is recommended to discharge at a point in the southeastern part of Saugus, upon a wide tract of sandy plains for intermittent downward filtration at a cost of $1,520,000 for construction and $20,000 annually for maintenance and renewal. The greater part of the sewage of Cambridge and Somerville is included with the Charles River system, and East Boston has a separate, direct outlet into the harbor.

For the lower or Metropolitan portion of the Charles River valley a main sewer is advised, starting at Waltham, including the Brighton abattoir, uniting with another trunk sewer from Charlestown and the greater portion of Cambridge and Somerville, with their immense hog-slaughtering and rendering establishments, to enter the Boston main-drainage system discharging at Moon Island — a scheme likely to meet with more favor near the present sewer-outlet at Craigie Bridge than in the vicinity of Moon Island, but perhaps admissible. In this way the sewage of forty-six square miles and 180,000 people is provided for at a cost of a little over a million and a half dollars for construction. Milford, Franklin, Wellesley, Marlborough, Westborough and Hopkinton are each recommended to have a separate filtration area for their sewage. The Sudbury and Cochituate basins, including the water-supply of Boston, are provided for by a trunk-sewer for the sewage of the women's prison in Sherborn, South Framingham, Natick, and if necessary, Ashland, with a filtration area for the sewage, in conjunction with which broad irrigation or sewage-farming can be tried, the whole at an estimated cost of $134,843, part of which is to be paid by Boston.

In the lower Neponset basin, Dedham and Hyde Park are temporarily provided for by a plan for a filtration tract between Oakdale and Readville until the time when a main sewer is needed in Dorchester, which they may join and enter the present Boston main drain. In the upper Neponset basin, Sharon, Norwood, Stoughton and Canton, are expected to dispose of their sewage on filtration beds.

The Blackstone River is polluted chiefly by the sewage of Worcester. The remedy suggested is the same as that proposed by the commission appointed by the State Board of Health, Lunacy and Charity, and consists in filtration, with as much sewage-farming as the conditions from time to time admit.

No local sewers are provided for by the plans of the commissioners and none are included in their estimates of cost. The separate system of sewers is recommended for the sewage proper only, on account of the greatly increased cost of providing for street washings and storm-water.

Finally, the commission say, " when we recommend that the prevention of river-pollution be assigned to a board, we do not pretend to prejudge the question whether that Board shall be an existing board or a fresh creation. It seems to us comparatively immaterial, by what instruments our ends are wrought, provided only the work be done economically and speedily and above all, be done well." If an efficient State Board of Health be established this year, as we hope will be the case, the question is worth considering whether it might not perform the duties of a main drainage commission.

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FROZEN FRUIT.

FOLLOWING the teachings of the bacteriologists, we have come to look upon cold as a foe to microbic activity, and hence, in a general way, favorable to the interests of public health. But very recently we have been told by the amateur sanitarians of the daily press, of a new peril to life and health, through the action of cold. Frozen oranges, it is said, develop a peculiar virulence through the dissemination throughout their substance of poisonous principles (" acids,") contained in the skin. This theory implies that the skin of an orange naturally contains such a poison, or else that under the action of frost innocent substances take on a poisonous character.

While it is well known that both fruit and rind of the small, bitter Bigarade oranges, or orange berries contain, in the fresh state, a bitter principle called hesperidin, which imparts irritant properties to the essential oil causing in large doses considerable nervous derangement, it is equally well known that the sweet orange peel has a much smaller quantity of hesperidin, enough merely to give it an aromatic and slightly-bitter taste. We have never seen any authority for the belief, that cold has the power to increase the amount of hesperidin, or to form any new chemical compound in the rind of the sweet orange.

This theory of the danger from eating frozen oranges, was promulgated a fortnight ago or thereabouts, when so large a portion of the Florida crop of oranges was frozen. It is said to have originated with certain planters whose own orchards escaped the frost, but the panic caused by the report was so great, that, far from increasing the price of the unfrozen oranges, as might possibly have been the expectation of its originators, it killed the trade in all Florida oranges, alike. The possibility that fruit might have been frozen, and so have acquired deadly properties, was sufficient to alarm all purchasers.

In this way, a rapidly-growing industry, which would have produced, this year, about a million and a half of boxes of oranges, has been sadly shattered by an idle theory, which purported to be based on scientific grounds, while the proportion of the fruit actually frozen, has probably reached only about twenty-five per cent. of the crop.

Frozen oranges lose their delicacy of flavor, and there is often developed a slightly-bitterish taste, which there is more reason to suppose proceeds from the seeds than from the skins. At least, it is said that Fayal oranges, which have no seeds, and which are quite sour, are made sweeter, and improved in flavor by being frozen. Florida oranges seem to suffer more in flavor from freezing than the fruit from the Mediterranean, and the thicker-skinned and russet varieties of the former are less injured than others.

The great damage resulting from frost, is, of course, the predisposition to decay thus produced. The large amount of fruit seized by the Inspector of Provisions, in Boston last week, and that condemned in New York the week before, was badly decayed, owing to the frozen fruit having been thawed out by the warmth of the steamer, which also hastened decomposition. If the oranges had been thawed slowly, and exposed not too long, they would have been edible and not injurious, though, of course, not a perfect fruit.

It has been the custom of fruit importers in our Northern cities, for years, to sell frozen oranges. It is not uncommon for the outside tiers of boxes in the fruit cargoes of Mediterranean steamers to be touched by frost, on entering port during a cold snap, and occasionally, a sudden fall of the temperature will catch the fruit during its discharge from the vessel, or while it is lying on the wharf. Again, it is liable to be frozen on the westward-bound trains. Such fruit is sold as frozen, and purchasers take their chances on it. They consider it damaged, chiefly because of its liability to decay, but never because the act of freezing has made it poisonous. There is no more reason to fear poisoning from a frozen orange-skin, than from a chilled watermelon, or a glass of iced lemonade.

It is evident, then, that the only proper ground for the condemnation of this fruit is its actual putrefaction, and not the fact of its having been frozen. It seems to us desirable that such matters as the inspection of food, which may involve important and responsible decisions, and in which popular whims may unduly influence on one side or the other the non-expert layman, should be directly under charge of our local Boards of Health. As it is, in Boston, the Board of Health has nothing to do with such seizures, which are in the province of the Inspector of Provisions, who is appointed by, and is responsible directly to the mayor. The owner of seized articles has the privilege by law of appealing from the officer's judgment to that of the Board of Health, whose decision, in that case, is final. There might be less chance of injustice being done to commercial interests by pseudo-science, while the welfare of the public would be equally well guarded, if the original jurisdiction, in such matters, lay with the Board of Health.

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RAW MEAT AND MEAT POWDERS.

In that *a culinary* period of the world's history, which Charles Lamb, in his famous "Dissertation on Roast Pig," calls the "Cho-fang, or Cook's Holiday," before Hoti and Bobo, by the accident of the burning of their hut, in which a litter of pigs was consumed, first learned the savory delights of roast meat, the human race was hardy, and sickness was unknown; it was the golden age, so says the legend. Primitive man may have had his surfeits and his bradypopsias; he was hardly, however, the puny, neuropathic, debilitated individual which the art of cookery, and the refinements of civilization have made of his modern descendant.

Raw meat was introduced into *therapeutics* by Weisse, of St. Petersburg, and has proved an aliment of the utmost restorative utility, not only in affections of the stomach and intestines (its good effects are witnessed, especially, in acute intestinal catarrh), but also, in chronic wasting diseases, generally, among which we may particularize pulmonary phthisis. The facility of digestion of this kind of pabulum, when administered in the form of pulp, and laden dripping with its sanguineous juices, is a matter of common notoriety.

The anæmic and debilitated speedily experience hæmatic recuperation and re-invigoration. This easily assimilable diet has worked wonders in restoration, where iron and cod liver oil have failed. Dyspeptics, whose irritable stomachs would bear nothing else, have tolerated the raw-meat regimen, and life has been prolonged with comfort, where cure was impossible; even infantile therapeutics has profited by it.

It cannot, however, be said that this kind of food is palatable, attractive, or altogether free from the danger of tænia; it must be, moreover, admitted, that that delicious aroma and savor, which, in Lamb's dissertation first awakened desire in the primitive raw-meat devourer for roast pig, are important factors in normal ingestion and digestion.

Hence, it is, that of all the recent additions to therapeutics, meat powders deserve a pre-eminent place. Such preparations, representing the entire substance and juices of animal muscle (and some of them are artificially peptonized), are handy, of great sanitary value, and enhance incalculably the resources of the modern physician. Nor need the latter, if he be an ardent protectionist. any longer patronize the venders of foreign extracts (even though these have the brand of the illustrious Liebeg); let him wait patiently and the polite representative of the home manufacturer will generously bring him just the article he wants — a delicate little can, containing (well freighted with fragrant osmazome) the proteids of a whole Texas steer.

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A PROPOSED BUREAU OF PUBLIC HEALTH AT WASHINGTON.

A bill has been presented in the National House of Representatives and referred to the Committee on Commerce, for the purpose of creating a Bureau of Public Health in the Department of the Interior.

Provision is made in the bill for the investigation of contagious and epidemic diseases; for the obtaining of information as to the sanitary condition of foreign ports; the collection of statistics of mortality, and pervalence of disease in all portions of the country; and the publication of all the information thus obtained in a weekly bulletin and annual report.

It appears to have been thought necessary to establish an office without quarantine powers and without the patronage which proved so unfortunate a burden to the National Board of Health.

A Bureau so organized would have the very important advantage of a close connection with a great department of government already controlling services of a scientific character and able to protect them against the Treasury Department even.

The old Board of Health seems to be so utterly out of favor that its resurrection or any attempt at the formation of a new Board would be predestined to certain defeat.

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MEDICAL NOTES.

— Dr. Crichton Brown, of London, has received the honor of knighthood.

— At the annual meeting of the New Haven Medical Association, held January 4th, officers were elected as follows: President, Dr. W. O. Ayres; first vice-president, Dr. Henry Fleischner; second vice-president, Dr. W. H. Carmalt; secretary and treasurer, Dr. Gustavus Eliot; prudential committee, Dr. M. C. O'Connor and Dr. Henry Pierpont: finance committee, Dr. F. L. Dibble and Dr. C. A. Lindsley.

— Dr. Piffard has retired from his editorial connection with the *Journal of Cutaneous and Venereal Diseases*. The journal will be continued under the sole editorial charge of Dr. P. A. Morrow. We may remind our readers that this is the only publication in the English language devoted to skin and venereal diseases, and during the three years of its existence, it has won for itself a high reputation for scientific excellence as well as practical utility.

— The story comes from Lowell of a disciple of Pasteur, who being troubled with dyspepsia, is inoculating Welsh rarebits before he eats them.

— The proposed engagement of the returned Pasteur-hydrophobia-inoculated Newark children by a Dime Museum, and the report of overtures made by the latter to M. Pasteur and Dr. Billings to join in the show, seems a natural conclusion to the international episode which has monopolized so much attention in recent weeks.

— A sensible suggestion is made by two of Maine's executive councillors who were upon a visiting committee to the insane hospital, that some method should be devised to separate the insane criminals from other inmates of the hospital. They remark that it seems unjust that the innocent and unfortunate insane should be confined with murderers and other criminals, who are sent to the hospital to be watched and have their condition studied. There are now twenty-eight criminals in the hospital.

— Herr Oppler has ascertained by experiments, says the *London Medical Record*, that roasted coffee acts on iodoform as an active deodorizer. As roasted coffee is a powerful disinfectant, it has, in combination with iodoform, an excellent influence in promoting cicatrization. Herr Oppler recommends the following formulæ: Iodoform (pure), 50 grammes; roasted coffee in very fine powder, 25 grammes; a few drops of spirits of ether; or iodoform (pure), 2 grammes; paraffin, 10 grammes; roasted coffee in fine powder, 0.3 gramme.

BOSTON.

— A fatal case of glanders in a hostler who took care of a horse suffering from the disease was reported last week.

— Dr. Charles G. Weld has given $500 toward establishing a library for the nurses at the Boston City Hospital. Dr. Weld was formerly a house officer at the hospital.

— Dr. Pliny Earle, the retiring superintendent of the State Lunatic Hospital, at Northampton, has a unique scrap-book in which he has preserved two hundred different envelopes received during his administration, spelling his name in as many different ways.

— A measure supported by voluminous petitions is before the Committee of the Massachusetts Legislature on Public Health, to restrict the sale of tobacco to minors under the age of fifteen or sixteen years. It is claimed by the petitioners that both boys and girls in the public schools are addicted to the use of cigarettes to an alarming degree.

— About two hundred invitations were sent out, lately, by the Trustees of the Boston City Hospital, to an informal inspection, on the evening of January 29th, of the new Nurses' Home, at the corner of Springfield Street and Harrison Avenue. Much satisfaction was expressed by those who visited the building, at the arrangements and accommodations.

— The Inspector of Provisions recently seized and condemned a considerable portion of the fruit cargo of one of the Savannah steamers.

— The new Hospital, at Cambridge, has been completed, at a cost of from sixty to sixty-five thousand dollars. It will be opened for use very shortly.

— The officers of the Hospital Newspaper Society have made public a letter which says: "The society has sent 294 books, 7,611 magazines and large numbers of illustrated papers to the following named places: Tewksbury, two insane asylums at Worcester, Palmer, Bridgewater, Danvers Insane Asylum, Deer Island, Rainsford Island, the Life-Saving Station, lighthouses, North Bennet street, Reformatory at Concord, Lancaster Industrial School for Girls. The society wishes to thank the persons who have kindly dropped their daily papers into the boxes in the railroad stations. The boxes have never been so full, and we have received during the year 200,000 papers. These boxes are emptied every morning, the contents being distributed among the City Hospital, Deer and Rainsford islands. The Chaplain writes that the 'old men at Rainsford look and talk more cheerfully since they have had the daily papers.' At Christmas the society sent six thousand Christmas cards to different institutions. We want more books, magazines and illustrated papers. We can find a home for every sort of book; what cannot be disposed of here will be welcomed in the West. For this work we require $300, and for so small an outlay it gives a great deal of pleasure. Christmas cards, books and papers may be sent to 113 Revere street; contributions and subscriptions to Mrs. Hartman Kuhn, 64 Beacon street."

NEW YORK.

— The trial of Gen. Alexander Shaler, President of the Board of Health, arraigned on a charge of bribery, in the selection of sites for armories for the city, came off on the 26th and 27th of January, before Judge Barrett, in the Court of Oyer and Terminer; but the jury being unable to agree, a new trial will have to be held at the next term of the Court, which begins February 15th. The jury stood ten for conviction, and two for acquittal.

— At a special meeting of the Dutchess County Medical Society, held at Poughkeepsie, January 27th, charges were preferred against Dr. Samuel Wimpleberg, for violation of the code of ethics, in inserting an advertisement in the *Delaware Times*, calling the attention of the public to the fact that he made eye and ear troubles a specialty, the advertisement being accompanied by printed cuts of an eye and ear. The Comitia Minora made a report, recommending the expulsion of the offending member; but, after considerable discussion, the Society rejected the Comitia's report by a vote of fourteen to five. It was the opinion of the majority that, while Dr. Wimpleberg's act was "derogatory to the dignity of the profession," under the law of the State, a member could be expelled only for "gross ignorance, malpractice, and immorality."

Miscellany.

THE TREATMENT OF CARBUNCLE.

Dr. James Collins writes in the *Philadelphia Medical News:* I have lately treated two cases of carbuncle on the back of the neck by a method which seems to have some advantages. The patient is put under the influence of an anæsthetic, and a linear incision made. I then take a scoop and remove all the necrosed tissue, and wash the parts thoroughly with an antiseptic solution of mercuric chloride. I then put in a drainage-tube, and insert two stitches to bring the two central parts together. Each day the cavity is thoroughly washed out with the antiseptic solution. The patients have done well, and the cicatrix has been less than after any other method I have tried. The success depends upon the removal of the necrosed tissue and the use of the antiseptic solution.

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SUDDEN DEATH FROM ŒDEMA OF THE GLOTTIS.

Dr. W. J. Jones, of Baltimore, reports in the Philadelphia *Medical Times* (Oct. 3,) the following case, which serves to show the clinical significance and pathological condition of œdema of the glottis:—

J. B., colored, male, æt. fifty-two years, was admitted into the hospital at Bay View Asylum on the 24th of May last. He gave a history of having been a hard-working laboring-man, and the duties of his vocation often subjected him to considerable exposure. He was addicted to drinking a little too freely of alcohol at times, though not a constant drinker. He denied the history of any venereal disease. A careful physical examination of the patient showed that he was a large, well-built man. He gave no evidence of any disease of his lungs or heart. There was slight œdema of his lower extremities, which was not constant. An examination of his urine showed the presence of albumen and casts, and accordingly a diagnosis of morbus Brightii was made. Infus. digitalis was administered in ℥ss doses thrice daily, and under its influence he seemed to improve until the morning of June 4, when, upon making my rounds of the hospital about ten o'clock, he complained of sore throat, inability to swallow easily, and slight dyspnœa. His lungs were examined, and air was found to enter freely. There was nothing to be seen in his throat to give alarm, though there was some slight swelling and redness about the fauces and the mucous membrane of the pharynx. The epiglottis, likewise, was red and thickened to some extent. Having no evidence at this time to lead me to suspect the fatal termination which so soon followed, I prescribed a simple gargle of potassii chloras, tinct. ferri chlor., glycerin and water, and left him, promising to return again within an hour and make a more thorough examination into his condition. I was about to return to him at the time stated, when a messenger met me with the information that my patient was dead. An autopsy made a few hours after death showed the mucous membrane of the epiglottis and the entire larynx to be very much swollen and œdematous. The œdema reached to such a high degree as almost to occlude the entrance into the larynx. In the pharynx and on the posterior part of the tongue, the follicles were somewhat enlarged; both lungs slightly adherent to the pleura at various places, otherwise normal; heart somewhat enlarged; left ventricle relaxed and dilated to some extent, valves soft; liver of ordinary size, and pale; spleen normal; kidneys of ordinary size, their capsules slightly adherent in places; the parenchyma hyperæmic.

The case is an important one from the fact of its rapid fatal termination and as to its cause. The suddenness with which the trouble began and the rapidity of its progress must be referred to one of the several causes of œdema of the glottis; and as the patient gave evidence both clinically and pathologically of morbus Brightii, and as œdema of the glottis may occur as the first and only dropsical affection connected with disease of the kidney, as stated by Flint, it is more than probable that the patient's kidney-disease was the prime factor in bringing about the cause which so suddenly terminated his life.

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CONCEPTION AFTER CURETTING OF THE UTERUS.[1]

It has been made an objection to curetting of the uterus, that thereby, conception is rendered difficult, if not impossible (B. Schultze). Düvelius has reported sixty cases where, after curetting, conception did ensue, yet, in the discussion of his paper, no others were familiar with similar cases. Benicke has, therefore, carefully gone over his records, and is able to report ten cases where conception followed on curetting. Of these ten cases, the operation was undertaken once for the cure of endometritis hæmorrhagica, and in nine, for the removal of retained membrane. In three of the cases, the operation was repeated, so that altogether, it was performed thirteen times. In five of the cases, the conception ended prematurely, but this was not a result of the curetting, seeing that the patients had the habit of aborting. In two of those cases, conception ensued four or five weeks, respectively, after curetting; in the others, two and a half, three, four and a half, up to seventeen months after. Benicke's conclusion is that the fear lest curetting should interfere with further conception is absolutely groundless; indeed, that in many cases, it is an excellent method of preparing the endometrium for a new conception.

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AN OLD ANATOMICAL PREPARATION.

Professor Roth, of Basle, has recently been engaged, we learn from the *Lancet*, in investigating the history of a remarkable relic which the University of Basle possesses. It is a skeleton prepared by the founder of anatomy, Andreas Vesalius, and as it bears the date 1543, it may be justly regarded as the oldest anatomical preparation in existence. Professor Roth has published a pamphlet upon the relations of Vesalius with the old Swiss town, from which it appears, contrary to previous ideas, that the great anatomist only once took up his residence in Basle — namely, in 1543, when he came from Padua for the specific purpose of seeing his great work, "De Humani Corporis Fabrica," through the press of Jo. Oporinus, and that, during that visit, he undertook no official teaching. The dissection of the human body was, at that time, most reluctantly allowed by the authorities, and it was only occasionally that the body of a criminal was sent to the medical schools, such a concession having, previously to 1543, happened only once in Basle, namely, in 1531; and one may imagine the intense longing for such an opportunity on the part of the University students and professors, to occur whilst Vesalius was with them. Their desire was gratified. On the 12th of May in that year, one Jacob Karer was beheaded for a murderous assault upon his wife, and the body was handed over to the University, to be dissected by Vesalius. On the afternoon of that day, and for many days afterwards, the great master taught to students and teachers, a new anatomy; and when the dissection was completed, he prepared the skeleton, and with his wonted generosity, presented it to the University — a gift, in those days, of no trifling value — where, to this day, it remains, in the words of the inscription, "Artis et industriæ suæ specimen." As the possessor of the only known relic of the greatest of human anatomists, the University may well be proud of its treasure.

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THE ACTION OF THE MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY ON THE DEATH OF DR. JOHN O. GREEN.

At a recent meeting of the Middlesex North District Medical Society, the President, Dr. Wm. Bass, in the chair, Dr. F. Nickerson, for the committee appointed to take action on the death of Dr. John O. Green, reported the following:

Your committee recommend that the following comments on the life of Dr. Green be accepted as the sense of this society:

Under the shadow of sorrow which has fallen upon us in the death of an honored associate, Dr. John Orne Green, we pay the worthiest tribute to his memory and do the best service living by setting forth some, at least, of the salutary lessons bequeathed by his exemplary life.

The career of Dr. Green, covering a period of eighty-six years and including a residence and medical practice of sixty-three years in this community, is so interwoven with the events in which he bore a part as to be almost as much a subject of history as of biography.

His birthplace was Malden, Mass., his father was the Rev. Aaron Green, and he was named after his maternal uncle, John Orne, of Lynnfield, Mass. He received his early education in the schools of his native town, and his preparatory training for college at the academy of Dr. Homans in Medford, Mass. He entered Harvard University, as a freshman, at the age of fourteen years, and graduated with honors in the class of 1817, which numbered sixty-seven men, among them George Bancroft, Caleb Cushing, Rev. Dr. Tyng and President Alva Woods. During his college course he paid particular attention to theological studies, with the design of entering the ministry, but afterwards abandoned this idea. After his graduation he acted for one year as principal of a Latin school at Castine, Maine. He then entered the office of Dr. Edward Reynolds, of Boston, under whom and with the late Dr. Winslow Lewis as a fellow student, he availed himself of the excellent clinical advantages offered at the almshouse on Leverett street. He attended lectures at the Harvard Medical school, from which institution he received the degree of M.D., in 1822.

Coming to Lowell, an entire stranger, when the place contained only 200 inhabitants, and when the stakes which marked out the site of the future city had just been planted, he hewed his way, by his integrity, intelligence and persevering industry, into the high position which he always held as a gentleman, a citizen and a physician.

The name of Green is associated with that of Colburn and of Edson in the early struggle for educational reform, which, maintained with courage and persistency, against a fierce opposition, laid the foundation of the present public school system of this city. The heroic labors of these men are commemorated in the school structures which bear their names. In 1870, Dr. Green delivered the address at the dedication of the new Green school which took the place of the old building on Middle street.

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[1] Ztschrft. f. Geb. und Gyn., XI., 2, American Journal of Obstetrics, January, 1886.

Dr. Green was also prominently connected with the introduction into Lowell of lyceum courses of lectures, to which he himself contributed one or more essays.

He had no ambition for public office and despised the puerilities and trickeries of politics. He was a member of the school board for fifteen years and for nine years was its chairman and wrote its reports. He served also as an alderman, and as health commissioner, he, for seven years, prepared the municipal bills of mortality which preceded the present system of registration. He was formerly a councillor of the Massachusetts Medical society, and in 1846 delivered the annual address before that body on "The Factory System in its Hygienic Relations."

Born and reared to manhood on the spot where the Revolutionary patriot, the Rev. Peter Thacher, had lived and viewed the battle of Bunker Hill, he early caught the historic spirit which impressed itself on his literary pursuits and professional methods and found public expression in papers on historical subjects.

While his energies were habitually taxed by the motley duties which appertain to that medical factotum, the general practitioner, his mind had a more special bent for pathology. Methodical in all his ways, he kept careful and instructive records of the autopsies in which he had been engaged. In the *American Journal of Medical Sciences* for July, 1834, he reported two cases of fracture of the liver, which were republished in Germany. In the *Boston Medical and Surgical Journal*, for December, 1837, he wrote an account of an epidemic of small-pox in Lowell. He also rendered valuable aid, by his investigations, to Dr. Elisha Bartlett, in his work on fevers, the second edition of which was dedicated to him.

The earnestness with which he consecrated himself to the cause of Christianity received its first impetus from the home of his childhood, the country parsonage; to the sanctifying and refining influences of the parental instruction imparted and the society enjoyed there, he ever recurred with the most profound sentiments of reverence and affection. The spirit which pervaded his religious views, inspired his conduct and made it the very soul of professional honor, is best illustrated by his own words, which are to be found in his address on the life and character of Dr. Dalton: "Accustomed to the most constant expression of their most intimate feelings in words, there are those who lose sight of the fact that there is a religion no less pure than their own which shrinks from such constant assertion of itself, and which is satisfied to do justly, love mercy, and walk humbly with God."

The last years of Dr. Green's life were full of activity. To this fact his efficiency as a member of the staff of St. John's hospital and president of the Lowell Old Resident's Association, bears ample testimony. Performing his professional labors almost uninterruptedly till within a short time before his death, he at last yielded to the infirmities of advanced age, and after an illness of a few months, on the 23d of December, 1885, he serenely closed his eyes on earthly scenes.

Thus ended a life whose service was eminently that of God and humanity, and whose watchwords were truth and faithfulness to duty.

The report of the committee was unanimously adopted by a rising vote.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 23, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	716	288	16.12	16.51	1.69	.39	8.32
Philadelphia	927,995	325	121	21.70	18.91	2.48	4.03	12.17
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	191	46	9.54	15.37	1.16	.53	4.24
Baltimore	408,520	145	56	12.42	14.18	—	.69	6.90
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	156	35	10.24	14.72	—	1.28	1.28
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	41	11	19.52	29.28	4.88	2.44	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	9	8.70	8.70	—	4.35	—
Charleston	52,286	23	—	—	—	—	—	—
Worcester	68,383	24	13	24.96	—	—	—	20.80
Lowell	64,051	17	4	23.52	11.76	—	17.64	—
Cambridge	59,660	28	9	3.57	17.85	3.57	—	—
Fall River	56,863	23	10	30.45	4.35	4.35	—	13.05
Lynn	45,861	12	4	—	8.33	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	8	2	25.00	37.50	12.50	—	12.50
New Bedford	33,393	12	2	8.33	8.33	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	15	4	13.33	6.66	—	—	6.66
Holyoke	27,894	6	2	33.33	33.33	—	—	16.66
Chelsea	25,709	5	2	—	20.00	—	—	—
Taunton	23,674	8	1	—	25.00	—	—	—
Haverhill	21,795	10	4	10.00	30.00	—	—	10.00
Gloucester	21,713	7	0	14.28	28.56	—	14.28	—
Brockton	20,783	7	1	14.28	28.56	14.28	—	—
Newton	19,759	1	0	—	—	—	—	—
Malden	16,407	8	3	12.50	12.50	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	8	2	—	—	—	—	—
Newburyport	13,716	6	0	—	66.66	—	—	—
Northampton	12,896	4	1	—	—	—	—	—
91 Massachusetts Towns	—	60	9	8.30	—	1.66	3.32	3.32

Deaths reported 1,865: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 292, consumption 319, lung diseases 280, diphtheria and croup 139, scarlet fever 30, typhoid fever 28, malarial fever 23, diarrhœal diseases 27, whooping-cough 22, cerebro-spinal meningitis 11, measles six, erysipelas three, puerperal fever two, small-pox one. From diarrhœal diseases, New Orleans seven, New York six, Philadelphia four, Boston and Providence three each, Lowell, Fall River, New Bedford and Salem one each. From malarial fever, New York 14, New Orleans five, Baltimore four. From whooping-cough, New York 16, Philadelphia and Baltimore two each, Providence and Fall River one each. From cerebro-spinal meningitis, New York five, Boston, Worcester, Fall River, Holyoke, Taunton and Malden one each. From measles, New York and Philadelphia two each, Baltimore and Providence one each. From erysipelas, Boston two, Baltimore one. From puerperal fever, Boston and Nashville one each. From small-pox New York one.

In 111 cities and towns of Massachusetts, with a population of 1,311,869 (population of the State 1,941,465), the total death-rate for the week was 18.23 against 17.16 and 16.98 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,909,817, for the week ending January 9th the death-rate was 22.5. Deaths reported 3,927: infants under one year of age 898; whooping-cough 174, measles 113, fever 42, diarrhœa 41, scarlet fever 38, diphtheria 37, small-pox (Liverpool, two, Nottingham one), three.

The death-rates ranged from 18.5 in Sheffield to 30.8 in Bolton; Birkenhead 24.0; Birmingham 21.0; Bradford 20.2; Huddersfield 28.3; Hull 19.6; Leeds 19.2; Liverpool 24.2; London 22.4; Manchester 28.2; Nottingham 27.8.

In Edinburgh 16.2; Glasgow 28.8; Dublin 28.8.

The meteorological record for week ending January 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 23, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...17	29.794	32.3	40.6	27.5	92.0	63.0	66.0	73.7	W.	N.W.	W.	7	30	11	T.	C.	C.	—	—
Monday,..18	30.157	25.7	31.1	22.0	55.0	37.0	52.0	48.0	W.	N.W.	N.	12	17	10	C.	F.	O.	—	—
Tuesday,..19	30.015	29.0	40.2	19.0	86.0	92.0	84.0	87.3	N.W.	E.	W.	2	12	6	N.	R.	C.	—	—
Wednes., .20	30.367	29.3	34.7	25.3	70.0	38.0	55.0	54.3	W.	N.W.	N.E.	17	9	3	C.	C.	C.	—	—
Thursday, 21	30.112	33.1	40.1	24.4	64.0	78.0	94.0	78.7	S.E.	S.E.	N.	8	19	14	O.	O.	R.	—	—
Friday, ...22	29.893	34.4	36.0	31.3	95.0	91.0	86.0	90.7	N.E.	N.E.	W.	17	16	3	R.	R.	O.	—	—
Saturday, .23	30.222	20.2	37.8	7.2	60.0	57.0	52.0	56.3	W.	N.W.	N.W.	26	17	14	C.	F.	C.	37.0	1.28
Mean, the Week.	30.080	29.1	37.2	22.4				69.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 23, 1886, TO JANUARY 29, 1886.

Summers, John E., colonel and surgeon, U. S. Army. Retired from active service, by operation of law, January 24, 1886. S. O. 20, A. G. O., January 25, 1886.

Waters, Wm. E., major and surgeon. Granted leave of absence for twelve months and fifteen days. S. O. 5, Division of the Atlantic, January 23, 1886.

Banister, J. M., assistant surgeon. Ordered for temporary duty at Fort Warren, Mass. S. O. 16, Department East, January 25, 1885.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, February 10th, at 7.45 o'clock. Papers: Dr. W. B. Mackie, "A Case of Typhoid Fever complicated by Intestinal Hæmorrhage, Embolism of Femoral Artery and Gangrene of the Foot." Dr. C. E. Wing, of Jamaica Plain, "A Summer Ramble through North Carolina."

F. I. Knight, M.D., *Chairman*.

Albert N. Blodgett, *Secretary*, 138 Boylston St.

ERRATA.

In Dr. Stedman's report on Progress, issue of the 28th of January, page 81, second column, line 16, from the bottom, for "their" read "the"; page 81, second column, the clause beginning on line 10 from bottom should read: "No other form of insanity is so prolific of accidents." Page 83, line 26, for "and" read "was"; page 83, line 40, for "intestinal" read "interstitial."

DEATH.

Samuel Hutchins, M.D., of Danielsonville, Conn., died on January 16th, of angina pectoris at the age of sixty-seven years. He leaves a widow and four daughters.

BOOKS AND PAMPHLETS RECEIVED.

Fractures and Dislocations. By T. Pickering Pick, F.R.C.S., Surgeon to St. George's Hospital, etc. Revised, with 93 Engravings. Philadelphia: Lea Brothers & Co. 1886.

Improved Apparatus and Improved Methods for applying Static Electricity (Franklinism). Abstract of a Lecture delivered at the West End Hospital by Herbert Tibbits, M.D., F.R.C.P. (Edinborough). London: J. & A. Churchill. 1886.

An Experimental and Clinical Study of Air Embolism. By N. Senn, M.D., of Milwaukee, Wis. (Extracted from the Transactions of the Americal Surgical Association, Vol. III, 1885.) Philadelphia. 1885.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1885. Washington. 1885.

Diagnosis of Diseases of the Brain and of the Spinal Cord. By W. R. Gowers, M.D., F.R.C.P. New York: Wm. Wood & Co. 1885.

Cutaneous and Venereal Memoranda. By Henry G. Piffard, A.M., M.D., Professor of Dermatology, University of the City of New York, and George Henry Fox, A.M., M.D., Surgeon, New York Dispensary, etc. Second Edition. New York: Wm. Wood & Co. 1881.

Lectures on Syphilis, Delivered at the Chicago College of Physicians and Surgeons. By G. Frank Lydston, M.D., Late Resident Surgeon at Charity Hospital, etc. Reported by Wm. A. Walker, A.M., M.D. Chicago: A. M. Wood & Co. 1885.

Clinical Notes on Uterine Surgery, with Special Reference to the Management of the Sterile Condition. By J. Marion Sims, A.B., M.D., Late Surgeon to the Woman's Hospital, New York.

Climatology and Mineral Waters of the United States. By A. N. Bell, A.M., M.D., Editor of the Sanitarian, etc. New York: Wm. Wood & Co. Wood's Library. 1885.

Hydronaphthol: a New Antiseptic. By George R. Fowler, M.D., Surgeon to St. Mary's General Hospital, Brooklyn. (Reprint from the New York Medical Journal.)

Essentials of the Physical Diagnosis of Thoracic Diseases. E. Darwin Hudson, Jr., A.M., M.D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic. New York. 1885.

Diseases of the Lungs of a Specific non-Tuberculous Nature. Acute Bronchitis, Infectious Pneumonia, Gangrene, Syphilis, Cancer and Hydatid of the Lungs. By Professor Germain Sée, Physician to the Hôtel Dieu, Paris. Translated by E. P. Hurd, M.D., with Appendix by Geo. M. Sternberg, M.D. Prof. Dujardin Beaumetz. New York: Wm. Wood & Co. 1885.

Transactions of the Medical Society of the State of Pennsylvania at its Thirty-Sixth Annual Session. Held at Scranton, Pa., May 27–29, 1885. Vol. xvii.

Original Articles.

THE ADVISABILITY OF INDUCING ABORTION IN CASES OF SO-CALLED UNCONTROLLABLE VOMITING OF PREGNANCY.[1]

BY O. W. DOE, M.D.

The rarity of this disease naturally prevents one from deducing principles on which to base his method of practice from his own experience. This is especially so with me, as I have seen only one indisputable case during the past twelve years.

Consequently in this paper my deductions are drawn from a compilation of all the undoubted cases that could be found referred to in the Index Medicus and various works on obstetrics.

In looking up the various references I want to publicly acknowledge my great indebtedness to Dr. S. H. Ayer, for the very valuable assistance he has given me.

At a recent meeting of the Boston Obstetrical Society I reported a case of so-called uncontrollable vomiting of pregnancy, which was relieved by changing the malposition of the uterus after almost every remedial agent had been unsuccessfully tried and the patient's condition had become most alarming.

In consultation, the question of inducing abortion arose and it was certainly a most difficult and anxious one to decide. The patient had taken no nourishment by the mouth for nearly five weeks, as even the mention of food would excite vomiting. During this time she had been fed by nutritive enemata. Nausea was constant and intense, and vomiting of a thin yellowish fluid, sometimes half a cupful at a time, occurred every two or three hours. Any sudden noise, or sudden appearance of one by the bedside would excite vomiting.

Notwithstanding the fact that the enemata had been well born, the patient had become greatly emaciated and too weak to move herself in bed.

There was excessive ptyalism, coming on more frequently at night; at other times thirst was intense, tongue parched and dry, breath very offensive, and, along the course of the œsophagus and at the epigastrium, was marked tenderness. Pulse 116, temperature 97°.

The cervix was firm and unyielding; the os only slightly patulous. The uterus was markedly anteverted, the fundus resting against the rami of the pubes, and, on examination, could be raised up out of the cavity of the pelvis, but fell back again directly upon the removal of the finger. She was within three or four days, as near as could be determined, of being three months advanced. Taking into consideration the unyielding and firm condition of the cervix, I reasoned that were abortion to be induced she was far too weak to bear the shock necessarily attending it, and even if she happily withstood this there was the probability of hæmorrhage, which, in one so weak, would at its very outset prove fatal. Furthermore, should she surmount even these two dangers, there still remained a third, namely, septicæmia, which one would almost expect to follow in a person so reduced when abortion was artificially and forcibly produced. In favor of delay and trusting to other means was the fact that in her preceding pregnancy the nausea and vomiting though much less severe, yielded suddenly and completely at the beginning of the fourth month after the attending physician had, on vaginal examination, by chance raised the uterus high up out of the cavity of the pelvis. Furthermore, there was no continued irritability of the bowels, so that, as a rule, the enemata were well retained. Had at this time from any cause rectal alimentation been impracticable, and the elevation of the uterus and retention by vaginal support proved inefficient, even in the face of every threatening danger, I should have advised rapid abortion under ether and full hypodermic stimulation. Should the result have proved fatal, I should have considered that the error in treatment ought to be referred to the delay, rather than to the method employed.

The exciting cause of the vomiting in this case seemed to be wholly the displacement of the uterus and consequent pressure upon the pelvic parts. As soon as the pressure was permanently removed, by raising the body of the uterus out of the pelvic cavity, the vomiting and nausea instantly ceased. A peculiar feature illustrating the principle of cause and effect here was that as soon as the vaginal tampons were at all displaced, so as to allow the body to prolapse or antevert, the nausea and vomiting would directly return. Looking back upon this case and noting each stage of the disease as it unfolded itself, and remembering how inefficient all therapeutic agents proved, I should be inclined to follow in another case a course of treatment like the following: rectal alimentation combined with chloral and bromide as soon as the vomiting became pronounced; careful examination to detect any malposition of the uterus and as soon as observed to remedy it by the use of a proper pessary and with the tamponing of the vagina with the object of raising the body as far out of the pelvis as possible. Should no relief follow soon after the beginning of the fourth month, or if even earlier no relief followed the correction of the displacement, and the patient's strength was rapidly diminishing, or if rectal irritation became continuous, I should unhesitatingly induce abortion. Or, more concisely, impracticable rectal alimentation combined with continuous vomiting, wholly unrelieved by correcting any existing uterine displacement, attended with rapid pulse, offensive breath, subnormal temperature and marked increasing prostration would hereafter decide me to induce abortion at whatever the period of pregnancy might be.

Under the conditions I have just expressed there is no doubt in my mind as to the advisability of inducing abortion in cases of so-called uncontrollable vomiting of pregnancy, still it will be but fair to present to you the various differences of opinion upon the subject. Every physician has probably either seen or read of cases of death from this terrible complication of pregnancy, and yet many eminent practitioners say that abortion without exception is entirely unnecessary. Dr. Mortimer H. Jordan, of Birmingham, Ala., says:[2] "Among other eminent men I will mention Cazeaux, Burns, Dubois, Desermaux, Carl Braun, of Vienna, and Henry F. Campbell, of Augusta, Ga., who state that artificial production of abortion is never justifiable for gravid nausea." Dr. Campbell says: "That under the careful and systematic application of rectal alimentation artificial abortion for the relief of gravid nausea can be banished from practice even as a last resort." On the other hand, I quote from Dr. Davenport as follows:[3] "Denman, Merriman, Burns,

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[1] Read before the Obstetrical Section of the Suffolk District Medical Society, December 16, 1885.

[2] Trans. of the Med. Assoc. of the State of Alabama, 1883.

[3] Trans. Vermont Med. Soc., 1878, St. Albans, 1879, p. 39, 40.

Davis, Lee, Ashwell, Blundell, Churchill and Condie all advocate the induction of premature labor, without reference to the period of gestation; if the symptoms and condition of the patient demand it, then it is to be done." J. Marion Sims writes as follows:[4] "During my residence in Paris some years ago, I saw two deaths from pregnancy-vomiting, and I saw two cases that were snatched from the jaws of death by the induction of abortion. Professor Trousseau and Dr. Johnston of Paris were consulted in these cases and both agreed that prompt abortion was the only means of saving life." Dr. Murphy sums up four cases as follows:[5] "Thus in four cases of excessive vomiting followed by exhaustion, three were lost through hesitation and delay; and one was saved by promptitude in inducing miscarriage."

Lusk says:[6] "When the vomiting is literally uncontrollable, a rare event where the physician commands the full coöperation of his patient, and death from starvation threatens, there remains as an ultimate resource the artificial induction of abortion or premature labor.

Dr. Scott says:[7] "It is criminal to allow a patient to go to the last extremity before an effort is made to produce an effect which we know is certain to relieve her and preserve a life which is the 'right of woman.'" On the other hand, however, cases are recorded where the patient sank steadily and in which life had been despaired of by the physician in charge, and in which abortion had been refused by the patient, and yet upon the exhibition of some new remedy, a change for the better has appeared and a steady gain made from that time on. P. Dubois[8] speaks of a case which illustrates this point, it being one which had been abandoned by himself and colleague and which afterward promptly recovered on the exhibition of a purgative.

Dr. Engelmann says:[9] "Of course abortion is to be induced as a last remedy, but it is always to be used in time, and as soon as it is found that all others fail." The principal fact is, practitioners wait too long. Dr. Coles says:[10] "I have never had a case in my own practice where the induction of labor was necessary, but I have seen two cases where this had to be resorted to. In these cases the women were *in extremis;* one of them died notwithstanding the abortion. She had gone too far. We had waited too long for this spontaneous change."

Leishman says:[11] "The conclusion at which Cazeaux and others have arrived is that under no circumstances are we justified in inducing premature labor for the relief of vomiting of pregnancy." Cazeaux reports seven cases of induced abortion with six deaths. According to his estimate, one in seven is the average of escapes from death after the operation (induced abortion). He thinks the most desperate cases, as he cites several to show, have a better chance on the expectant plan, with such nutriments as can be retained, than in the resort to induced abortion.

Out of 118 cases collected by Gueniot there were 72 recoveries and 46 deaths, represented as follows:

	Recoveries.	Deaths.
Without abortion in very severe cases after diversified treatment	31	28
Following spontaneous abortion also in very severe cases	20	7
After abortion or induced labor in cases more or less desperate	21	11
Total,	72	46

Dr. Alfred McClintock in a paper before the Dublin Obstetrical Society read in 1873, reported 36 cases in which abortion was induced with 27 recoveries and nine deaths.

In selecting the following 48 cases, which I am about to report, there was considerable difficulty experienced in deciding whether a case should be truly called "uncontrollable" in the popular sense of the word, or simply obstinate. It is evident, however, that all cases in which death occurred without artificial abortion were certainly uncontrollable, and that by adding to the list of recoveries, cases which were more or less doubtful, the percentage of deaths became correspondingly less.

All of the cases are very briefly reported, some from necessity, others from choice, the idea being not to bring forward a full and complete report of each case, but simply to place before you such points as have a direct bearing on the subject of this paper. I think, however, the principal point to be brought out is clearly shown; namely, that after the emptying of the uterus, whether artificially or otherwise, the vomiting, with very few exceptions, soon ceased, and that in nearly all cases recovery took place, a fatal termination occurring in those in which interference had been too long deferred.

I shall first present to you twenty-eight cases of uncontrollable vomiting, in which artificial abortion was not induced, after which I shall read twenty cases which were terminated by artificial abortion.

Twenty-Eight Cases of Uncontrollable Vomiting of Pregnancy, in which Artificial Abortion was not Induced.

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
1	F. Minot, M.D. Boston, Mass.	Young.	M_2	8th week.	20th wk.	Nutritive enemata.	Recov.	Vomiting was soon accompanied by excessive salivation. "Pulse gradually rose to upwards of 130 in the minute." There was "much emaciation, prostration, loss of sleep, and depression of spirits." "Any excitement, even an accidental loud noise in the room would cause urgent retching and rejection of anything that happened to be in the stomach." Quickening May 22; permanent relief June 1.	Boston Medical and Surgical Journal 1880, cii. p. 302.

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[4] Arch. Med., N. Y., 1880, iii, p. 269, 276.
[5] Murphy's Midwifery, 2d Edition, p. 94.
[6] Science and Art of Midwifery, p. 120.
[7] St. Louis Courier of Medicine, 1884, 12, p, 61-67.
[8] Med. Rec., N. Y., 1885, xxvii, p. 250.
[9] St. Louis Courier of Medicine, 1884, 12, p. 61, 67.
[10] St. Louis Courier of Medicine, 1884, 11.
[11] Gynæcological Trans., Vol. 3, 1878, p. 271.

TWENTY-EIGHT CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS NOT INDUCED. *(Continued.)*

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
2	E. Copeman, M.D.	25	P	6th mo.	?	Internal remedies failed. Rectal alimentation for 3 weeks. Cervix dilated (Copeman's method).	Recov.	"Vomiting and retching became almost incessant." Vaginal examination found posterior lip of cervix hard and unyielding. "Effect (Copeman's method) was instantaneous, the stomach retaining the first thing administered."	British M. J., Lond., 1879, 1, 736.
3	J. Farrant Fry, M. D., Swansea.	?	M_6	6th week.	8th week.	Internal treatment failed. Cervix dilated (Copeman's method).	Recov.	The effect (Copeman's method) was almost immediate; food was retained and patient quickly regained strength. Went to term.	British M. J., Lond., 1880, 1, p. 399.
4	J. F. Baldwin, M. D., Columbus, Ohio.	29	P	6th week.	10th wk.	Internal remedies with failure. Cervix dilated (Copeman's method).	Recov.	"Nitrate of silver to erosion, gave no relief." After dilatation of cervix "all vomiting ceased as by magic."	Ohio Medical Record, Columbus, 1879, 1880, iv., p. 198-200.
5	F. W. Lester, M.D., Key West, Fla.	30	M	Almost from time of conception.	14th wk.	Internal treatment failed. Ether to pneumo-gastric nerves under sterno mastoids, alternately.	Recov.	For four weeks previous to ether treatment, patient vomited every few moments. Ether was applied every two hours the first day for ten minutes at a time. In three days vomiting ceased entirely.	Med. Record, N. Y., 1880, xviii. 474.
6	Jesse Crounse, M. D., Knowersville.	34	M_4	Soon after conception.	After 6th month.	Internal remedies failed. Moral treatment: slight irritation of os, pretending attempted abortion which patient desired. "Each remedy was in turn given a trial and still no improvement, but on the contrary I saw her wasting and becoming more feeble every day."	Recov.	With first child suffered from nausea and vomiting for seven and one-half months. In second pregnancy, labor was induced at three and one-half months, successfully. In third, labor was again induced at third month without any trouble. In this case, patient begged physician to induce labor, and finally he consented. He, however, merely irritated os with a probe, she thinking an abortion had been performed. Vomiting ceased and on return of same was soon relieved by same method. No vomiting after sixth month. Patient was delivered at term.	Med. Annals, Albany, 1882, iii. p. 226-228.
7	T. C. Wallace, M.D., Cambridge, N.Y.	?	P	8th week.	13th wk.	Everything internally. Copeman's method. Nitrate of silver (solid) to cervix. Relieved by pop-corn.	Recov.	"Confined to bed for more than four weeks, pale, languid, pulse 120 and weak, and so prostrated as to be unable to raise head from pillow. For the past sixteen days her stomach has absolutely refused to retain anything; everything, food, medicine, even a swallow of water being instantly rejected." Rectal alimentation only for past six days. Immediate relief after pop-corn.	Med. and Sur. Rep., Phila., 1883, xlviii. p. 172.
8	John N. Upshur, M.D.	24	P	7th week.	10th wk.	Internal treatment failed. Relieved by Hodge's double lever pessary (closed).	Recov.	Retroversion discovered on 10th week. Relieved by pessary. Previous to insertion of pessary, patient's condition became steadily worse, she "becoming more prostrated and her disgust of food increasing daily."	Am. J. Obst., N. Y., 1884, xvii. p.. 915, 917.
9	J. W. Ayle, M.D.	?	M	2d month.	2d month, 2d week.	Relieved by Horsford's Acid Phosphate and chicken-water, other internal remedies having failed.	Recov.	"Nausea and vomiting ceased." "Acted like a charm."	Med. Sur. Rep., Phila., 1884, p. 757.
10	Dr. Prewitt.	Young.	?	About 2d month.	?	Morphine subcutaneously.	Recov.	"Not a particle of food for a week" previous to morphine treatment. Patient was kept under the influence of morphine all the time. "Takes none now, though she did get somewhat of the habit."	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 257.
11	C. E. Stedman, M.D., Boston, Mass.	Young.	M_2	4th week.	14th wk.	Everything internally. Etherial tinct. of iodine to cervix. Rectal alimentation.	Recov.	First labor normal. "When I visited her remedies prescribed had lost effect, and she was in an alarming condition; every particle of food had been rejected for forty-eight hours. Patient had headache, fleeting delirium, pinched countenance, dry brown tongue, constant nausea, little sleep, epigastric and abdominal pain, vomiting up everything, and rapid pulse. The os was patulous and very red. Cervix was flexed and very soft. External Tr. Iodi applied to cervix liberally. Vomiting ceased in twenty-four hours. Patient vomited only twice after that time."	Boston Med. and Sur. J., 1883, 109, p. 529.

Twenty-Eight Cases of Uncontrollable Vomiting, in which Artificial Abortion was not Induced. (*Continued.*)

No.	Reported by.	Age.	Multip. or Princip.	Vomiting,		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
12	Henry F. Campbell, M.D., Augusta, Ga.	29	M_3	?	About 16th wk.	Everything internally. Nitrate of silver (solid) to cervix. Rectal alimentation alone for 52 days	Recov.	Patient aborted at three and one-half months. Fœtus dead. Nausea did not cease for over two weeks, during which time she was nourished solely by enemata and for a much longer time this "had to be continued as supplementary to her very gradually returning power to take and retain food by gastric ingestion."	Gynæcological Transactions, 1878, iii, 268-298.
13	Henry K. Leake, M.D.	?	?	9th week.	12th wk.	Everything internally. Cervix thoroughly dilated.	Recov.	Labor set in (probably due to dilatation of cervix) about the 12th week. "Patient recovered after a slow and painful convalescence from a pelvic cellulitis, which supervened on the expulsion of the fœtus. Immediate relief to vomiting after abortion."	Med.Rec., N.Y., 1885, xxvii, p. 256.
14	W. J. Collins, M.D.	38	M_7	4½ mos.	6½ mos.	Internal remedies only.	Recov.	Patient aborted at six and one-half months. Labors natural before.	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 125.
15	Dr. Murphy, London.	?	P	Almost from time of conception.	About 3d month.	Internal remedies only.	Death.	"About the third month it (the vomiting) became so severe as to cause great emaciation and exhaustion." Several remedies were used to no purpose, and at the eleventh hour the question was asked:—"What further could be done?" She was fast sinking; the time was past to attempt the induction of permature labor, and she died in about two days afterwards."	Murphy's Midwifery, 2d ed., p. 94.
16	Dr. Haighton.	?	M_4	About 6th month began to grow worse.	Probably about 7½ months.	Internal remedies only.	Death.	"She had most obstinate vomiting in two previous pregnancies." Sickness would sometimes intermit. Slight improvement caused the doctor to defer artificial abortion. The next day she was taken exceedingly ill and died in two days.	Obst. Med., vol. ii. p. 871.
17	Dr. Johnson.	30	P	?	4th mo.	Internal remedies only.	Death.	"Pregnancy was not detected, but the disease was attributed to the pylorus." "The sickness (vomiting) and emaciation were the only symptoms present." "She died, and after death no morbid appearances were observable in any part of the body. The uterus contained a fœtus about four months old. This patient was literally starved to death."	Lancet, Lond., Mar. 3, 1838, p. 825.
18	J. Marion Sims, M.D., N. Y.	Young.	P	2d week.	?	Internal remedies only.	Death.	Artificial abortion advised and refused. Died of heart clot started up "by getting out of bed to answer a call of nature."	Arch. Medical N. Y., 1880, iii. 269-276.
19	Geo. Davenport, M.D., E. Randolph, Vt.	25	P	?	?	Internally only.	Death.	Married about one year. Attacked with nausea and vomiting and died in five weeks in spite of all treatment. Pregnancy was not recognized, the diagnosis being a low form of bilious vomiting, great emaciation. Pregnancy confirmed by autopsy.	Tr. Ver. M. Soc. 1878, St. Albans, 1879, p. 39, 40.
20	Geo. Davenport, M.D., E. Randolph, Vt.	Young.	P?	5th week.	12th wk.	?	Death.	"She died of exhaustion."	(Same as above)
21	Geo. Davenport, M.D., E. Randolph, Vt.	Married several years. ?	?	?	?	Internal remedies. Morphine per rectum.	Death.	"Called in consultation." "She gradually sank and died."	(Same as above)
22	W. S. Brown, M.D., Stoneham.	26	M_2	About the 12th wk.	16th wk.	Internally only. Usual remedies had no effect.	Death.	"Labor pains set in on October 14th, about 2 A. M., and the fœtus was expelled at 7 A. M." "Convulsions and coma supervened and terminated the scene about 9 A. M." "One thing remarkable was the absence of emaciation." The question occurs, "What was the cause of death?" "It was not due to starvation, nor to Bright's disease, nor to any operation upon the womb. Exhaustion of nervous energy, therefore, seems the most probable answer."	Jour. of the Gynæcological Soc. of Boston, vol. ii. p. 208.
23	A. H. P. Leuf, M.D.	22	P?	Probably 6th to 8th week.	About 12th wk.	Internally only. Pregnancy not suspected.	Death.	The patient was not married. Pregnancy was not suspected. "The case was mistaken for gastric ulcer." "The symptoms also pointed to a local gastric	Proc. Med. Soc. County Kings Brook'n 1883, 1834, viii. 48-50.

Twenty-Eight Cases of Uncontrollable Vomiting, in which Artificial Abortion was not Induced. *(Continued.)*

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
23	*(Continued.)*							affection." The vomitus was at times bloody. She was admitted to hospital Feb. 26, and died Mar. 10." "This case demonstrated the necessity of sometimes emptying the uterus."	
24	Giles S. Mitchell, M.D.	28	P	Probably about 6th week.	15th wk.	Everything internally. Nutritive enemata.	Death.	"The induction of premature labor was suggested in consultation, but as the patient had almost reached the period of gestation when the uterus escapes from the pelvic cavity, and vomiting usually ceases spontaneously, and as it met with strong opposition from patient herself, we concluded to wait." Improved for about two weeks but being allowed to eat solid food, vomiting set in and patient died in a few days."	Obst.Gaz.Cinn. 1885, viii. p. 115-132.
25	Wm. H. Veatch, M.D., Carthage, Ill.	27	P	Begun in 3d week, not troublesome till about 15th wk.	21st wk.	Everything internally. Cervix cauterized.	Death.	Vaginal examination at 15th week, (when patient was first seen) showed extreme ante-version. Patient refused to have any attempt made to correct displacement. Steady failure up to the 20th week, when she aborted. No vomiting occurred after the first indication of abortion. Died in one week of septicæmia.	Peoria Medical Monthly, 1884, 1885, p. 682-687.
26	W. J. Collins, M.D.	?	P		29th wk.	Internally only.	Death.	Finally labor set in, vomiting ceased immediately after birth. Patient died three days afterwards. Child lived.	St. Bartholomew's Hosp. Rep., Lond., 1883. p. 121.
27	C. E. Stedman, M.D.	24	?	8th week.	16th wk.	Everything internally. Churchill's Tr. Iodi. to cervix.	Death.	Quinia in moderate doses was the only drug given. Fed by rectum. Enemata finally rejected. "Progressive failure from the start, and death occurred two weeks from the date of admission." Temp. subnormal for first few days, an hour or two before death temp. rose to 106.5°. Pulse was never above 130.	Boston Med. and S. Jour., 1883, 109, p. 529.
28	See reference.	24	M_2	1st week.	12th wk.	Internal remedies with failure. Tr. Iodi. to cervix. Nutritive enemata,	Death.	Patient did not vomit constantly; was very delirious the night before death. No vomiting for six to ten hours previous to death. Enemata were almost invariably retained.	Boston City Hosp. Rec., vol. 232, p. 6, (Medical Records.)

Summary.

Recoveries 14	Multip. 8 Primip. 4 Not stated 2	Deaths 14	Multip. 3 Primip. 9 Not stated 2
Spontaneous abortion with recovery.............3	Vomiting ceased 2 Not stated 1	Spontaneous abortion with death 3	

Twenty Cases of Uncontrollable Vomiting of Pregnancy, in which Artificial Abortion was Induced.

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
1	Dr. Churchill.	Young.	M_3	About 4th month.	6th mo.	Internal treatment failed. Ovum punctured, followed by ergot.	Recov.	"We tried all the usual remedies with occasional relief, but the vomiting returned, and finding that she could retain no nourishment whatever, that her bodily powers were worn out, that her pulse was steadily 120, I determined at the sixth month to induce premature labor." "She was delivered of a dead fœtus, recovered rapidly and has since born a child at full time."	Churchill's practice of midwifery, 4th edition.
2	J. Farrant Frye, Swansea.	37	M_5	Probably about 4th month.	?	Internal remedies failed. Artificial abortion. Method not stated.	Recov.	"The patient's condition became desperate; labor was induced as the only means of saving life."	British M. J., 1880-1, p., 399.

TWENTY CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
3	W. J. Collins, M.D.	26	M_4	About 6th month.	?	Introduction of a gum elastic catheter 8 inches.	Recov.	"Vomiting ceased immediately after birth."	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 123.
4	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	M	?	Between 2d and 3d month.	Bougie to fundus between membranes.	Recov.	"Never vomited after introduction of bougie and eventually aborted."	St. Louis Courier of Med., 1884, 11, p. 252.
5	S. G. Moses, M.D.	Under 30 years.	M_2	?	Between 2d and 3d month.	Ovum punctured.	Recov.	"When first seen was in moribund condition." Out of danger in twenty-four hours. In first pregnancy vomited several weeks and then aborted, with relief from vomiting. Several children since without trouble.	St. Louis Courier of Med., 1884, 11, 250-262.
6	R. Scot-Skining, M.B. et Ch. m., Edin., Phys. to the Prince Alfred Hospital, Sydney.	21	?	3½ mo.	About 7th mo.	All the usual medicinal remedies were exhausted. Finally, introduction of bougie and dilatation of cervix with Barnes' fluid dilators.	Recov.	Patient was a passenger on board an emigrant ship, sailing from Plymouth, Eng., to Australia. "The morning sickness was intensified by sea-sickness." Bass' Ale was retained when all else was immediately vomited. "For the first few days after delivery the patient remained in a very low state, but with the entire absence of the distressing vomiting which had before existed. Food was now readily retained, and in an astonishing short time I had the satisfaction of seeing her in a condition which removed all further anxiety from my mind."	The Australasian Medical Gazette, Sept. 1884, vol. iii. No. 12.
7	Dr. Scott.	? Probably young.	P	6th week.	10th wk.	Artificial abortion. Method not stated.	Recov.	"Nausea left from time fœtus came away."	St. Louis Courier of Med., 1884, 12, p. 61-67.
8	Dr. Coles.	?	?	?	?	Artificial abortion. Method not stated.	Recov.	Patient was relieved from nausea and vomiting instantly.	St. Louis Cour. of Med., 1884, 11, p. 259-260.
9	Dr. Ward.	38	P	?	"In the 8th mo."	Everything internally failed. Induced abortion. Hot douche to internal os followed by Barnes' dilator.	Recov.	Patient was seen "on account of such excessive prostration due to continuous vomiting." "Every therapeutic means had been adopted without avail." Podalic version. Dead hydrocephalic child with peeling epidermis. "In less than twenty-four hours she was able to retain whatever nourishment was given." Rapid recovery.	N. Y. Med. J., 1880, xxxi. p. 406.
10	Wm. Warren Potter, M.D., Batavia, N.Y.	23	P	? Probably about 10th week.	14th wk.	Internal remedies failed. Nitrate of silver. Tinct. iodi. locally failed. Artificial abortion.	Recov.	"There was inter-current catarrhal bronchitis present." "Rectal alimentation and medication having failed to arrest the progress of malady, the direful alternative of putting an end to the pregnancy was forced upon me."	Am. J. Obst., 1880, xiii., p. 85, 98.
11	M. H. Jordan, M.D.	24	P	?	14th wk.	Internal treatment failed. Nitrate of silver to cervix failed. Artificial abortion. Cervix dilated and fœtus scooped out by hand.	Recov.	"When first seen, patient had been confined to bed for five weeks with a distressing and uncontrollable nausea and vomiting." She was "much emaciated, quick pulse, some fever, and retained comparatively nothing on her stomach." There was considerable difficulty in bringing on labor pains but finally it was successfully accomplished. Patient was so weak at time of abortion, that she could not turn herself in bed. "After the operation she never became sick at the stomach, or vomited a single time." In two weeks she was able to be carried home from Birmingham, Ala., to Chattanooga, Tenn. "If this woman had not have aborted, she certainly would have died."	Ameri'n Pract., Louisville, 1879, xx. 305-309.
12	W. T. Wright, M.D., Winfield, Kansas.	24	P	6th or 7th week.	About 10th wk. Thirteen days after serious symptoms set in.	Everything internally with failure. Artificial abortion. Pains set up by electricity, ergot sounds and tents failing.	Recov.	"Pulse gradually rose until it reached 140-150 at time of abortion, at which time the following conditions were present:" "She was a fleshy woman, now the skin hangs loose on her limbs, eyes deeply sunken; a markedly pinched appearance of her features. Respirations 40 per minute, pulse rapid and indistinct, surface hot and dry, extreme dyspnœa, restless throwing about of limbs, general tremor. On the day following the abortion she called for food which was relished and retained.	Peoria Medical Month., 1883, 4, iv., p. 6-14.

Twenty Cases of Uncontrollable Vomiting, in which Artificial Abortion was Induced. *(Continued.)*

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
13	T. G. Thomas, M.D., New York.	? Young.	P	3d week.	10th wk.	Artificial abortion. Cervix dilated and fœtus and placenta scooped out with ordinary wire curette.	Recov.	Patient dispelled a "phantom" tumor about three months before, thinking herself to be pregnant. When first seen had been vomiting two and one-half months. As a result of the vomiting she had become excessively emaciated." After curetting the vomiting ceased at once and patient recovered entirely.	Am. J. Obst., N.Y. 1881, xiv. p. 674.
14	N. C. B. Haviland, M.D., Danville, Vt.	23	?	5th or 6th week.	15th wk.	Internal treatment failed. Artificial abortion by injection of tepid water, one ounce, into uterine cavity.	Recov.	This case was complicated by attacks of petit mal. The hypodermic injection of morphine was the only drug that had any effect. Nitrate of silver to cervix freely, failed, though for a time it seemed beneficial. After labor was started patient fainted at every pain, "rallying by repeated hypodermic injections of brandy and liq. ergotæ." After delivery, "no symptoms of fainting again occurred, and patient immediately commenced to take cracked ice and brandy, with no return of nausea." Patient had a tedious recovery and has since had irregular attacks of petit mal.	Am. J. Obst., 1883, xvi. No. 2, p. 165-168.
15	Geo. Davenport, M.D., E. Randolph, Vt.	34	M_5	4th wk. ?	6th or 7th week.	Internal remedies failed. Artificial abortion — sound introduced.	Recov.	No nourishment in stomach for over two weeks. Life sustained solely by nutritive enemata. Pulse 120-130. "Could not turn herself in bed," nor move her lower limbs. Features pale and sunken. Death appeared inevitable. "The patient, notwithstanding her great prostration, made a good recovery, slowly to be sure, but with not one untoward symptom."	Tr. Ver. M. Soc. 1878, St. Albans, 1879, 39, 49.
16	See reference.	20	P	5th wk.	About 17th wk.	Internal remedies failed. Tr. iodi. to cervix. Artificial abortion by means of sponge-tent and sound passed into uterine cavity.	Recov.	Patient was unmarried. Last catamenia Dec. 25, 1868. Nausea two weeks later. Vomiting began on 5th week. Entered Boston City Hospital, February 6, 1869. On February 25, vomiting having continued almost incessantly, the following condition was present:— "Has lost much flesh, cheeks flushed, countenance haggard, conjunctivæ suffused, eyes dull, tongue red without coat, pulse 132 and very small — os uteri to be dilated by sponge tents." February 28 — "Large sponge tent withdrawn, leaving os fully dilated." "Sound passed in about three inches, very little hæmorrhage followed — no severe pain." March 1 — Vaginal examination shows external os dilated, but internal os closed. Patient's condition remained about the same until March 31, when she was seized about 9 P. M. with sharp pains in hypogastric region, which by morning assumed a bearing-down character. Pains lasted about twenty-four hours, when both fœtus and placenta were expelled, scarcely any hæmorrhage following. Patient made a slow, tedious convalescence. Vomiting did not entirely stop for over three weeks. Was discharged well, June 10, patient being in hospital four months and four days.	Boston City Hosp. Med. Records, vol. 35, p. 132.
17	Geo. T. Elliot, M.D., New York.	32	M_9	About 6th month.	Between 7th and 8th mo.	Internally everything failed. Artificial abortion by means of hot douches.	Death.	No trouble with previous labors. "Supporting treatment was resorted to by the mouth and rectum, but she steadily lost ground from the date of her admission (to hospital.)" Child born living apparently between seventh and eighth months, small and puny. "Patient died in about ten hours." "Intelligence uninterruptedly clear, vomiting never having been checked."	Obst. Clin., p. 167.

Twenty-Cases of Uncontrollable Vomiting, in which Artificial Abortion was Induced. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting.		Treatment.	Termination.	Condition and Remarks.	Reference.
				Began.	Ended.				
18	Dr. Engelmann, St. Louis, Mo.	Young.	P	?	6th mo.	Artificial abortion.	Death.	"Patient died in eight to twelve hours after abortion was produced. Vomiting was finally stopped by application of carbolic acid to cervix and a tampon of tannic acid, glycerine and carbolic acid ; and it was thought possibly the chances might be better if the ovum were removed."	St. Louis Courier of Medicine, 1884, 12, p. 61-67.
19	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	P	?	Between 2d and 3d month.	Artificial abortion. Ovum punctured.	Death.	Patient had been "vomiting for five or six weeks almost incessantly ; could retain absolutely nothing." At time of abortion patient was moribund, feeble pulse, fetid breath and foul tongue. Vomiting ceased in twenty-five or thirty minutes. "Death from absolute starvation."	St. Louis Courier of Med., 1884, 11, p. 250-262.
20	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	M_3	?	Between 2d and 3d month.	Artificial abortion. Ovum punctured.	Death.	"Persistent vomiting." "Could retain nothing." After abortion, vomiting stopped. Patient "actually starved to death." Died in twelve hours.	St. Louis Courier of Med., 1884, 11, p. 250-262.

Summary.

Recoveries ....16 { Multip. 6; Primip. 7; Not stated 3

Deaths ....4 { Multip. 2; Primip. 2

Vomiting relieved by abortion instantly or very soon (a few hours) ....11 }
Not stated in report .... 4 } with recovery
Not relieved (for three weeks) .... 1 }

Vomiting relieved by abortion instantly or very soon 2 }
Vomiting relieved before abortion .... 1 } with death.
Vomiting not relieved by abortion .... 1 }

Average time of death after abortion, in 3 cases ....10⅔ hours.
Average time of death after abortion, in 1 case ....Not stated.

I have thought it might be interesting to compare the results of treatment in all the well marked cases of this affection that I have been able to find reported, and hope that it may lead to a full conference of opinion by the gentlemen present, as to their individual ideas regarding this disease and their experience in the treatment of the same.

RECURRENT HEADACHE IN CHILDREN, AND ITS TREATMENT.

BY RUSSELL STURGIS, M.D.

It is not uncommon to see children complaining of headache whose general health is apparently good. Such children usually are troubled with headache more or less severe, recurring at intervals of days or weeks, and each attack lasting from a few hours to a day or more. You will generally find that the child has been subject to these headaches for a year or more before treatment is sought for this particular symptom. As a rule, it will be noticed that the patients are of nervous temperament, that they do not sleep well, that they grind their teeth at night, and frequently suffer from bad dreams and nocturnal terrors. Frequently these children will have a spasmodic cough, particularly at night, even if there be no signs of pharyngitis or laryngeal irritation to account sufficiently for such cough. It may be noticed that the child has difficulty in keeping its hands quiet, that if told to keep standing quietly it will constantly change its weight from one foot to the other. In temper the child is apt to be fretful. Nothing particular is to be noticed about the face with the exception of a peculiar heavy expression about the eyes. This expression is noticed in people with migraine, and also in any depressing illness. Dr. Warner,[1] after careful examination, thinks this expression is due to lack of tone in the orbicularis palpebrarum, giving "an appearance of flabbiness about the lower eyelid ; the skin hangs too loose with an increase in the number of folds, and in place of falling neatly against the lower eyelid as a convex surface, it falls more or less in a plane from the ciliary margin to the lower margin of the orbit, a condition often best seen in profile." This heavy expression about the eyes is not noticed in all cases of recurrent headaches.

These headaches generally come on in the morning, though the child may be perfectly well on going to bed the night before. The pain is generally localized in some particular part of the head, either side, frontal region or vertex. The pain is severe, during the seizure, usually preventing study or play. It is not unusual for there to be optical illusions of sparks, or bands and spots of color. There may or may not be nausea during the attack. The child generally feels cold, and in winter prefers to lie near the stove huddled up in a chair.

The picture is very like that of migraine in the adult, with this difference : the pain is more apt to be across the forehead and may be at the base or at the vertex of the skull ; there is rarely vomiting or nausea with the attack, and such attacks seem to yield to a treatment which is of very little use in hemicrania of the adult.

Dr. Eustace Smith in his latest book, considers the headaches identical with migraine. Dr. Warner is inclined to think that these recurrent attacks are but a mild form of chorea. It has been shown by Dr. Hughlings Jackson and by Dr. Herman that in cases of chorea about seventy-five per cent. of the children suffered from recurrent headaches.

Since 1882 I have seen sixteen cases of recurrent headache. At first I spent a long time unsuccessfully in trying to relieve the patient by attention to diet and hygienic surroundings, by general tonic treatment and the exhibition of citrate of caffein and guarana. At last, remembering what Niemeyer calls the "fanciful hypothesis of Du Bois-Reymand and Möllendorf," that the pain may be due to excitement of the terminal sensory filaments of the fifth pair by dilatation of capillary blood vessels of the dura mater, I thought I would use ergot for its effect on the circulation through the arterioles. The results have been highly satisfactory. The longest time required to free a patient from the attacks has been four weeks. In one case two doses of ergot gave relief.

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[1] Physical expression.

It has been my practice to give m x of the fluid extract three times daily after meals, and to continue the treatment for two weeks at least after disappearance of pain. I generally have used ergot alone, but in one case combined it with iron. Dr. Eustace Smith[2] uses strychnine in combination with ergot. I give below four typical cases. Case I and III were brother and sister; they were both rather tall children for their ages, had the heavy expression of the eye extremely well defined. Their mother, when a child, suffered from recurrent headaches but had "outgrown" them. The pain in these two cases was across the forehead. Nervous symptoms were not well marked in these two cases. Case II had pain in the right side and was decidedly a nervous child. Case IV had his attacks at night with pain at the vertex, and did not respond quickly to treatment. In no cases could abuse of tea be held responsible for these headaches.

Case I. L. B., age thirteen, first seen November, 1882. She is a tall, well nourished girl, rather anæmic in appearance. Lives in a nice sunny house in a good neighborhood. She began to complain of headaches about three years ago, but they did not recur with sufficient frequency to make it worth her mother's while to have them especially treated. Now she has a headache as often as three times a week, lasting generally from when she gets up in the morning till when she goes to bed at night. During the attack of headache she never has nausea but frequently sees sparks of light or spots of red. Nothing but slight astygmatism was detected on examination of the eyes. Suitable glasses were provided without diminishing the frequency of recurrence of headaches nor their severity. I kept her for some time under general treatment, using tonics, sedatives, etc., and also using specific remedies for headache, such as guarana and caffein till January, 1883, when I began the use of ergot, m x fluid extract. Improvement was marked in a few days, and she remained free from headaches till the following October, when a course of ergot again relieved them and she has continued free from them since.

Case II. J. S., age eight years, March, 1884. A small black-haired fidgety Irish girl, not anæmic, well along in her studies, and very ambitious, fond of school and of playing out of doors. I had seen this same child before when suffering from headache, due, I thought, to the abuse of tea. On my advice she gave it up and had not taken any for about three months, when I saw her in March. She complains solely of headache coming on about once a week and lasting not more than twelve hours at a time. There were no signs of chorea in her case, with the exception of her unwillingness to stand still for more than half a minute at a time, when I was talking to her, and a moving about of her hands, which, however, was under control of the will. Nothing abnormal in eyes. After two weeks treatment she was relieved of her headaches, and the mother told me about a month ago that she had had no return.

Case III. F. B., age eight years, June, 1885. A brother of Case I. complains of the same headaches that his sister used to have, the pain in the frontal region as with her. Has very much her appearance, the heavy expression of the eyes being particularly well marked. Appetite is fair. The attacks in this boy come on about once a month, and last one or two days at a time. He has nausea towards the end of his attack of headache. Urine normal. The present attack disappeared after three doses of ergot, which, however, was exhibited for two weeks longer. He has not suffered from headaches since.

Case IV. I. M., age eleven years, November, 1885. An Irish boy fond of play but not of school. General health all that can be desired. He is free from headache during the day, but at night is waked up by pain across the vertex. He thinks the attacks last about one hour and then pass off, to recur again perhaps before morning; he has generally two bad nights each week. This case was examined with great care but nothing abnormal detected in the eyes, nothing wrong about the urine, and no reason to make a diagnosis of cerebral disease. His headaches gradually disappeared after continued use of ergot for four weeks. He is now free from his pain.

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[2] Disease in Children, 1884.

RECENT PROGRESS IN LEGAL MEDICINE.

BY F. W. DRAPER, M.D.

ON THE IDENTIFICATION OF HUMAN BLOOD.

To the solution of this important and still unsettled medico-legal question, Dr. Masson, "Pharmacien-major" of the French army, has contributed an elaborate series of original observations.[1] After an interesting historical review of the subject, showing the gradual and progressive transition from the crude chemical tests of Orfila's time to the period. beginning with 1857, when Robin relegated chemistry to a place of secondary importance in the diagnosis of suspected stains, and asserted that the microscope was the true master of the situation, the author quotes from many distinguished writers and experts — Virchow, Roussin, Blondlot, Rabuteau, Malassez, Hofmann, and others — to show how varied, and sometimes contradictory, are the opinions of men of the highest authority concerning blood-stains. Each observer has looked at the problem from the point of view of the case of homicide which was presented to him, supporting his conclusions upon parallel experiments, under conditions identical, as nearly as possible, with those of the affair in hand, rather than upon principles acquired scientifically. The composition of the fluids used to restore the dried blood-globules has varied with each observer; some were acid, some alkaline, some of seemingly neutral effect upon the globules, some distending, and others contracting them. Under such circumstances, it is not strange that great diversity of conclusions should result. Some declare that a certain kind of fluid has power to restore to the globules their normal characters of form and size; others recognize the power of the solution to isolate the globules, and no more; some state their ability to restore the corpuscles in great numbers; others can find only two or three satisfactory elements in any one preparation, and these with difficulty; for some, the globules, under their manipulation, become just like a preparation of fresh blood; with others, they remain irregular, distorted, unrecognizable; certain experts declare that it is an easy thing to identify human blood-globules, and to affirm their presence in a stain; with the great majority, it is impossible. How this uncertainty weighs upon the expert, who, called upon to pronounce on a subject so grave, seeks vainly for a guide which shall teach him within what limits he can, and ought to enlighten justice!

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[1] Annales d'Hygiène Publique et de Médecine Légale, May and June, 1885.

In the presence of these rather discouraging conditions, Dr. Masson undertook a series of independent inquiries, designed to elucidate the following points:

(1) To determine, under the various circumstances in which the question may be presented to the expert, the artificial fluid which gives, with human blood, the preparations most favorable for micrometric purposes.

(2) To study the causes of the changes in blood-globules, and to define their effects as far as possible.

(3) To experiment upon the blood of animals simultaneously with that of man, and to ascertain within what limits the expert may be positive as to the origin of the blood in a given case.

In experimenting with fresh blood, whether clotted or liquid, Masson found Vibert's fluid the most useful for preserving the globules in their normal form and volume; this fluid is composed of bichloride of mercury (five parts), chloride of sodium (twenty parts), and water (one thousand parts).

If the blood has become dried upon surfaces and substances which are not porous, Virchow's fluid (liquor potassæ and water) gives the best preparations for the microscopic examination of blood-stains. This solution sets free the globules by dissolving the substance which holds them; it leaves a clear view of the corpuscles unobscured by debris. It is not necessary that the stain should be either large or thick; a little spot of blood, no larger than the head of a pin, if it be found on an impervious surface (the blade of a weapon, a pavement, a wooden floor, bone or metallic button, wainscoting of a room), will give better results, under the action of the potassa solution, than a linen or cotton shirt fully covered with blood-stains.

In discussing this latter condition, the presence of blood-stains on various fabrics, the author distinguishes two kinds of material: according as it is, or is not, moistened by the blood through capillary action of the fibres. If a drop of blood falls upon felt, it tends to preserve its spherical shape and to dry upon the surface of the wool, without penetrating it. If, on the contrary, the fabric is of a nature to absorb the blood, and to become moistened by it, the capillary phenomena result in the dispersion of the blood-globules, which are found encasing each filament of the cloth, while the plasma penetrates the filament itself.

When the crust of dried blood is found upon the fabric, without having penetrated it, the same manipulation which is useful in blood-stains upon impervious surfaces (wood, metal) is available, and Virchow's fluid is the best. But in dealing with porous fabrics, the author's results were uniformly unsatisfactory. Whether the stain be days or months old, whether one uses the powder obtained by unravelling the dry tissue holding the stain, or first moistens it by imbibition or maceration, the fluid used is powerless to restore the distorted and shrunken globules. The cotton, linen, or hemp fibres appear covered with a yellowish gloss, forming a sheath which may be removed by careful manipulation. This sheath is found to be made up of irregular, shrivelled, and closely-welded globules, forming a true mosaic upon the filament. Isolated globules may sometimes be seen lying outside this compact sheath, but these are always shrunken and out of shape. Very rarely, a single globule is found which has escaped the common lot and has kept its form, and, perhaps, its normal volume. The separation of the welded mass of globules is not an easy matter; unless the expert uses great care, he runs the risk of mistaking for isolated corpuscles, fragments made up of the remains of adjacent corpuscles. The search for globules of normal form and size, in blood-stains on linen or cotton cloth, will be fruitless; the expert may be able to declare that the stain is a blood-stain, and to distinguish the globules of mammals from those of birds by the nuclei in the latter, but that is all. The only exceptions to this are cases, in which the blood is in sufficient amount to form crusts, or in which it has dried on the surface of fabrics of very close texture.

As causes producing modifications in the shape and size of blood-globules, as they are found in stains, the author names the nature of the surface on which the stain is found, the thickness and age of the stain, its desiccation, and the temperature and moisture of the surrounding air. Age does not appear to have a very important influence; whether the stain be one day, or ten months old, its elements are not appreciably different. Once dried, the globule does not tend to change farther. But it is an error to assign a destructive action to desiccation. When the drying process is rapid, it fixes the globules at once in their primitive shape, without modification of their dimensions. Acting on this principle, Welcker has made measurements whose value has been recognized as perfectly exact by all hematologists; he places a minute drop of blood upon a glass slide, heated to 60° (C.), and spreads it immediately in a thin layer, by means of a needle held horizontally.

But if the desiccation is slow, the globules remain very fragile, and very ready to take on changes in form and size. Thus, moisture in the air, as it retards evaporation, is one of the more important agents in causing the changes described. To study this influence, and to define its effects as far as possible, the author placed drops of blood on different surfaces (glass, a knife-blade, wood, pebbles, cloth), and these he put under a bell-glass over a saucer filled with water. After a fixed period, the blood was examined upon its removal from the moist chamber, before drying, and after. The globules showed essentially the same appearances under the microscope, at the moment of removal from the bell-glass, and after their desiccation.

In dried blood, the blood-globule resists, for a very long time, all conditions which otherwise would change it. No fluid known can restore to the altered blood-globule its primitive form and dimensions. Once distorted and shrunken, all the blood-globules of mammals are alike. The contraction of the globules being accompanied by characteristic changes in shape, very easy to distinguish from those which result from reciprocal compression, whenever a globule has preserved its flattened, bi-concave clearly-outlined shape, it must be regarded as normal, and as a standard for measurement. But when the globule is altered in shape, the expert should acknowledge his inability to make a diagnosis of its origin.

The closing section of Dr. Masson's article is devoted to a study of the micrometry of blood-globules. He quotes Vibert's remark, that the diameter of blood-globules varies within limits which are relatively considerable, not only in the same species, but in the same individual; that the most competent observers are far from giving the same average diameter, or the same maximum or minimum diameters to the globules of the same animal; that, assuming the corpuscles to have absolutely fixed dimensions, it is not possible to distinguish with certainty, one with a diameter of 0.0075 mm. (man), from another with a diameter of 0.0073 mm. (dog). Masson emphasizes the necessity of making many observations, of taking the mean of fifty or a hundred diameters in any given case, instead of relying on the dimensions of any single globule.

The greatest cause of error results from the variable diameters of globules from the same individual, an error very difficult to control. Another source of error lies in the fact that pathological changes may occur in the globules to modify their size. The measurement of globules from fresh blood is a rare necessity in legal medicine; the expert has to deal with old and dried stains. To the examination of these latter, the author has devoted most of his attention. We have space for a few of his results only. The blood-globules of birds and fishes, when dried on cotton or linen cloth, lose their elliptical shape, and become shrunken and irregular; their nucleus is the one essential and permanent characteristic which distinguishes them from mammal globules. Human blood-globules resist change better than those of other mammals; they also have a deeper color. But much depends upon the substance and surface where the blood-stain is found; stains on cotton, or other absorbent fabrics, if derived from mammals, cannot declare their origin to the microscope, their globules having became greatly altered, as described previously.

Where, however, the material for microscopic study is a bit of dried crust of blood, found on an impervious surface, it may be possible, after taking the average of many measurements, to distinguish the origin of the blood in the stain submitted to the expert. In many cases, however, the conclusion amounts to a probability only, unless we are dealing with the blood of fishes or birds, which is distinguished from human blood with comparative ease. The author found that, as the result of his great number of examinations, made under favorable conditions, it was easy to differentiate human blood-globules and those of the pig, the ox, and the cat; a delicate matter to settle the difference between the blood of man and that of the dog; still more uncertain when rabbit's blood was in question, and impossible to decide between human blood and that of the guinea-pig.

CHRONIC ALCOHOLISM.

Alcohol plays such an important part in most medico-legal affairs, that new light upon the anatomical changes wrought by this agent must always be welcome to the medical jurist. Dr. Formad recently presented to the pathological Society of Philadelphia,[2] an analysis of two hundred and fifty autopsies on the bodies of drunkards, illustrating the most prominent anatomical lesions of chronic alcoholism. He considered the most conspicuous changes to be cyanotic induration of the kidneys, fatty infiltration of the liver, and mammillated stomach. His cases had been those in which there was a history of a long-continued series of debauches, of subjects dying in one of these debauches, and did not include moderate drinkers, or those who perished after an enormous quantity of alcohol, without any previous chronic excesses. He thought that the exposure, irregularities of diet, etc., incident to a state of drunkenness, had much — probably more than the alcohol itself — to do with the production of the lesions. but it is not at all possible to separate one from the other. He gave a long list of morbid changes, considered by various authors to be the results of chronic alcoholism, among which cirrhotic liver, with contraction, holds a prominent place. He had himself, at one time, considered cirrhosis a very frequent, if not an almost necessary concomitant of long-continued excessive use of alcohol, and had testified in court, that a certain person was not likely to have been a hard drinker, because, at the autopsy, no cirrhosis was found. He had thought, too, that the connection between the two is so close, that it is impossible to have a case of cirrhosis without a history of alcoholism, as is held by various authors. Therefore, it was surprising to him to meet in the two hundred and fifty autopsies, with only six cases of cirrhotic contraction of the liver. In two hundred and twenty cases, the liver was considerably, or even very much enlarged, the enlargement, in most cases, being due to fatty infiltration. Cyanotic induration of the kidneys and chronic gastritis, with mammillation of the stomach, were found in nearly every case. This cyanotic induration is peculiar and differs from that due to heart disease.

In the course of the discussion, Dr. William Osler said that his own experience with livers in a large number of autopsies in cases of chronic alcoholism, had led him to divide them into four classes: (1) Those in which the condition is pretty satisfactory; some individuals may take alcohol for many years, and yet the liver will pass muster. (2) Fatty cirrhotic livers; the cirrhosis may not be distinct to the naked eye, but is plainly shown by the microscope. This is the largest class. (3) "Hob-nail" livers; these, he would say, were much more common than in Dr. Formad's series. (4) Hypertrophic cirrhotic livers. In order of frequency, he would place the pathological changes in the liver, due to alcohol, as follows: fatty cirrhotic, hob-nail, hypertrophic cirrhotic, apparently normal.

RARE GUN-SHOT WOUNDS IN SUICIDES.

Professor Maschka, of Prague, medico-legal counsel for the Bohemian government, calls attention to the fact that, while suicides, in shooting themselves usually choose a part of the body which is easily accessible to them, cases of self-destruction by shooting do occur where the wound of entrance is found in extraordinary places, parts which, of course, must be within reach of the muzzle of the weapon in the hands of the suicide, but which are so unusual as to give rise to grave suspicion of homicide.[3] Especially does this suspicion arise where no details of the death are known or the body is found in an isolated spot, open to others.

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[2] Medical News, November 21, 1885.

[3] The Medico-Legal Journal, September, 1885, page 227.

Maschka relates two illustrative cases, both of undoubted suicide. In one case, the bullet entered the head "somewhat to the left and about two and a half centimetres back from the top of the head." The hair around it was singed. The whole occipital region under the scalp was covered with extravasated blood. The bullet was found at the base of the brain between the left middle and posterior lobes.

In the other case, a young man was found in his room, lying dead upon a sofa, with a revolver by his side; the officers found the door of the room fastened on the inside. Post-mortem examination showed on the top of the head a small round wound with blackened edges, beneath which was found a bullet completely flattened and lying close to the bone. There was a depressed fracture of the skull at a point fifteen millimetres above the apex of the lambdoid suture and to the left of the sagittal suture. There was a second wound below the left nipple; this, on dissection, was found to involve the left lung, the pericardium, and the heart. It appeared that the suicide, failing to accomplish his purpose with the shot in the back of the head, directed a second and more successful shot toward his heart.

The author concludes that should cases occur wherein the external wound from a pistol is in an extraordinary location and the question of the manner of the death, whether by suicide or homicide, is to be determined, the following considerations are to be remembered:—

1. The possibility of reaching the part of the body in which the wound is located should be decided by the examiner by attempting to place on the corresponding part of his own body the muzzle of the weapon with his right or left hand.

2. Certain well-known appearances, such as burning, singeing, dark discoloration and hardening of the parts close to the wound must be present for a theory of suicide; but they do not prove this, because they do not exclude the possibility of the close application of the weapon by a second person against an individual while asleep, drunk or otherwise stupefied.

3. Other indications, such as signs of resistance, traces of a struggle, of robbery, or of injuries other than the shot-wound should be looked for. The character of the locality, the condition of the clothing and the circumstances under which the killing took place, are to be considered. An apparent motive for suicide should be sought for and any written or verbal expression of an intention to commit the act should be weighed as a basis for an opinion.

[To the second of these propositions, those who have had much experience with gun-shot wounds will be inclined to take exception. The author expresses himself too strongly when he states that "certain appearances *must* be present for a theory of suicide." — Rep.]

CHANGES IN THE PUPIL AFTER DEATH.

From an interesting series of original observations upon the eyes of recently dead subjects and upon their behavior under certain physiological stimuli, Mr. J. N. Marshall draws the following conclusions: [4]

"(1) In most cases, the pupils are dilated at the time of death, the dilatation usually occurring within a short period of the fatal event. Dilatation at an appreciable time after death is quite exceptional. This condition is essentially paralytic and is independent of the state of the pupil during life, whether that is altered by drugs or by disease.

"(2) There is, in the great majority of cases, progressive contraction of the pupil after death. This varies within wide limits, both as regards its period of commencement and the degree of myosis attained. It usually begins within an hour after death, and continues for the next forty-eight hours. The contraction which is often unequal in the two eyes, is independent of the action of light upon the eye and of the occurrence of rigor mortis.

"(3) The pupil is susceptible to the action of atropine after death, for a period which probably varies with different subjects, but which may be as long as four hours when simple instillation is employed, and perhaps a little longer when the atropine is injected into the anterior chamber. The dilatation begins at about the same time after instillation of the atropine, as it does after instillation during life, but it differs from the dilatation after the latter in that it is of less degree, and that the influence of the atropine passes off sooner and leaves the pupil to follow its usual course.

"(4) The instillation or injection of eserine after death produces contraction of the pupil, but the period after death during which it can act is shorter than in the case of atropine.

"(5) The instillation of ergotine after death has no effect on the pupil, but its injection into the iris or anterior chamber produces contraction of the pupil up to at least two hours after death.

"(6) Pilocarpine injected into the dead eye has a slight myotic action.

"(7) The removal of the aqueous humor after death does not affect the ordinary behavior of the pupil.

"(8) Flaccidity of the iris during life is exceptional, but it is always present after death, and increases from the time of death onward."

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

December 16, 1885. The meeting was called to order at eight o'clock, Dr. James R. Chadwick in the chair.

Dr. O. W. Doe read a paper entitled

THE ADVISABILITY OF INDUCING ABORTION IN CASES OF SO-CALLED UNCONTROLLABLE VOMITING OF PREGNANCY.[1]

Dr. Francis Minot, in opening the discussion, said that much confusion respecting the prognosis and treatment of excessive vomiting in pregnancy might be avoided by dividing the cases into three categories. The first should include those in which the symptoms were moderate, and were easily controlled by suitable diet, by rest in bed for a few days, by regulating the bowels, by the occasional use of small doses of morphia, by the application of sinapisms to the epigastrium, etc. The patients always do well. The second class consists of those cases in which the symptoms are much more urgent, and the patients are in a serious, though not actually dangerous, condition. They are best treated by rectal alimentation, very little nourishment being given by the mouth, and that chiefly of Ridge's food, Horlick's food, Mellin's food, etc. The best nutritive enemata are composed of peptonized milk with brandy. Morphia is often required at night, and sometimes by day, subcutaneously. Perfect quiet should be enjoined, all talkative visitors being excluded. The position of the uterus should be investigated, and, if necessary, be rectified by suitable intravaginal support. These simple means will generally suffice to restore the patient to health, although they must often be continued for several weeks. It is this class of cases in which what may be called specific remedies have sometimes a remarkable effect, though in the majority of instances they fail altogether, such as the application of strong etherial tincture of iodine, or of the solid nitrate of silver to the cervix, and especially the dilatation of the os uteri, suggested by Dr. Copeman. If one studies the reported cases of cures by these means he will be struck by the absence of details respecting the symptoms, by which one might be able to judge of their severity. Dr. Copeman's method of dilating the os with the finger has now been supplemented by forced dilatation by means of instruments, probably because it was found to fail in so many instances. The truth probably is that these methods are of very little avail, and of none at all unless the general treatment is at the same time carefully carried out. The third class of cases comprises those which are wholly rebellious to any specific treatment, short of induced abortion, and which, in spite of the most careful management by feeding, morphia and seclusion, are very frequently fatal, unless the uterus be artificially emptied before the patient's strength is too far reduced to allow her to rally. An example of this class had lately come under his observation. A young lady was married in June last. She became pregnant early in July. A few weeks afterwards while she was staying at a watering-place, vomiting set in, and soon increased to an alarming degree. She was very judiciously treated by enemata of peptonized milk with brandy, which she retained with ease, and by the subcutaneous injection of morphia. There was but little change in the symptoms, for several weeks, and she was brought to Boston, September 6th, and placed under Dr. Minot's care. She was much emaciated, but though weakened by long continued inanition and incessant vomiting for five weeks, was not exhausted. The treatment was continued, and though at times there was considerable temporary improvement, on the whole the patient gradually lost ground. Although the uterus appeared to be healthy in appearance and position, a soft rubber ring was introduced to raise it as much as possible in the pelvis, though without the slightest beneficial result. The matters vomited consisted of small quantities of bile and mucus, scarcely any food, beyond a little coffee, having been swallowed. As the emaciation and exhaustion were progressing, the blades of a large pair of polypus forceps were introduced into the os uteri, and the cervix was dilated to the extent of nearly an inch. There was no change in the patient's condition in consequence of this operation, which was done September 27th. Accordingly on the 30th, it was repeated, the cervix being exposed with a speculum, and the forceps pushed up to the internal os, but not within it. Dilatation was effected with all the force it seemed prudent to use, causing some pain to the patient and considerable bleeding. As before, the operation was followed by no change for better or worse, in symptoms. It was then decided to take the patient to her home. On the evening of October 3d, she was placed in a sleeping-car, and a full dose of morphia was given just before starting for Baltimore, where she arrived the following forenoon, having borne the journey without great fatigue. Dr. Minot learned that after a few days she rallied a little, and then began to fail again, and it was decided to induce abortion. At the instance of one of the physicians the operation was delayed a day or two in order to allow of a trial of the local application of the nitrate of silver. This expedient also failed completely, and the operation was very skilfully performed by Dr. Howard, of Baltimore, October 26. No blood of any consequence was lost, but the patient sank rapidly, in spite of subcutaneous injections of brandy, and died in about an hour after its completion.

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[4] The Lancet, August 15, 1885, page 286.

[1] See page 121.

Dr. Minot had had occasion to perform this operation four times for excessive vomiting in pregnancy, the patients having been in each case in a state of alarming prostration. He also introduced a tent into the uterus in a fifth case with the intention of evacuating the uterus, when the symptoms ceased completely, and he declined to proceed farther. The patient, however, was dissatisfied with the result, and afterwards applied to another practitioner who carried out the procedure successfully. In a succeeding pregnancy she came under the care of Dr. Wellington, of Cambridgeport, with a recurrence of the same symptoms, maniacal excitement, with vomiting. Her condition was such that in consultation it was decided to induce abortion, which Dr. Minot did with Dr. Wellington's assistance, and the patient recovered perfectly. The second case was that of a lady who was so much exhausted that it seemed hardly possible she could survive the operation, which however was successfully done, after consultation with the late Dr. Charles Putnam. The vomiting ceased immediately, but many weeks elapsed before she rallied from the state of prostration to which she was reduced. The third and fourth cases were seen in consultation with Dr. Van Slyck, lately of Brookline, Mass. Each patient recovered rapidly after the operation. In conclusion, Dr. Minot said he had but little faith in the specific methods of relieving the excessive vomiting, though the first case above reported shows that occasionally they may be of service. Good nursing, careful feeding, including rectal alimentation, seclusion from all disturbance, and the administration of morphia will suffice, if employed with discretion and perseverence, to relieve a very large proportion of cases. When everything else fails, the induction of abortion is the only hope. If performed with antiseptic precautions, it is generally successful, but, as Dr. Doe well insists, only on condition that it be not too long delayed, and the patient unable to rally after it.

Dr. Fifield said he had seen several bad cases of vomiting in pregnancy, some of which were cured by very insignificant means, such as the application of a handkerchief wet with the tincture of opium and applied over the abdomen. Bromide of potash or choral have produced marked benefit. He mentioned a case of a woman in her second pregnancy said to be two months along. He passed a bougie into the uterus and let it remain over night. In the morning the woman was delivered of a fœtus fully three to four months old. The woman was relieved somewhat, but the vomiting did not stop, and she sank and died. If the abortion had been induced earlier, the result might have been different.

Another case was that of a woman two months pregnant, and vomiting excessively. Dr. Fifield saw the case, with a Catholic physician. He advised bringing on labor, and the physician resigned the case, his religion prohibiting his being present. Dr. Fifield passed a small bougie but with no result. For three days he tried to empty the uterus, but in vain. The vomiting continued. Finally he succeeded in passing a bent Simpson's uterine sound ten inches into the uterus and vagina. The uterus was ante-flexed. The next morning the ovum had come away. Within six hours the woman retained food, and gradually recovered, sitting up in one week, and she is alive now. It was a charming sight, this sudden change from death to life.

It is not wise to delay long, if relief does not come early from medicine.

Dr. Driver said that out of twelve hundred cases of pregnancy he has hardly seen a case of uncontrollable vomiting. One case was that of a woman, five months pregnant, who was taken with vomiting and purging in the month of August, and died in three days. It was really a case of cholera morbus. In consultation he has seen two cases of obstinate vomiting. The first was that of a woman six months pregnant, with whom everything had been tried. It was decided to start labor in the evening, but before that time pains came on. The woman vomited some for a year afterwards, and during this time developed paraplegia, recovering after two years. Some time later he was called to see a sister of this woman, and for the same purpose. In her he recognized a former patient whom he had attended at term. At that time, on digital examination, the finger passed into a slit on the right side of the os uteri, which he believed to be the entrance into the right half of a double uterus, and the child was born from the left os. In the present instance examination revealed a double os, symmetrical, with apparently a bag of water beginning to distend each. She was six months pregnant, and the problem was, which side contained a fœtus, or did both, and if a bougie were to be passed up, which side should be selected. Fortunately, pains came on, and it was soon apparent that the right side was pregnant, and that the seeming bag of membranes at the left was the thin and distended septum. As the fœtus passed down through the right os the left os became a mere slit. He was convinced that the uterus was double. The patient made an excellent recovery, although her condition had become very critical from the long-continued vomiting.

Dr. Marcy reported the following interesting cases. The first was a young, healthy woman, recently married, who had been under the thoughtful care of a wise physician, himself a member of the family.

The stomach was intolerant to all food. Rectal alimentation had been resorted to, but emaciation had gone on rapidly, followed by alarming symptoms which appeared to seriously threaten life. Pregnancy had advanced to something beyond the third month. The position of the uterus was normal; it was movable and not tender; and the cervix was long and narrow. Forcible dilatation was twice repeated to the os internum to the extent of an inch, without the slightest relief. Abortion was instrumentally induced and was followed by a slow but perfect recovery. So far as known the patient has not since been pregnant.

Case II. The patient, about twenty-five years of age, had been delivered of one child two years previous to present pregnancy. Had always been a strong, healthy, vigorous woman, there being nothing especially noteworthy at the first pregnancy. Vomiting supervened at about the sixth week, and was continuous and persistent until at about the tenth week the exhaustion was extreme. Feeding had been resorted to in fluids repeated at very short intervals, also by rectal alimentation. The uterus was normal, apparently, in its position and development. Its position was changed by a long arched retro-uterine pessary without relief. As in the first instance, life seemed in the greatest danger, and here also the cervix was widely dilated without the slightest avail. Instrumental abortion was followed by a slow but complete recovery. Patient has remained sterile, but well.

Case III. Patient seen in consultation with Dr. Couch, of Somerville, and was in a very weak, exhausted condition. She was a primipara and about thirty years of age, described as being a strong, vigorous woman. Pregnancy at about the third month. Abortion had been advised, but refused as contrary to the rites of the Catholic church. Here dilatation was effected, but entirely without result, and the patient sank from exhaustion and died a few days later.

Dr. Marcy emphasized the importance of not waiting until the patient was in the last extremity, and thinks in the two first cases the recovery would have been much more satisfactory if the abortion had been performed earlier. He criticized the older methods of inducing abortion, with a sound, bougie, tents, etc., as unsatisfactory and dangerous. When necessary it should be done as a surgical aseptic operation. A vagina thoroughly cleansed, the cervical canal rapidly dilated instrumentally, and the uterus emptied at once of its contents. The vaginal track, after contraction of the uterus has occurred, should be carefully protected by iodoform dressing. In this way almost only, can safety from the dangers from hæmorrhage and septicæmia be secured, while the danger from shock would appear to be less under ether with the operation reduced to the minimum of time than when long drawn out through hours of exhausting pain.

Dr. Weeks remarked that he thought many of the severe cases of vomiting in pregnancy occur in women who do not wish for children. He mentioned a case of a woman who had miscarried three times, once with a blighted ovum. There was excessive vomiting and salivation, followed by deep excoriations of the face. She was treated with great care. Enemata and the usual remedies were used, and a consultation was held. Premature labor was advised. There was a short anterior vaginal wall which probably bound the uterus down somewhat. A bougie was passed into the uterus, and as soon as pains were produced it was removed, and a sponge tent and tampon were inserted. The vomiting did not stop at once, but later the patient did finely.

Dr. Kelly, in response to a call from the chairman, made a few remarks on the relation of physiology to the etiology and the therapeutics of the morbid action under discussion. He indicated the scope of his views by instancing Curare, a representative member of the Motor Depressants, as a rational agent in the treatment of those grave cases which at present demand, as a *dernier ressort*, such a procedure as the induction of abortion, an operation which may well be stigmatized as the opprobrium of the "opprobria of medicine." He consented to enter more fully into the subject at next meeting.

Dr. John Dixwell wished to be recorded as wholly in favor of inducing abortion with due care in all cases of much prolonged and dangerous vomiting of pregnancy, because this method alone, he believes, will as a general rule save the mother's life, and needless suffering, all suggestions or tendencies based on religious views to the contrary. At this time he was attending just such a case.

Dr. Chadwick said that he had been justified in his expectations of obtaining from Dr. Kelly a suggestion at least, of a theory which might bind together the apparently incongruous facts reported so abundantly by others.

Dr. Chadwick had himself got a clue which he hoped might, when followed up, perhaps lead to an explanation of the ordinary nausea and vomiting of pregnancy. In treating patients affected with nervous prostration, by Dr. Weir Mitchell's plan of frequent feeding, he had been early impressed with the immunity from nausea and faintness which resulted from the frequent administration of food. He had immediately adopted the same plan for the relief of the nausea of pregnancy with striking result. The "morning sickness" was almost invariably averted by a late supper and by milk during the night. A friend had recently told him of relief to the same nausea of pregnancy by the chewing of spruce gum. On trial this proved to be true in a number of instances, but not invariably. These two experiences naturally associated themselves together in his mind, but he could find no element of similarity except that in both cases the flow of saliva was promoted. This suggestion received some corroboration from statements that he had recently read in the journals of nausea alternating with salivation. He was loth to accept all these facts as due simply to the chemical effect of the free flow of saliva into the stomach, but was seeking an explanation in some physiological law governing the stimulation of the salivary glands and the stomach by changes in the nerve centres, induced by conditions of the womb.

Dr. E. W. Cushing showed several microscopic preparations of the various septic bacteria, as well as the typhoid bacillus, and the pneumococcus and others, of his own putting up, in explanation of a paper to be read at the next meeting.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting January 21, 1886.

The order for the evening was a

DISCUSSION ON REFLEX SYMPTOMS IN NASAL AFFECTIONS.

It was opened by Dr. E. Gruening, of the Section on Ophthalmology, who said that in his remarks he could exclude ocular affections resulting from extension of catarrhal processes from the Schneiderian membrane. Having mentioned that hemicrania and asthma had been cured in a considerable number of instances by the removal of sources of irritation in the nasal passages, as reported now by many observers, he remarked that to the ophthalmologist the reflex affections of the nose were of very great interest. The connection between the latter and the eye was intimate, and the relations between the two were reciprocal. Thus, irritation of the nasal mucous membrane frequently produced lachrymation and other eye-symptoms; and in the case of certain irritable eyes, exposure of the organ to a strong light brought on attacks of sneezing. Knowing that ocular symptoms were met with in connection with nasal affections, one might reason *à priori*, if there were no other apparent cause, that the former are dependent on the latter; and if, after appropriate treatment, the eye symptoms still persisted we could conclude *à posteriori*, that such was the case.

In simple cases the instillation of cocaine into the nostrils often afforded a satisfactory test as to whether the ocular trouble was dependent on nasal irritation or not; for if it afforded relief to the eye-symptoms, we might conclude that the latter were to be attributed to the condition present in the nose. Dr. Gruening then related several cases of his own, as examples, in which the eyes were affected for many years in consequence of comparatively mild affections of the nasal mucous membrane, and in spite of the most persevering and skilful treatment directed to the ocular condition; but in which the eye trouble promptly disappeared as soon as the nasal affection was removed by appropriate treatment.

All the cases, however, were not of this simple character, and he then related several in which the reflex eye-symptoms were due to more serious pathological conditions of the nasal cavities. In these also, the eye trouble disappeared as soon as the source of irritation in the nose was removed. In one instance where the patient had suffered for many years, the eyes were permanently cured on the very day that a large mass of hypertrophied tissue was removed from the nose. During the past two years he said he had met with some two hundred cases in which he could refer the ocular symptoms to nasal trouble; but the treatment, which varied according to the circumstances of the case, was not always successful. In most of the unsuccessful cases, however, the patients had disappeared before the treatment was completed, or perhaps even fairly commenced. Still in about one hundred and fifty of the two hundred, complete relief had been afforded by the removal of abnormal conditions of the nasal passages.

Among the symptoms mentioned as most frequent in these cases of reflex eye trouble were: burning and smarting sensations in the eyes, more pronounced in the morning; inability to fix an object in ordinary daylight; irritation and gluing together of the lids; extreme sensitiveness to cold and wind; lachrymation. Other characteristics were: inefficiency of ocular treatment, and efficiency of nasal treatment, even in spite of the absence of nasal symptoms.

Dr. Thomas E. McBride related five cases which he thought served to illustrate the general subject under discussion. The first was that of a gentleman who consulted him in 1882, for well-marked migraine. The attacks were typical in character, and lasted for about eighteen hours, leaving him completely exhausted. In addition to appropriate hygienic and dietetic measures, he placed the patient on the use of arsenic and extract of cannabis indica. The former he gave up in about six weeks, but the latter he continued, in increasing doses, for fourteen months. By this time the seizures were less frequent than formerly; but the patient had become disgusted with the cannabis indica, and complained that it made him sick. Indeed, he now suffered from almost constant nausea. In consequence this remedy was withdrawn and he was placed on the use of bromide of sodium, under which the attacks of migraine became less frequent still. While in Europe, however, he consulted Hach, who discovered that he had post-nasal catarrh, and the successful treatment of this completely and permanently cured the migraine.

The second case was that of a boy of eleven, who for several years had suffered greatly from headache, which was always much worse in winter than in summer. It was frontal in character, and it having been discovered that he had nasal catarrh, he was placed under treatment for this, and afterwards had no more headache.

The third case was that of a lady of neurotic antecedents, who was affected with lithæmia, had suffered from neuralgia and headache. The latter was situated in the upper part of the forehead, and extended towards the vertex. She was referred to Dr. Lefferts, who found that she had hypertrophy of the mucous membrane of the inferior turbinated bones; and the appropriate treatment of this condition put an end to her headache and neuralgia.

The fourth case was that of a married lady of fifty, in whom the menopause had taken place at the age of forty. She suffered from hemicrania and hay fever, but was cured by the local treatment of the nasal mucous membrane by a rhinoscopist.

The fifth case was that of a married lady who suffered from difficulty of deglutition and the regurgitation of food into the mouth after it had been swallowed. Four years ago she was treated in Europe for post-nasal catarrh, and had some still. There was undoubtedly gastric catarrh present also. Dr. McBride placed her on the use of iron and arsenic, and applied to the nasal mucous membrane a spray of four per cent. solution of cocaine, with the effect of completely relieving the symptoms mentioned, and thus far there had been no return of them.

Dr. B. Robinson called attention to the fact that nasal diseases might produce reflex affections of the respiratory and digestive tracts, the genito-urinary apparatus and the cutaneous surface. On the present occasion, however, he said that he would limit his remarks to hay fever and asthma. It was time, he thought, that the designation, hay fever, was given up and that the affection thus called should be given its true name, vaso-motor coryza, as proposed by Dr. John N. McKenzie, of Baltimore. It was a curious fact, however, that the old pollen theory had recently been again brought into prominence by the advocacy of no less an authority than Morrell Mackenzie, of London; though it was no longer accepted by the great mass of observers. Still, pollen undoubtedly acted as an irritant in certain cases. Dr. Robinson then gave a sketch of the researches of Beard, who tried to prove that hay fever was a purely nervous affection, and of Daly, of Pittsburgh, who five years later showed its dependence on local conditions in the nasal cavities. Since then much light has been thrown on the subject by Roe, Sajous, Bosworth, and John N. McKenzie. The nasal trouble present in any case might be either permanent or temporary.

Sometimes cough was dependent on nasal conditions, as, for instance, the presence of a polypus, deviated septum, atrophy, hypertrophy, and chronic rhinitis; but although asthma sometimes occurred in connection with these conditions, they might, of course, exist without giving rise to asthma. In this connection he related the case of a well-known physician of a neighboring city, who suffered greatly from the latter affection. A number of polyps were removed from his nose, but the asthma, which was no doubt dependent on an old bronchial catarrh, still remained. It was not to be forgotten, also, that asthmatic symptoms might be the result of reflex influence from abnormal conditions of other organs, such as the liver, stomach, uterus, and even the spleen. In every case of asthma it was necessary to make a thorough investigation of the cause.

In regard to the nasal mucous membrane, Dr. Robinson said that in all probability, there were areas of special sensibility at times; but his own observations went to show that these were not constant. The sensibility was probably less circumscribed and more general than had been supposed. Apart from any nasal trouble, there must be a special personal tendency, since there were many cases of nasal disease without any resulting reflex conditions.

Cocaine had been recommended as of special service in making the diagnosis of nasal affections, on account, first, of its anæsthetic properties; and second, because it diminished the congestion of the parts. He was convinced, however, that cocaine was not always a successful anæsthetic, especially after it had been used for some time; and that, while its primary effect was to diminish the vascular supply, subsequently, its action was to increase this. Dr. Robinson spoke particularly of the good effects of carbolic acid in the treatment of nasal disease.

Dr. W. H. Goodwillie exhibited several wax casts of nasal difficulties in which he had operated. One was a case of deviated septum, with exostosis and hypertrophy of the mucous membrane; in another, there was a complete occlusion of the right nostril; and in another, in which the patient was a sufferer from hay fever, there was hypertrophy of the inferior turbinated bones, with dilatation of the pharyngeal orifice of the eustachian tube. In concluding his remarks, he said that the sickness often complained of in these cases of nasal disease, was generally produced by the fœtid secretions which get into the stomach, causing nausea, and interfering with digestion.

Dr. Simon Baruch thought that this whole subject was entirely too much neglected by the general practitioner, and yet it was one which concerned him almost as much as the specialist, since, in a large number of these cases, there was no very well-defined nasal trouble. Since the publication of Hach's treatise, he had investigated the matter to a considerable extent, having secured a dispensary appointment for the special purpose of obtaining the opportunity of making rhinoscopic examinations, and learning how to treat nasal difficulties. He would, therefore, avail himself of this occasion to briefly relate six cases in which various reflex symptoms were overcome by the use of nasal treatment. One was a case of reflex cough, two were cases of headache, occurring in young girls, one was a case of asthma, and one was a case of severe pain in the right side of the throat, associated with excessive sneezing. In the latter instance, he found enlargement of the lower turbinated bone of the right side, and other nasal troubles, and the treatment adopted was that by the galvano-cautery. He had also had a number of unsuccessful cases, but to these he would not refer particularly.

He regretted that in the discussion, nothing had been said in regard to the examination and treatment of this class of cases, as it was highly desirable, he thought, that general practitioners should be able to recognize and treat them before they got so bad that it was necessary to send them to the specialist. One of the most frequent conditions present was hypertrophy of the turbinated bones, and in his own experience, he had usually found that this was easy to recognize, while the application of the galvano-cautery, if a good battery was employed, was an easy and efficient method of treatment.

Dr. Henry Schweig said that he must take exceptions to the last remark of the previous speaker. He believed that there was no procedure which required more care and judgment than the use of the galvano-cautery, so that, as a rule, only an experienced specialist was capable of properly applying it. While its judicious employment was very efficient, he felt convinced that the abuse of this method of treatment was much more common than its intelligent use. In order to accomplish the desired end, it was necessary to destroy the cavernous tissue without injuring the secreting surface of the nasal cavity, and the application should always be made from within outwards, instead of the reverse. Unless the greatest care were used, serious and permanent harm would result to the patient, and one very common error was to use too high a degree of heat, a dull red heat being all that was required.

The President, Dr. A. Jacobi, said he would take this opportunity to make some observations in regard to a point to which attention had never hitherto been called, so far as he was aware. For a considerable number of years, he had noted the influence of catarrh, hypertrophy, and other changes in the naso-pharyngeal cavity upon parts of the nervous system, which had not been alluded to in the present discussion. In a large number of children, there were found what are known as peculiar bad habits, such as winking, frowning, drawing up the nose, twitching of the face, and shrugging of the shoulders. He had ascertained, however, that frequently, these nervous phenomena were not due to bad habits at all, and thought, therefore, that any so-called bad habit should be investigated for the purpose of finding out its origin. These cases were not always simple. What was at first a local chorea minor, sometimes resulted eventually, in a general chorea minor. Some twelve years since, his attention had been called by a work published in Bremen, to the fact that hemicrania is sometimes dependent on chronic pharyngitis and amygdalitis; and since then, he had seen hundreds of cases in which this local chorea was associated with conjunctivitis, rhinitis, pharyngitis, enlarged tonsils. In every case of local chorea, he had found chronic nasal catarrh and chronic pharyngitis, and he had never found the nasal trouble without the pharyngitis. In many instances, it was difficult to determine which of the two had been the original affection.

It was well known, he went on to say, that what is known as the third or pharyngeal tonsil, in the back of the fauces, was frequently the cause of retro-pharyngeal abscess; but he believed that inflammation and enlargement of this pharyngeal tonsil was also a common cause of chronic pharyngitis and chronic rhinitis. This also occasioned migraine and hemicrania, and it was evident, therefore, that the whole naso-pharyngeal mucous membrane was capable of giving rise to these reflex nervous symptoms. It was a point of practical importance to know that very often, the treatment of only one small spot was all that was required in a case.

Recent Literature.

A Manual of Auscultation and Percussion. By Austin Flint, M.D., L.L. D., Professor of Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College, etc., etc. Fourth edition, thoroughly revised and enlarged. pp. 280. Philadelphia: Lea Brothers & Co. 1885.

This admirable little book is too well known to require any extended notice. That a third and large edition has been exhausted in little more than two years, is evidence that the book is appreciated. We ourselves have used a former edition as a text-book in teaching the physical examination of the chest, and can consequently speak from personal experience. The new edition is improved by the introduction of some plates taken from "Weil's Typographische Percussion," and plates and diagrams illustrating points in cardiac physiology and pathology. We trust that a fifth edition will be demanded as soon as has been a fourth.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs. By R. C. M. Page, M. D., Instructor in the New York Polyclinic, etc. New York. 1885.

This chart is printed on a sheet of heavy paper about a foot square, and folds, like a map, between covers three inches by seven. In parallel columns, are set forth the physical signs of the lungs in health, and in the more common diseases to which these organs are subject. With regard to this portion of the chart, we have no special criticism to make. In that portion dealing with the heart, however, we are struck by the entire absence of any allusion to the modification in the size of the heart, which are so important in differentiating functional from organic disease, and the different forms of valvular disease from one another. The characteristic and unfortunate tendency of the student to magnify the importance of a murmur, perhaps the weakest link in the chain of evidence which convicts a valve, is thus encouraged. This is, in itself, a fatal objection to the chart, which, we trust, students will *not* buy. F. C. S.

Inorganic Chemistry. By Edward Frankland, D.C.L., F.R.S., Professor of Chemistry in the Normal School of Science, London; and Francis R. Japp, F.I.C., Assistant Professor of Chemistry in the Normal School of Science, London. With fifty-one illustrations and a plate. Philadelphia: Lea Brothers & Co. 1885.

This volume is an addition to the already long list of text-books on chemistry. We do not believe there is much demand for an additional book of this character, inasmuch as there are several good works on Chemistry from which one may make a choice. It is gratifying, however, to be able to say that this one will take a place among the best of these. It is very complete, and the information contained in it is accurate. Nearly one-fifth of the book is devoted to theoretical chemistry, the remainder to descriptive inorganic chemistry.

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THE POLICE AND THE PROFESSION.

ON at least two different occasions, now some months ago, the medical profession of Boston were interviewed by police officers in their efforts to ferret out hidden criminals. In one instance a safe had been blown open and for certain reasons, notably the presence of blood in the vicinity, it was supposed that one of the burglars had been seriously injured. As one means of information the physicians of the city were systematically canvassed by the police to find out what information if any they could give upon the subject, the patrolmen being instructed to interview the doctors on their respective beats. Each doctor was asked if he had been called upon to attend any wounded man during the day.

On a previous occasion when a burglar who was thrown out of a window by the owner of the house which he had feloniously entered, and was known to have had his leg broken by the fall, had escaped the police, disappearing while the humane officer who had discovered him was seeking a suitable conveyance in which to remove him, the physicians were canvassed in a similar manner to know what broken legs they had seen during the day.

Now it is a most ingenious and labor-saving way evidently for the police to gain information, but from the physician's standpoint there is at least a question as to the propriety of resorting to this method. Probably no individuals are more law abiding, as a class, or more inclined to assist in the execution of the laws. We doubt if any objection to answering such questions was made by any of the individuals questioned. Perhaps it was a legitimate method of obtaining information in the cases mentioned, but a question arises whether the method once recognized as a legitimate field of detective research might not lead to unpleasant complications.

It cannot be assumed that every criminal has a right to inflict his confidence upon any doctor he may choose to call and thereby bind that doctor to secrecy. But the communications of patients are in general to be looked upon by the physician as inviolable. The laws of Massachusetts do not regard such communications as privileged and it is therefore the more incumbent upon physicians to maintain the public sentiment which would give them a moral support in refusing to divulge the secrets of their patients.

The objection to the proceedings of the police which we have detailed arises not so much from objections to these particular instances as from the fear of cultivating the idea that physicians may be indiscriminately questioned in regard to their patients.

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DISEASES COMMON TO ANIMALS AND MEN.

A FUNDAMENTAL likeness of form, of function and of composition runs through the whole animal kingdom. Anatomically, there is no wide difference between the human frame and that of the higher vertebrate animals, and a marked homology of structure binds all in one grand unity of type. It is well known that Galen and other ancient anatomists learned their anatomy by the dissection of apes. Physiologically, there is no more difference than varying habits of living entail; the biological history of man is, with trifling modifications, like that of his brute congener. Histologically, all higher animals are constituted on the same type, and chemically, this is also the case; man lives by assimilating the substance and the forces of the animal, or the proximate principles common to both the animal and the vegetable. Psychologically, it may be argued that the animal has a similar mental, as it has a similar nervous constitution, and what is more remarkable is that certain members of the animal kingdom which seem most unlike man in structure, the bees and the ants, resemble him the most in their psychical traits, as the researches of McCook and Sir John Lubbock go to show.

Pathologically, the likeness also holds good. Pathology being morbid physiology, the disturbances of function in animals and in man are notably similar. Like morbid causes produce like symptoms and like effects in both. Hæmorrhages, overwork, insufficient alimentation, impure air, exposure to excessive heat and cold, mineral or vegetable poisons, viruses have similar consequences in man and in the brute. Hence it is that the diseases of men and animals are the same as far as they are subject to like conditions. Among these diseases, may be specified tuberculous phthisis. This disease, especially prevalent among cattle, (*pommelierè* of the French, bovine phthisis of the English), has been witnessed in all the domestic animals. It is a malady which is almost peculiar to civilized life, and the conditions of faulty hygiene and of contagion (for we are warranted in ranking phthisis in a restricted sense, among the contagious diseases), which engender it in man also produce it in the brute.

Bronchial and other affections due to exposure to cold and wet, are witnessed as well among the lower animals as among men, and the same may be said of the whole category of pulmonary, pleuritic, and pericardial affections. Rheumatism is not uncommon in such animals as the dog and horse, often taking on a chronic and deforming character. There are, besides, certain pseudo-rheumatisms, the result of exhaustive toil, meagre diet, excessive copulation — any one or all of these causes combined — which have been observed in both men and animals, and the jaded horse shares the infirmities of joint and muscle from which his jaded master suffers.

Among the diseases of the nervous system which have been seen in the domestic animals, are, besides the organic and inflammatory diseases of which they occasionally partake in common with man. (meningitis, cerebral abscess, myelitis, etc.), epilepsy, chorea and neuralgia. Megrims have been witnessed in apes, and other pains of a distinctively neuralgic type; chorea is quite frequent in pampered dogs and cats; "fitty" dogs, horses, cats, hares and guinea pigs have been seen by almost everybody. Diseases from indigestion are very common in the domestic animals, especially such as lead an indolent life and are much petted. From all forms of syphilitic disease, the more chaste, exemplary brute animal is fortunately exempt.

Pathological states being essentially the same in men and in animals that most resemble man the outward manifestations or symptoms of these states are similar. Two remarkable instances of this similarity are given by Bouley; the gastric vertigo of horses, and the hallucinations which in animals follow the bite of a mad dog. Between the actions of a dumb animal in the presence of an imaginary foe, and defending himself by his hoofs and horns, and a man in prey to delirium, who also sees his imaginary foes, and flees them or attacks them, there is little perceptible difference.

Among the diseases common to men and animals are certain verminous affections. All fish, all birds, quadrupeds and men are liable to be infested by entozoa; there are more than sixty species that prey on mammals and on man. The similarity of pathological conditions to which all are subject is nowhere better shown than in the history of the various species of tænia, and their relation to the human and animal organisms; it is a subject which is now tolerably well understood, owing to the labors of Davaine, Lenckart, Cobbold and others.

The correspondence between human and animal diseases is especially conspicuous when we compare the diseases of the horse — that domestic animal whose pathology we know the best — with those of man. Any recent work on Veterinary Medicine — that of Jennings for instance — reads very much like a treatise on human pathology, and the therapeutics of both do not much differ. There is hardly an ophthalmologist, moreover, who has not at some time been called upon to treat in the equine quadruped the very kind of eye diseases which he sees daily in his private practice, and it is well known among farriers that cataract is a frequent cause of blindness in this noble animal.

The study of comparative pathology has nowhere been productive of such beneficient results as in the department of epidemic, contagious and infectious diseases, but upon this subject, which constitutes the burning question of pathology of the day, we shall not enter.

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ADULTERATION OF FOOD AND DRUGS IN NEW YORK.

A meeting of the New York State Board of Health was held at Albany, February 2d, when an elaborate review of the work of the board during the past year, prepared by the late secretary, Dr. Alfred S. Carroll, was read by Assistant Secretary Carman. Prof. S. A. Lattimore, of the University of Rochester, gave an outline of his investigations of the processes commonly employed in the manufacture of dried fruits as affecting their value and wholesomeness as an article of food. He pointed out the magnitude of this industry, especially in the State of New York, and the importance to the public of the conversion of a perishable and bulky article into a highly condensed product, easily and cheaply transported and capable of indefinite preservation; and showed that the examination of a large number of samples gave no ground of apprehension of danger to the public health. The full text of his report will be embodied in the annual report of the board.

Prof. G. C. Caldwell, of Cornell University, made a report of his work in the department of vegetable alkaloids in the examination of drugs, in which it was stated that in various specimens of citrate of iron and quinine examined there was a considerable departure from the official standard. He submitted a list of the samples purchased in various parts of the State, (very few of which were up to the legal standard), the names of their manufacturers, and the percentage of quinine which they contained.

Professor Tucker reported that since November 1st, he had examined fifty-one samples of drugs and thirty-five of vinegar. Among the former were ammonia, benzoic acid, oxalate of cerium, oxide of zinc, magnesia, chloroform, carbonate of ammonia, and iodoform. Of the fifty-one samples, twenty-five are claimed as good, eighteen as fair, seven as inferior, and one sold by error. The samples of vinegar have shown a great diversity in strength. The highest percentage of absolute acetic acid found was 6.2, and the lowest 2.3; the average percentage being 4.14, while the legal standard is 6 per cent.

A resolution was passed to the effect that the persons making sales of drugs or medicines not up to the proper standard should be notified and ordered to cease their sale. In case of their persisting in the practise after this warning, prosecutions will be instituted. A careful supervision of the manufacture and sales of foods and drugs has become a necessity in every modern State. . . . The temptations to carelessness and sophistication in the preparation of these articles are irresistible, and the consequences may be so serious that some restraint upon the liberty of the citizen is unavoidable.

MEDICAL NOTES.

— "Born to Mr. and Mrs. Martin Haggerty, December 30th, 1885, a daughter, weight eight and one-half pounds. Mother and child doing finely, thanks to Dr. ——, who is destined to become one of our leading physicians." — *Herkimer* (*N. Y.*) *Citizen*.

— A despatch to the *Boston Herald*, under date of Montreal, Que., Jan 21, 1886, says that Dr. Trimble, superintendent of the health department, has sent in his resignation to the local board, on the ground that there is not a single case of small-pox in the city, and, so far as known, in the suburbs. There have been no deaths in the latter for some days.

— It is interesting to note that in the nine Prussian Universities during the session 1884–85, 569 doctors and candidates in medicine were examined for the license to practise (*Venia Practicandi*). Of these, 120 presented themselves for the second time, the remaining 449 being new candidates. More than 75 per cent. passed (430), four of these with the mark "very good," 270 with "good," and 156 "satisfactory."

— Another medical journalist has died, Dr. Amédée Dechambre. The death took place from apoplexy, on the 4th ult., in the seventy-fifth year of his age. He was the editor of the *Gazette Hebdomadaire*, and was for many years connected with the Parisian medical press, of which he was the *doyen*. He was also member of the Academy of Medicine, physician to the Council of State, and officer of the Legion of Honor.

— The *Indian Medical Gazette* of December, contains a short account, taken from a Bombay newspaper, of the death of four prisoners in the hospital of the common jail of Bombay, by poisoning. They had been ordered sulphate of cinchonine, but the hospital assistant, Vithul Lingoo, administered strychnine by mistake Death was almost instantaneous. A fifth prisoner who had taken a smaller dose became seriously ill, but his recovery was considered probable.

— An esteemed daily contemporary contains, among its special daily telegraphic hydrophobia telegrams, the following, which is mildly surprising, even after the abundant exercise of the imagination, which the last few weeks of journalistic science have produced. We suppress merely the name of the physician:

> Albany, N. Y, February 2, 1886. A special from Cohoes says: "George Waterhouse, fourteen years of age, some six years ago, was bitten by a dog in Lansingburg. For the past week, the boy has shown signs of hydrophobia. His condition became alarming, and Dr. ——, of Troy, was called, and administered all the medicines usually used in such cases, but to-night it was deemed advisable to smother him."

— The artists and sculptors of London seem likely to have a good time just now, in perpetuating the outward presentment of some of the leading members of the medical profession. Beside the bust of Sir James Paget, by Boehm, which is commissioned for the Royal College of Surgeons, the *British Medical Journal* hears of projects on foot for testimonial busts or portraits of Sir Henry Pitman, Sir Henry Acland, Professor Humphry, and Professor Redwood.

— A London paper tells of a farmer who picked up a vaccine point which had been left on an apothecary's counter and picked his teeth with it, pricking his gums and effectually vaccinating himself.

— The United States Consul at Hiogo, Japan, reports, that during the month of October last, 1208 cases, and 628 deaths from cholera, were reported in Osaka vicinity, and in Hiogo and Kobe, there were 354 cases, and 227 deaths from cholera, during the same period. During the month of November, there were 58 cases, and 47 deaths from cholera. In the Province of Huelva, the extreme south-western province of Spain, there were, from November 6 to 26, 42 deaths from cholera. In France, the cholera was still prevalent in the Department of Finistere, on December 7, the date of the last consular report. During the twelve days, from November 26 to December 7, inclusive, there were 160 cases, and 62 deaths.

— The *Birmingham Medical Review* is responsible for the following anecdotes of two eminent Scotchmen: The late Professor Syme, of Edinburgh, was not very fond of medical visitors to his wards, in the Royal Infirmary, and did not hesitate to hand them over to his house-surgeon, with little ceremony. Syme was very proud of the number of times he had ligatured the femoral artery. At his death, we believe, he had performed this operation seventy-five times, in all. One day, when showing a Frenchman round his wards, he had occasion to draw his attention to a recent case of this kind, and asked his visitor, with pardonable pride, how many times he thought he had tied that vessel. "Oh! t'ousands!" said the Frenchman, an answer which very speedily sent Syme to his carriage, in no small dudgeon.

— The late Professor Laycock was very fond of drawing attention to hereditary peculiarities. One time, in the middle of a lengthened exposition of the features, in common, of a mother and child, the woman, perhaps, a little uneasy, stopped him, saying, "A weel! I'm no the bairn's mither, I'm just his step-mither."

— Dr. Heywood Smith, who figured in the trial of Editor Stead, of the *Pall-Mall Gazette*, as the physician who examined the girl, Eliza Armstrong, has been reprimanded by the Royal College of Physicians. Dr. Smith sent explanations, and an apology to the College, and the President and Censors in their report upon these communications recommended the adoption of a resolution, that "the College, while acquitting him of deliberate intent to do evil, desires to put on record an opinion that he has committed a grievous error in connection with the Armstrong abduction case, which has brought discredit on himself and the profession to which he belongs. The College, therefore, regards his conduct as deserving the severest censure, and requests the President to express the views of the College, and to reprimand him accordingly." The President accordingly addressed to Dr. Heywood Smith a severe reprimand, and warned him to be careful as to his conduct in the future.

— It is said that the teeth of all children attending the communal schools in Brussels, are examined by order of the State, and during the year 1882–83, no fewer than 1,250 pupils required the services of the dentists. The managers of the North Surrey District School, Anerley, England, have appointed a dentist to attend weekly, in order that the children may have proper attention paid to their teeth.

— There have been recently abundant subscriptions to Lady Dufferin's Fund for providing the women of India with female medical aid.

— We learn from the *Lancet* that at the Birmingham Police Court, recently, summonses were taken out by the Inland Revenue against a shopkeeper for selling, and against a firm of manufacturers for supplying, certain drinks, under the name of temperance wines, which were alleged to be intoxicating. An analyst to Somerset House gave evidence that the port wine was a fermented liquid containing 17.4 per cent. of proof spirit; the sherry was a liquid of the same description, and contained 19.6 per cent. of proof spirit: thus showing that a large proportion of alcohol was hidden under the seductive title with which the bottles were labelled. Another compound of a similar kind was sold under the name of "hot Tom," the purpose of which was to give a spiced flavor when added to beer. It was suggested for the defence that fermentation must have occurred after the wines had been bottled; but the absence of carbonic acid in any quantity, proved that this could not have been so. The salesman was fined 1*s.* and costs, the manufacturers £10 — a penalty which, our contemporary thinks, will probably stop the sale of this particular form of refreshment, but which will be of more service in calling the attention of teetotalers to the nature of the trade in powerful stimulants sold under tempting and unsuspecting names.

Miscellany.

A CASE OF ULCERATIVE ENDOCARDITIS.

Professor Purser made a communication to the Academy of Medicine, in Ireland, (*Dublin Medical Journal*, January, 1886), upon a case of ulcerative endocarditis, the second he had seen. The patient, a man aged twenty-two, had had rheumatic fever three or four years previously, and had lately been very intemperate as to strong drink. On admission to hospital, he was delirious, very violent, temperature 104°, pulse regular and strong, complained of pain in his head and ears. His heart and lungs were carefully examined and found normal. The only lesion visible on his person was a small, recent scar on one knuckle, surrounded by loosened epidermis, as if a pustule had been present, which had burst before admission. There was no glandular enlargement in the arm, nor anything abnormal in its veins or lymphatics. On October 24th, a careful examination could detect nothing abnormal in either heart or lungs, but on the next day, Professor Purser discoverd a loud systolic valvular bruit, which had certainly not been present on the 24th. This determined him to the diagnosis of ulcerative endocarditis — a diagnosis which the subsequent *post-mortem* completely established. The delirium and fever continued without much intermission till his death, which was preceded by œdema of the lungs, the bruit continuing all through. At the autopsy, hæmorrhages were found in the brain, lungs, spleen, kidneys, intestines, and the retinæ. The heart and its valves were practically healthy, with the exception of the mitral valve, whose posterior curtain was ulcerated and completely disorganized, the surface of the ulcer being ragged, and covered with a diphtheritic-like deposit.

The microscope showed that this diphtheritic deposit, as well as the innumerable small hæmorrhages in the various organs (except those in the lungs, in which no micrococci could be detected), were caused by masses of micrococci, many beautiful specimens being shown at the meeting, where the vessels were visibly plugged by micrococci. Professor Purser could find no other door of entrance into the body for the micrococci in this case than the small patch of abrasion on the knuckle. In the former case he had seen, there had been suppuration of one of the vesiculæ seminales.

A NEW SOURCE OF QUININE.

It is not generally known that the present cheapness of quinine is, in great part, due to the discovery of a quinine-yielding bark in a plant, which is not one of the cinchonas. We learn from the *Indian Medical Gazette* that *Cuprea* bark contains quinine, and as the plants grow readily near the coast, it can be cultivated and the bark exported at very much less cost than cinchona bark, which has to be carried from the hills to long distances at great expense. There are several varieties of *Cuprea* bark. "New Remedies," No. 8, p. 41, gives the following particulars regarding two of these varieties. *Remijia pedunculata* contains quinine and homoquinine, while *Remijia purdieana* contains little or no quinine, but an alkaloid, which has been named cinchona by its discoverer, M. Arnand. Homoquinine is a double alkaloid, as shown by Messrs. Paol and Counley (*Pharm. Journ.*, March 7th, 1885, p. 730). It can be split up into quinine, and another alkaloid known as *Cupreine*, in the proportions of about one of the former to two of the latter. Homoquinine forms a sulphate less soluble than that of sulphate of quinine, which apparently shows that it has entered into the commercial quinine, made from *Cuprea* bark, until a short time ago, when a mode of separating it from quinine, was discovered.

Dr. King, the Superintendent of the Bengal Government, Cinchona Plantations, in his Annual Report for 1884–1885, says that *Cuprea* bark has been poured into the London market in very large quantities. It is not very rich in quinine, but its quinine is easily extracted; and, being produced near the coast, it has been possible to put this bark upon the home market at a small cost, and thus, to a large extent, to oust the cinchona barks which had been exclusively used in quinine manufacture. Some seed obtained from South America was planted in Sikkim by Dr. King, but although forty seedlings were raised, they were not very vigorous, and it is thought that the climate of Sikkim is not well suited to them.

CITY AND SUBURBAN RAPID TRANSIT FROM A SANITARY POINT OF VIEW.

THE *Sanitary Engineer*, in its issue for January 28, discusses this subject. After mentioning the desiderata for passenger traffic, as comfort for the patrons, rapidity of transit, a minimum of annoyance to non-travellers, and low cost, it condemns all existing methods which involve the use of land which is employed for other purposes, as public streets, and of elevated and tunnel roads. It says: "It is certain that the requirements of rapid transit are not fulfilled by railroads on the surface of the ground, on which heavy motors, noisy in their operation, run at high speed, as they do in the suburbs of Boston, New York and Philadelphia. They are not fulfilled by passenger-cars, heated by coal-stoves, and swept by a draught of cold air from a tilting transom over the end door, as is the barbarous custom on the Pennsylvania and Hudson River Railroads. They are not fulfilled by iron-trestles built over public streets and too flimsily constructed to carry motors of sufficient power to draw the necessary loads, and yet carrying machines which are so noisy in their operation as to be a frightful nuisance. Still less can the necessary condition of comfort and health be fulfilled by any subterranean structure, such as is suggested for Broadway. In London, where underground roads have been built and operated for several years, with all the efforts of the ablest men, theoretical and practical, to attain perfection, the testimony of the builders and managers of the roads is very strong to the effect that all their efforts to secure good ventilation have proved unsuccessful. In New York the discomfort of underground travel is abundantly proven to the thousands who pass daily through the tunnels and covered ways of the Fourth Avenue road from Thirty-fourth to Forty-first Streets, and from Fiftieth to Ninety-sixth Streets."

It continues: "We believe that the day is rapidly approaching when large cities will be traversed by viaducts, constructed on property exclusively dedicated to that purpose, and on which trains of cars will be propelled at high speed through the open air by nearly noiseless motors, two tracks being devoted to long distance and two to short distance travel. . . .

"What the advance of science may produce in the way of motive power is, of course, unknown, but in the present state of mechanical science the most probable solution of the problem of rapid transit for cities lies in elevated viaducts for trunk lines of fast travel with compressed air or electric motors, cable tramways for lines concentrating at centres of transfer to the trunk lines, and horse or compressed-air tramways for collectors in outlying, sparsely settled districts. The health and safety of the public, which are the 'supreme law,' demand the prohibition of grade crossings where rapid motors run, and the keeping of the passengers above ground at any cost."

Correspondence.

LETTER FROM VIENNA.

VIENNA, December 8, 1885.

MR. EDITOR,— As many young physicians are undecided as to their plan of study when they leave for Europe some may be interested to read about the experiences of a fellow-student from America and myself on our arrival here.

We decided to spend several months in the study of German before attempting to do much work in medicine, and therefore on the first of March settled down in Würzburg.

Würzburg is a quiet little city in the Northern part of Bavaria, once a place of great importance, but now known only for the University and its choice "Stein-wein." It is full of quaint old houses, and its narrow winding streets afford an ever varying pleasure to one interested in the architecture of the sixteenth or seventeenth centuries. On the site of the old wall and moat is now a charming park, bordered by fine new houses. The environs are pretty, giving an opportunity for many pleasant walks.

Bavaria is not a good place to study classical "Hoch Deutsch," as the pronunciation is bad, but for a medical man it is better to learn the pronunciation and dialect of South Germany, rather than the pure German of Hannover, as he is then better able to understand the lectures of Vienna. We have found no difficulty in understanding the so-called Vienna dialect, and such is not the usual experience of men who have studied in North Germany.

There are very few English in Würzburg, and none whom a medical student would be apt to meet. We had no difficulty in finding good German teachers.

As to the medical advantages there, they are good; they have a hospital of some six hundred beds, fine university buildings and many professors of great celebrity. The lectures of the summer Semester, began about the first of May, and by that time we were able to profit by them both from a medical and from a German point of view. Rindfleisch is the most charming lecturer I ever heard: he lectures to his class as if he were holding an animated conversation with a knot of friends.

On the first of July I went to Prague to attend a course given by the first assistant in the lying-in hospital there. The course is essentially a touch course, but aside from that the students are invited to make the daily visit in the wards; students are not allowed to operate. I will give a short sketch of their methods, some of which were new to me. When the labor first comes on, before examination, the woman is given a vaginal douche of corrosive sublimate (1–2000). If the case runs a normal course, this is the first, last and only douche given.

The chief exceptions to this rule are the following:—

(1) When gonorrhœa is present.

(2) If the lochia become foul. In such cases a douche of three per cent. carbolic acid is given twice daily.

(3) If the lochia become very abundant in the latter part of the second week. In this case a douche of alum and acetate of lead is used. The advantages claimed for this method are essentially three. The avoidance of possible infection from unclean instruments. The prevention of admission of atmospheric air. The smaller amount of the lochia.

During the puerperal period the external genitals are washed twice daily with corrosive sublimate (1–2000) and all abrasions *lightly* dusted with iodoform. The napkins are sublimated absorbent cotton.

As to their results, in 774 deliveries five women died: one of double pneumonia; two of rupture of the uterus; one of cerebral hæmorrhage; one of acute endometritis and acute nephritis.

In Munich, Berlin and Vienna the vaginal douche has been abandoned in all normal puerperal cases. Schroeder, in the last edition of his work, does not even mention the use of a vaginal douche in his chapter on the care of puerperal women. In Prague the corrosive sublimate (1–2000) is used as the antiseptic for the hands of operators.

During the last year the policy of non-interference in the processes of nature has been applied in the care of the children. Their mouths are never washed out; since the introduction of this method thrush has become as rare as it formerly was frequent. I saw three cases in Prague; they all occurred in the wards of a new nurse; when the assistant complained, she said, "I assure you that I wash the mouths with the greatest care every time the babies suck."

As yet Professor Breisky has not published the results of this expectant method of treatment.

Yours very truly, Henry Jackson, M.D.

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HUMANIZED VIRUS, ONCE MORE.

Office Superintendent of Health,
Providence, Jan. 30, 1886.

Mr. Editor,— Once more I ask permission to use your columns to reply to Dr. Martin. His last communication is mainly a reiteration of his former assertion that we are not using long humanized virus in Providence. This statement he makes simply on the ground that the symptoms produced by this virus are not those which he thinks ought to be produced by long humanized virus and are not like those produced by the long humanized virus in use in England. But the question is not one of theory, or of English practice, but one of fact as to what virus we use in Providence. In this office are books in which a record is kept of all vaccinations done by the department. In these books the pedigree of our virus can be traced back continuously from person to person to February 29, 1868. During this period there were two hundred and seventeen transmissions. This record was made by Drs. Chas. H. Leonard and Edwin M. Snow, physicians of high repute and unquestionable integrity. Every one will admit that this is sufficient to permit the application of the adjectives "long humanized" to this virus. But furthermore, perfect reliance may be placed upon the statement of Dr. J. W. C. Ely, who was public vaccinator from 1856 to 1868, that during this time the virus was propagated in a continuous series without being renewed from the cow. Dr. Martin very kindly assumes that I am merely in error in this matter. But there can be no ground for mistake; either this virus has a human pedigree of almost thirty years, or else I and the gentlemen referred to have deliberately falsified the record.

I have no doubt that bovine virus is perfectly competent to protect against variola. All I claim is that the stock of humanized virus maintained in this city is equally protective. There are certain advantages in the use of bovine virus, provided it is properly prepared. The danger comes from making it an article of commerce. I believe that it may be a wise procedure for Health Officers, either municipal or state, to prepare and distribute this virus, or at least to strictly supervise its preparation. We thus far have obtained better results with our own humanized virus than with any bovine virus which we could purchase. Certainly the confidence of the medical profession in the producers of bovine virus is not strengthened, when one of these producers, who is inclined to claim for himself somewhat of a monopoly of scientific knowledge and accuracy, coolly repudiates without any investigation, certain facts which do not coincide with the assumed theories upon which his business so largely depends.

I trust that the written proof which I am ready to present to any one interested will be sufficient to close this controversy which was begun by the unfounded assertions and gratuitous assumptions of Dr. Martin.

Yours truly, Charles V. Chapin, M.D.

[The Editor begs to express the hope that this question may be considered closed with the present communication. Ed.]

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 30, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	652	266	17.60	14.24	1.60	.16	8.96
Philadelphia	927,995	368	105	14.58	10.26	1.62	2.16	8.10
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	164	44	13.42	17.08	1.80	1.21	4.88
St. Louis	408,520	—	—	—	—	—	—	—
Baltimore	400,000	150	51	13.86	16.50	1.32	2.64	4.62
Cincinnati	272,400	120	37	14.19	14.19	3.32	4.16	2.44
New Orleans	234,000	124	32	12.96	16.20	—	.81	4.88
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	90	33	7.77	16.66	2.33	1.44	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	48	17	14.56	12.48	2.08	2.08	6.24
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	37	9	5.42	2.71	—	2.71	—
Nashville	54,400	21	3	9.52	19.04	—	—	—
Worcester	68,383	14	7	14.28	14.28	—	—	14.28
Lowell	64,051	18	5	5.55	5.55	—	5.55	—
Cambridge	59,660	21	3	9.52	9.52	—	—	—
Fall River	56,863	23	5	8.70	13.05	—	4.35	—
Lynn	45,861	16	2	—	12.50	—	—	—
Lawrence	38,825	9	3	11.11	22.22	—	—	11.11
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	2	—	12.50	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	—	—	—	—	—	—
Holyoke	27,894	13	5	15.38	23.07	—	—	7.69
Chelsea	25,709	19	4	5.26	15.78	5.26	—	—
Taunton	23,674	7	3	72.40	14.28	—	14.28	—
Haverhill	21,795	6	2	—	33.33	—	—	—
Gloucester	21,713	8	5	25.00	12.50	—	—	12.50
Brockton	20,783	12	2	25.00	25.00	8.33	—	8.33
Newton	19,759	1	—	—	—	—	—	—
Malden	16,407	8	2	12.50	—	—	—	—
Fitchburg	15,375	5	1	—	20.00	—	—	—
Waltham	14,609	5	—	—	—	—	—	—
Newburyport	13,716	5	1	—	20.00	—	—	—
Northampton	12,896	1	—	—	—	—	—	—
87 Massachusetts Towns	—	37	7	5.40	16.20	—	2.70	2.70

Deaths reported 2,019: under five years of age 656; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 284, lung diseases 321, consumption 303, diphtheria and croup 124, scarlet fever 31, typhoid fever 25, diarrhœal diseases 36, whooping-cough 24, cerebro-spinal meningitis 16, malarial fever 11, puerperal fever seven, erysipelas five, measles four, small-pox one. From diarrhœal diseases, New York 13, Cincinnati five, Boston four, Philadelphia, Baltimore and New Orleans three each, Cambridge two, Providence, Charleston and Malden one each. From whooping-cough, New York 17, District of Columbia two, Philadelphia, Cincinnati and Providence one each. From cerebro-spinal meningitis, New York, Philadelphia, Boston, Cincinnati, Taunton two each. From malarial fever, New York five, New Orleans three, Philadelphia, Boston and Baltimore one each. From puerperal fever, Philadelphia two, New York, Baltimore, Cincinnati, Taunton and Brockton one each. From measles, Baltimore two, New York and Philadelphia one each. From small-pox New York one.

In 107 cities and towns of Massachusetts, with a population of 1,278,411 (population of the State 1,941,465), the total death-rate for the week was 16.59 against 18.23 and 17.16 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 16th the death-rate was 23.8. Deaths reported 4,149: infants under one year of age 933; acute diseases of the respiratory organs (London) 534, whooping-cough 156, measles 111, scarlet fever 46, fever 41, diphtheria 39, diarrhœal 37, small-pox (Liverpool two, London, Manchester and Cardiff one each) five.

The death-rates ranged from 17.2 in Sunderland to 32.7 in Halifax; Birkenhead 19.1; Birmingham 23.4; Bradford 21.2; Hull 17.2; Leeds 24.2; Leicester 20.9; London 23.9; Liverpool 23.8; Manchester 30.6; Nottingham 26.1; Sheffield 18.6.

In Edinburgh 22.1; Glasgow 26.6; Dublin 33.3.

For the week ending January 16th in the Swiss towns, there were 47 deaths from consumption, lung diseases 41, diarrhœal diseases 11, diphtheria and croup seven, whooping-cough four, erysipelas one.

The death-rates were: at Geneva 25.2; Basle 18.5; Berne 24.6.

The meteorological record for week ending January 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 30, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ... 24	30.509	6.4	8.8	0.1	58.0	85.0	82.0	75.0	N.	N.	N.	14	16	16	O.	N.	N.	—	—
Monday, .. 25	30.342	18.3	27.5	7.2	91.0	91.0	100.0	94.0	N.	N.	N.	13	9	10	N.	N.	L.	—	—
Tuesday, .. 26	30.162	32.7	40.8	22.7	94.0	88.0	77.0	86.3	N.W.	N.W.	N.E.	8	4	10	O.	E.	O.	—	—
Wednes., .27	30.190	29.3	35.0	24.6	70.0	90.0	86.0	82.0	N.E.	E.	N.E.	21	18	14	O.	T.	O.	—	—
Thursday, 28	29.804	32.9	34.4	27.3	89.0	100.0	100.0	96.3	N.E.	N.E.	N.	12	22	17	R.	R.	R.	—	—
Friday, ... 29	29.446	32.2	33.6	29.2	93.0	88.0	92.0	91.0	N.E.	N.E.	N.W.	15	14	9	O.	R.	L.	—	—
Saturday, .30	29.411	34.2	37.4	30.5	90.0	84.0	95.0	89.7	S.W.	N.	N.W.	7	10	14	L.	O.	N.	97.0	3.93
Mean, the Week.	29.981	26.6	40.8	-0.1				87.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 30, 1886, TO FEBRUARY 5, 1886.

Vickery, Richard S., surgeon and major. Assigned to duty in connection with the Army and Navy Hospital at Hot Springs, Ark. S. O. 24, A. G. O., January 29, 1886.

Chapin, A. R., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Robinson, Neb., and ordered to resume his proper station, Ft. Laramie, Wyo. S. O. No. 11, Department of the Platte, February 2, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING FEBRUARY 6, 1886.

Babin, H. J., surgeon. Ordered to United States Steamship "Vandalia."

Dixon, W. S., surgeon. Ordered to Marine Rendezvous, New York, to relieve Surgeon Babin.

Whiting, Robert, passed assistant surgeon. Ordered to United States Steamship "Vandalia."

SOCIETY NOTICE.

Suffolk District Medical Society. Obstetric and Gynæcological Section. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, February 17th, at 8 o'clock. Communications: Dr. W. H. Baker, "Report of Ten Cases of Uterine Cancer where a Radical Operation was done Four Years and More ago." Dr. A. P. Weeks, "Acute Inversion of the Uterus." Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman*.
Robert B. Dixon, M.D., *Secretary*.

APPOINTMENTS AT THE BOSTON DISPENSARY.

At the January meeting of the managers of the Boston Dispensary Dr. George G. Hayward was appointed physician to the department of diseases of women; Dr. Edward W. Warren physician to the department for diseases of the throat and nose; and Drs. Hayward W. Cushing and Gardner W. Allen physicians to the department for diseases of the genito-urinary system.

An orthopædic department was established and placed in charge of Drs. Royal Whitman and William M. Conant.

Drs. Herbert B. Whitney, Howard M. Buck, and George E. Richards were appointed district physicians.

BOOKS AND PAMPHLETS RECEIVED.

The Climatic Treatment of Disease, Western North Carolina as a Health Resort. By Henry O. Marcy, A.M., M.D. (Reprint from the Journal of the American Medical Association, December 26, 1885.)

Hunterian Lectures on some of the Injuries and Diseases of the Neck and Head, the Genito-Urinary Organs and the Rectum. Delivered before the Royal College of Surgeons of England, June, 1885. By Edward Lund, F.R.C.S. London: J. & A. Churchill. 1886.

Rome in Winter and the Tuscan Hills in Summer. A Contribution to the Climate of Italy. By David Young, M.D., etc. London: H. K. Lewis. 1886.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Second Series, Volume the Fiftieth. London: Longmans, Green & Co. 1885.

Bright's Disease of the Kidneys. By R. C. M. Page, M.D., Instructor in Diseases of the Heart and Lungs and General Medicine, New York Polyclinic. (Reprint from Medical Record, November 21 and 28, 1885.)

Circulars of Information of the Bureau of Education. No. 3. 1885. A Review of the Reports of the Royal Commissioners of Technical Education, etc. By the late Charles O. Thompson, A.M. Ph. D. Washington: Government Printing Office, 1885.

The Principles and Practice of Medicine. By Charles Hilton Fagge, M.D., F.R.C.P., etc. Including a Section on Cutaneous Diseases by P. H. Pye-Smith, M.D. Chapters on Cardiac Diseases by Samuel Wilks, M.D., and complete Indexes by Robert Edmund Carrington, M.D. Vol. II. Philadelphia: P. Blakiston, Son & Co. 1886.

Seventh Annual Report of the State Board of Health of Illinois, with an Appendix. Springfield, Ill. H. W. Rokker, State Printer and Binder. 1885.

Original Articles.

CASES OF EPILEPSY TREATED WITH BORAX.[1]

BY CHARLES F. FOLSOM, M.D.,
Visiting Physician for Nervous Diseases, Boston City Hospital.

Although there are many remedies suggested for the treatment of epilepsy, the number from which any permanent benefit is derived is exceedingly small — so small, that probably few physicians think of prescribing anything but some of the preparations of the bromides, unless they have already been tried and failed. It is true that some benefit is the usual result of the use of the bromides, often marked improvement, sometimes cures. But their use is attended with disadvantages, if given in sufficient quantity to control the attacks, in the vast majority of cases; and with certain individuals, these common uncomfortable symptoms are so excessive as to make the bromides, when taken for a long time, a greater source of annoyance than the convulsions themselves. There are some cases, also, in which no benefit is derived from the bromides in any possible combination of their salts, or whether with ergot, belladonna, ammonia, and other drugs, or alone; it now and then happens that they make the disease worse, and exceptionally, they give rise to maniacal symptoms. It is not seldom that they cannot be used.

Their common effect is to impair appetite, interfere with digestion, and produce a certain amount of mental and physical sluggishness, which may amount to a settled gloom and indisposition to effort, and which is generally attended with some loss of flesh, even if not great, unless some tonics are given, or special efforts are made to keep up the general health; and, if given to the extent of controlling the convulsions, the bromidism produced is often so disagreeable to the patient, that other remedies must be sought for. The list of drugs which have been tried in such cases is long. To-night, I desire to call attention to a single one, borax, which has been prescribed in a few cases at the Hospital for Epileptics and Paralytics in London, and which I have used, more or less, for three years.

Case I. Miss ——, age, twenty, to whom I was called about midnight of May 6th, 1883, with the statement that she had, thus far in the night, had three violent epileptic attacks. She was of fine figure and good general health, without ascertainable hereditary predisposition to disease. She had the usual diseases of childhood in mild form, and had given great attention to her health, so that her appearance generally, if not under the influence of drugs, would be that of perfect health. She had never had convulsions in childhood or infancy. At the age of nine, she caught her foot in such a way as to be suspended head downwards for a time, the approximate length of which I could not learn, until her cries brought some workmen to her relief. She had soon after, that is, in the middle of the summer, a few attacks of petit mal, extremely slight, of which she was aware, and during which she did not entirely lose consciousness. In the following winter, she had epileptic convulsions, for which her parents consulted Dr. Brown-Sequard, who gave her his usual prescription of the bromides, probably with potassium iodide and carbonate of ammonia. She improved for a number of months, although the convulsions did not cease, until December 8th, 1874, when she had not had an attack for five months. She had others on the 23d and 27th of the same month. Although she was quite under the influence of the drug, the convulsions became frequent, and its use was finally abandoned for the time being. Since that time, she has been under the care of many physicians, among whose names I mention those of Dr. Webber and Dr. J. J. Putnam, of this city, in order to give assurance that every therapeutic measure offering any probability of success had been faithfully tried. The bromides and oxide of zinc were the only drugs which materially diminished the frequency of the attacks, but both had to be used in such quantity as to produce a very distressing debility, with only the result of making the number of attacks fewer, but not of causing them to cease.

The number of epileptic convulsions for the several years was as follows: 1875, twenty-seven; 1876, eighteen; 1877, ten; 1878, eleven; 1879, eight; 1880, twenty-seven; 1881, ten; 1882, seven; in 1883, the first attack was on the 23d of January. In February, having thought that they had exhausted the resources of the medical profession, the parents got some advertised medicine, Turner's, from New York, and began giving it, with the result that there was no convulsions that month. In March, there were two, in April, three; in May, one, on the first day of the month, and three on the sixth, when I was called to see the patient. So far as known, no attacks occurred during sleep.

I found, on analysis of the drug by the State Board of Health, that my patient had been taking a large quantity daily, of bromide of potassium. She was so bromidized as to stagger in walking, to have hallucinations of sight, and to be so dull mentally as almost to suggest primary dementia.

The improvement of the general health seemed the first and imperative indication, so that I stopped all medicines and sent her to the seashore, with the result that there were twenty-five attacks in the next seventy-eight days. At the end of that time, namely, August 1st, with cod liver oil, malt, and fresh air, she had regained the appearance of health, and I began giving her ten grains of borax, three times a day. There was no attack until the 15th of the month, when I increased the quantity to fifteen grains. The only attacks in 1884 were two, one May 10th, and one December 22d. In 1885, there were three, namely, in March 28th, April 19th, and September 5th, when the borax was increased to twenty grains, three times a day. Thus far, there have been two this year, but I think that they were due to a serious disorder of the digestive organs, and that they might have been prevented had I been called in time.

So far as the convulsions are concerned, the use of the borax has been attended with success far beyond any other drug. In other ways, however, the improvement has been much greater. The attacks of petit mal, which formerly were, at times, incessant, frequently counting up several dozen a day and twenty in a single hour, are now very seldom a source of annoyance, and never frequent. But most of all, the general health is perfect, and the young lady has been able, for the first time in a dozen years, to enter into the pleasures and duties of social life pretty much as she would like, with certain precautions which are not onerous, and her old-time cheerfulness and bloom have returned.

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[1] Read before the Boston Society for Medical Improvement, February 8, 1886.

The only annoyance from the use of the borax in this case, has been a dry, scaly eruption, giving rise to a great deal of itching, but which disappeared after several week's use of arsenic internally, and oxine of zinc ointment, with vaseline, externally. Aromatic tinctures given with it prevented the nausea, which immediately followed taking it with only water.

CASE II. March 28th, 1884. Miss ——, age, twenty-six, without hereditary predisposition to disease. In infancy, the left side was accidentally observed to have become of less power than the right. Just when this happened, and under what circumstances, I could not learn, and evidence of it is still seen in the lessened size of left leg, trunk, and arm, noticeable on measurement and inspection, but not observed casually.

In the fourth year of age, there were several convulsions, then attributed to teething; also one very mild when ten years old, and another more severe in 1871, when menstruation began. Soon after, there were attacks of petit mal, of which there was no record until 1873, and since then, of course, some have failed to be observed, but all the attacks attended with decided loss of consciousness are thought to have been seen and noted as in the following table, the number of attacks of petit mal being indicated in roman figures, the others in italic.

Month.	1872		1873		1874		1875		1876		1877		1878		1879		1880		1881		1882		1883		1884		1885		1886		Totals.	
January,	–	–	–	–	–	–	–	2	–	7	–	12	*1*	14	–	2	–	4	*1*	19	*1*	10	–	8	–	12	–	9	–	12	*3*	99 111
February,	–	–	–	–	*1*	–	–	1	–	8	–	13	*1*	15	–	5	–	–	–	7	–	10	*1*	11	–	7	–	10	–	–	*3*	87
March,	–	–	–	–	–	1	–	1	–	15	*1*	11	–	10	–	3	–	7	–	20	–	9	–	11	*1*	14	–	12	–	–	*2*	114
April,	–	–	–	–	–	–	–	2	*2*	4	–	15	–	3	–	4	–	2	–	11	*1*	16	–	8	*1*	12	–	13	–	–	*4*	90
May,	–	–	*1*	–	–	1	–	–	–	13	–	16	–	13	*1*	11	–	2	–	2	–	12	–	10	–	16	–	10	–	–	*2*	106
June,	–	–	–	–	–	–	–	4	–	7	–	13	–	6	–	5	–	15	*1*	14	–	18	–	12	–	12	–	14	–	–	*1*	120
July,	–	–	–	–	–	–	–	4	–	6	–	17	*1*	10	–	1	–	9	–	2	–	16	–	8	–	15	–	9	–	–	*1*	97
August,	*1*	–	*1*	1	–	–	–	–	–	2	–	11	–	7	–	1	–	5	–	5	–	7	*4*	7	*3*	8	*1*	12	–	–	*10*	66
September	–	–	–	–	–	–	–	12	–	8	–	15	–	5	*4*	2	*1*	6	*1*	13	–	8	–	16	–	10	–	8	–	–	*6*	103
October,	*2*	–	*1*	–	–	–	–	8	–	7	–	11	–	11	–	11	–	23	–	11	–	7	–	15	–	8	–	10	–	–	*3*	122
November,	–	–	–	–	–	–	–	7	–	7	–	7	–	4	–	12	*2*	12	–	9	*1*	5	*2*	18	–	12	*1*	9	–	–	*6*	102
December,	–	–	–	–	–	3	–	12	–	18	–	13	–	3	–	16	*1*	8	*1*	13	–	6	–	12	–	7	–	10	–	–	*2*	121
	3	–	*3*	1	*1*	5	–	53	*2*	102	*1*	154	*3*	101	*5*	73	*4*	93	*3*	126	*3*	124	*7*	136	*5*	133	*2*	126	–	12		

The effect of the bromides may be seen in the reduced number of severe attacks for a few years after 1873, but the attacks of petit mal rapidly increased, and, after 1877, the others began to increase somewhat, although the patient was constantly bromidized to a slight extent. In August, 1883, the bromides were stopped for about three weeks, with four convulsions in that time, as had happened in giving them up twice before. The patient, at the close of March, 1884, had a very severe convulsion, and was, at that time, thin, pale, dull, not interested in anything, inclined to be silent and gloomy, with periods lasting several days at a time, during which she was much depressed, and frequently weeping. She had every advantage of travel, frequent change of scene, driving, etc., but the outlook seemed hopeless enough in depression in health and spirits if she continued the bromides, more frequent severe epileptic convulsions, if she gave them up.

Just after the attack in March, 1884, and just before that in April, borax was commenced, and the bromides were discontinued. In the latter part of July, the borax was omitted on account of a very troublesome itching, scaly eruption, which, however, afterwards disappeared with the use of arsenic and ointment, as in the last case. In the meantime, there were three convulsions, and the borax was resumed. From March, 1884, to the present time, twenty-two months, there have been only two attacks while the patient was under the influence of the borax.

Something, therefore, has been gained, as compared with the bromides, in the manifestations of the epilepsy, but the general condition of the patient has generally improved. She has gained eleven pounds in weight, her general appearance is that of health, and she is uniformly bright, cheerful, and interested, with fifteen grains of borax, three times a day.

An intense itching comes on every several weeks, which disappears in two or three days, by taking seven drops of Fowler's solution three times a day, but which, without that, continues until a troublesome, dry, scaly eruption appears.

In both cases, the general condition had been wretched for years, from the prolonged use of the bromides, and as to the diminished frequency of the convulsions, all that could be said was that something was gained by taking the medicine. In my desire to build up the general health, and keeping in view the tendency to an annoying skin disease from the use of borax, it is quite possible that I have not increased the dose rapidly enough. It is my intention to gradually reach thirty grains, three times a day, if there is no contra-indication to its use. I should say that, in both cases, the usual physical examinations were made of chest, urine, eyes, etc. The result was negative as to evidence of organic disease. In both cases, also, there were the usual restrictions as to diet and habits of life. Indeed, there had been, for years, the care exercised in these respects, which is common with physicians who have given especial attention to the treatment of epilepsy.

I have a number of other cases in my note-books, of marked improvement from the prescribing of borax after the bromides had failed to do much good, and also, many where the alternate use of the two drugs, each for several months, was attended with excellent results. But it would be superfluous to report them in detail, and tiresome to listen to them. I have seen only one apparent cure from the use of borax, but thus far, I have used it only in cases where the prognosis seemed very unfavorable.

The first few doses of borax often produce diarrhœa, which soon ceases. The eruption on the skin is readily controlled, and the tendency to nausea, flatulence, or indigestion, is easily met with spirits of chloroform, tincture of cardamon, compound spirits of lavender, etc.

In a disease where the natural tendency is to mental impairment, as in epilepsy, it is difficult to prove that the long continued use of the bromides tends towards dementia of even a slight degree, but I believe that they cannot be used for a long time without some disadvantage, and that in children or youth, they cannot be taken for years together, to a sufficient extent to control epileptic convulsions without not only direct injury to the brain, but also, without producing an arrest of development due to lessened energy and diminished use. I have no doubt, however, that there are cases where it is well to give them, nevertheless, and I cannot say how often, or in what cases, borax will prove successful. But we should not abate our zeal in trying to find some other means for the same end, with which there may not be so manifest injury with the benefit.

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ON THE LIMITATION OF THE CONTAGIOUS STAGE OF SYPHILIS ESPECIALLY IN ITS RELATIONS TO MARRIAGE.[1]

BY FESSENDEN N. OTIS, M.D., OF NEW YORK.

In whatever consists the true contagium of syphilis, one important fact in relation to it is well proven, namely: that it is contained in the substance of the initial lesion of chancre and the lymph channels and glands in immediate relation thereto. And that, as a rule, for a period of at least eight weeks, it is confined between this point and the general blood current.

It will thus be seen that the doctrine of a mysterious, instantaneous, syphilitic infection, as still claimed by some authorities, is denied, and that a gradual infection, through physiological channels alone can be considered possible.

A few words in proof of this position. Inoculations of healthy persons with the blood of a person affected with an initial lesion of syphilis failed to communicate syphilis, until after the eighth week from the date of infection. Several well authenticated cases of this sort have come to my knowledge. Twice the inoculation was in my own person. A great amount of evidence on this point is furnished by Diday. In his work on Infantile Syphilis he says, that syphilis contracted by the mother after the completion of the seventh month of gestation *has never produced the disease in the fœtus.* Abernethy had previously claimed the same immunity for the fœtus, after the seventh month, but Diday asserted it as a *law* to which there were practically no exceptions. On page 32 of his work on Infantile Syphilis (Sydenham edition, 1859), he says: "Under similar circumstances a child born, apparently healthy, of a woman who had contracted syphilis in the eighth or ninth month only, might be entrusted to a healthy nurse without fear of communicating the disease to her."

Practically, as it is thus shown, the disease is limited to the initial lesion and its immediate vicinity during the first two months after infection. Syphilis may then, up to such period, be claimed as a local and not a constitutional disease.

It has been proven and accepted by such authorities as Fournier and Cornil of Paris, Mireur, of Marseilles, Van Buren and Keyes and Bumstead and Taylor, of New York, Hill and Cooper, of London, and others, that the physiological secretions, mucus, milk, tears, sweat, sebum, urine, semen, etc., do not contain the contagium of syphilis. Fournier says: "It has long since been established that the semen of a syphilitic subject is not susceptible of transmitting syphilis."[2]

Bumstead and Taylor say, (Fifth Edition, page 463): "The non-inoculability of the semen of syphilitics was fully proven in a number of experiments made by Mireur, of Marseilles"; and further at page 807, "It has been proved that the semen is not an infecting fluid, as are syphilitic blood and the secretion of specific lesions. . . . We therefore cannot admit the infectious properties of semen as regards the female or the fœtus subsequent to conception." Hill and Cooper (Second Edition, page 73) say: "The semen cannot be asserted to be contagious with the knowledge we at present possess." Cornil, 1882, says: (Am. Edition, page 351) "There are no reliable cases evincing the truth of syphilitic contagion by the spermatic fluid." Acceptance of this important fact enables us to eliminate from the mysteries of syphilitic contagion such cases as those where the father is claimed to have infected the embryo or fœtus, while the mother has escaped the disease, and also makes its clear beyond dispute that syphilis is never, under any conceivable circumstances, communicated from the father directly to the fœtus, but that in order to infect the product of conception before birth the mother must first be infected.[3] The semen having been proven not to contain the contagium of syphilis, settles this much discussed question, inasmuch as through the semen alone has the father any possible access to the ovum of the fœtus.

It will also be seen that if the physiological secretions which do not contain germinal cells, are free from the contagium of syphilis, this constitutes a strong argument in favor of the nature of the contagium of syphilis as claimed. And further, if contact of a degraded germinal cell is essential to the production of syphilis and the disease is conveyed to the embryo or fœtus only through the blood of the mother, there is then no longer, strictly speaking, any *hereditary* transmission of syphilis. In order to the acquirement of syphilis an organism free from that disease is essential. The infecting cell of syphilis must first be brought in contact with otherwise healthy cell material. "No mysterious hereditary influence is necessary nor can be admitted. If the disease germ of syphilis, by contact with external parts or through its amœboid power, traversing tissue, reaches healthy cell material, whether in the adult, the infant or the embryo, then the syphilitic influence is directly transmitted and its development must be governed by the same laws that characterize its progress in the known behavior of the disease in the adult: modified to a greater or less extent by the age and degree of stability of the tissues in which the disease is developed. . . . It is undoubtedly the fact that various adynamic diseases and conditions in fœtal and infantile life result from pre-existing disease in the generative organs of parents who have been subjects of syphilis, but that any syphilitic disease, proven to be such by its power to transmit syphilis, has been communicated to healthy persons after the active or so-called *secondary* stage of the disease has passed, there is no well authenticated evidence to prove."

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[1] Read before the New York State Medical Society. Some introductory paragraphs on the nature of the syphilitic contagium have been necessarily omitted.

[2] Alfred Fournier, Syphilis et Mariage, Paris, 1880, page 26.

[3] It is important to note that the very authorities which claim that the embryo or the fœtus may be affected while the mother escapes still advocate the administration of mercury to the mother, and they also claim distinctly that such treatment prevents subsequent abortions and disease in the fœtus.

I am quite aware that this position will at first be received with surprise, but it is the logical sequence of the acceptance of the degraded human germinal cell as the true contagium of syphilis, and it can, I believe, be shown to be in the fullest accord with all well authenticated facts in regard to hereditary syphilis.

These views were originally published by me in a series of class-room lessons in 1879, and again in my volume on the "Physiological Pathology of Syphilis," in 1881, and elaborated more fully in an article on the "Syphilis of Infants and Hereditary Syphilis," in 1884. It is worthy of remark that Mr. Jonathan Hutchinson, of London, the leading authority on syphilis in Great Britain, has arrived at conclusions identical with my own in regard to the nature of the so-called hereditary syphilis. Thus in his "Pedigree of Disease," published in London, 1884, page 90, he says: "A child, then, I assert, inherits syphilis in precisely the same sense and in precisely the same manner as it may inherit small-pox. It inherits not the diathesis but the disease. The reason why the inheritance of small-pox is rare, while that of syphilis is unfortunately common, is simply that the period during which the virus is extant in the blood is very different in the two cases. The conspicuous facts then, in reference to the syphilis of infants, afford no proof that the diathesis of syphilis, any more than those of the other exanthemata is capable of transmission." Mr. Hutchinson further says: "My argument, if I have made it plain, has pointed to the conclusion that no transmission of syphilis is possible, and that the child gets either nothing at all or the germs of the disease, and that in the latter case they will, subject to the laws of idiosyncracy, develop equally in all cases."

Mr. Hutchinson does not attempt to explain the grounds on which these conclusions — so radically opposed to the usual teachings of authorities — are based. It is not, however, possible that in the face of generally accepted traditions to the contrary, these questions could be settled in such a positive way through personal, clinical observation alone. Mr. Hutchinson's teaching is the legitimate and logical sequence of the acceptance of a gradual syphilitic infection through cell contact, as heretofore claimed in this paper.

Having thus indicated the limitations of the contagious element of syphilis in the matter and mode of infection, we have now reached a point where we may, I think, proceed to the consideration of the probable or possible limit of the contagious stage of syphilis in point of time. A very general impression prevails, both in and out of the profession, that syphilis is capable of being communicated to healthy persons by a person once the subject of the disease, either by contact or by heredity, throughout the lifetime of the individual. It is a common belief that when after years of freedom from any evidence of the disease any lesion is recognized as due to a former syphilis, it is the indication of a poison still remaining in the blood of the individual, and that it may be transmitted to healthy persons by contact or by heredity. It has, however, now come to be understood practically that when the accumulations of cell material which have caused the lesions of the secondary stage of syphilis, and the enlargement of the lymphatic glands at various points have been eliminated, the disease is, as a rule, no longer contagious, and persons the subjects of syphilis who have by systematic and thorough treatment been brought to this condition, are said to be cured of syphilis. The time during which the treatment is recommended by authors to be continued, is pretty uniformly fixed at about three years. If then, the patient has been free from all signs of syphilis for one year he is pronounced cured, and he is permitted to marry.

Fournier says: "The truth is that with some very rare exceptions syphilis constitutes only a temporary bar to marriage." Bumstead and Taylor say: (Fifth Edition, page 91) "It may be stated in broad terms that no syphilitic father should procreate children until two years after infection; during which he should sedulously follow a systematic course of treatment." Keyes ("Venereal Diseases," Wood & Co., 1880) says: "After the virulence of the disease has been exhausted a man may marry and should marry." Again (page 78), "In a general way it may be safely said that a man should not marry until at least three good years lie between him and his chancre, and at least one year has elapsed since the last symptom which can be ascribed to syphilis." Hill and Cooper (London, 1881) state that "Under any circumstances the shortest period between infection and marriage should be three years. . . . Under no circumstances should a person with obvious signs of syphilitic disease marry, however long a time has elapsed since his infection, for though communication is rare when several years (four or five) have elapsed, *it may still take place after as many as ten or even more years, even when the form of disease is of the character commonly called tertiary.*"

It will thus be seen that authors are not quite harmonious in regard to the safety of marriage after syphilis, although all are agreed that no marriage should be permitted, until a year after the disappearance of any lesion which could be attributed to syphilis. All, however, are also agreed that the communication of syphilis after the third year of its existence is rare. It has been determined by careful clinical observation that the contagious element of syphilis is, as a rule, eliminated within a period varying from perhaps two to four years, and that all the manifestations of disease beyond this time, apparently due to syphilis and called tertiary lesions are not entitled to be considered strictly speaking as syphilitic. Mr. Hutchinson says of them: "What are called tertiary symptoms do not constitute a necessary stage of syphilis, and are to be regarded in the light of sequelæ." This statement is corroborated by the fact now well determined that the secretions of all such lesions are innocuous; and that neither they nor the tissues, nor the blood of patients bearing such lesions contain a contagious element.

Without the *contagium* there can be no syphilis. Ricord claims that tertiary lesions are not inocuable and cannot be transmitted by hereditary descent. Bumstead and Taylor (Fourth Edition) after reviewing this matter say: "Hence we consider the blood and the secretions in tertiary syphilis innocuous." Diday performed inoculations with the blood of persons in the tertiary stage of syphilis with a negative result.

If time permitted I think it could be satisfactorily proven to you that the tertiary lesions of syphilis are invariably due to obstructions of lymphatic spaces and channels, the result of simple pathological changes occuring during the active or contagious stage of syphilis. I will simply say that it has been determined through microscopic examination that *all* the lesions of tertiary syphilis are characterized by an accumulation of so-called gummy material and that this gummy material has been found not to differ in any essential respect from normal germinal material, and that the damage associated with it may, in every case, be fully accounted for by the mechanical influence of its presence. It is to the occasional occurrence of tertiary lesions in persons who have passed through the active stage of syphilis, that a persistence of the syphilitic diathesis, with all its power of communicating syphilis for an indefinite period, even possibly through the lifetime of a patient is claimed. If, therefore, it can be absolutely proven that the active or contagious stage of syphilis does *not* last indefinitely, and that the lesions of the tertiary stage and the blood during this period are also free from the contagium, we may then hope to reach some definite limitation of the contagious stage of syphilis in all cases.

The acceptance of the degraded human germinal cell as the true contagium of syphilis and its logical sequences as determined through our present knowledge of minute physiology and pathology will lead towards, if not definitely to, such a result. But it is to competent and well authenticated clinical records that we must now look for the solution of the important question at issue.

In the recent work on "Syphilis et Mariage" M. Alfred Fournier (for the purpose of justifying his statements that syphilis is but a temporary bar to marriage previously quoted), has presented a series of eighty-seven examples occurring in his own experience. In presenting the carefully tabulated report of these cases, he says: "For my part alone I have in my hands, to speak only of written facts, eighty-seven observations relative to syphilitic subjects, undoubtedly syphilitic who, having married, have never communicated to their wives the least suspicious phenomenon; and moreover, these eighty-seven have produced among them a total of 156 absolutely healthy children."

In examining the tabulated records of these eighty-seven cases (Fournier, "Syphilis et Mariage," page 231, et seq.) I found that thirty-six out of this number of men who were thus proven to be free from any power to transmit syphilis, either by direct contact or by heredity, were subjects of late or tertiary lesions, *after marriage*, some *before* and some *after* the birth of children.

These lesions comprise almost all the varieties of the sequelæ of syphilis, thus: gumma of the penis, palmar psoriasis, dry tubercular syphilide, gumma of velum palati, cerebral syphilis, papulo tubercular syphilide, costal periostitis, cerebro spinal symptoms, evidently of syphilitic origin, diplopia, passing attacks of hemiplegia, nasal syphilides, ecthyma of legs, syphilitic sarcocele, nasal ulcers, ulcerative laryngitis, papulo-squamous, palmar and plantar syphilides, sclerous and ulcerative glossitis, papulo-scaly syphilides of circinate form, tubercular ulceration, syphilide of the nose, etc.

In examining the tables of M. Fournier still farther it was found that the average time of marriage after infection in the eighty-seven cases was 5 8–10 years. That twenty-five per cent. were married within *three* years after infection, and over ten per cent. within *two* years.

In regard to the length and quality of treatment over twelve per cent. of the eighty-seven cases had treatment of less than a year's duration. Several with only a few months, one with the iodide of potash, and another with no treatment at all.

In this enormous mass of evidence, consisting of eighty-seven authentic examples, involving prolonged observation of 230 individuals adduced by an acute, thorough and competent observer, we have, what I shall claim, as absolute proof, first, of the non-contagiousness of all lesions of the tertiary stage of syphilis; second, of the possibility of the spontaneous cure of the contagious stage of syphilis (that is, without treatment) as shown in one case where there was no treatment, and in another case where only the iodide of potash was used. Third, that the limit of the contagious stage in syphilis may then, it seems to me, be certainly fixed at a point within the period of five years.

For my own part I have never seen a case of syphilis presenting an undoubted lesion of the secondary or active stage after the termination of the second year. I have seen a goodly number of cases of recurring papular syphilide, especially upon the hands and feet, occasionally upon the body, two and three years after an infection which had been thoroughly and systematically treated from the beginning, and I have always considered them as due to damage done to the lymph channels during the previous active stage of syphilis. After the third year in three such cases, marriage has been entered into with my consent, and in two, recurrences *in the identical places formerly occupied* took place nearly a year after marriage, and in both these cases the wife remained un-infected, and healthy children were reported, one now three, and the other two years old. I have seen frequent lesions of the tongue from two to a dozen years after infection, the sequel of mucous patches occurring during the active stage, which had been asserted by physicians to be mucous patches and capable of transmitting syphilis. Sometimes these would present simply as pale pearly stains or whitish patches, sometimes erosions and ulcerations and cracks again appearing as irregular spots covered with a white or grayish pellicle or scales with more or less induration. Such lesions I have never known to prove a source of syphilis to others, although coming into most intimate contact, such as between man and wife, for a series of years during which also occasional recurrences had taken place. Hence I do not hesitate to state that such forms of trouble occurring as a sequel of syphilis three years or more after infection do not contain the contagious property of syphilis and hence cannot communicate it. I have also seen numerous cases and observed them during long periods in which marriage has taken place from three to twelve or more years after a syphilitic infection of the father, and I have never yet seen a single symptom of syphilis in the wife or in the children born of such marriage. In one case reported in my class-room lessons and in my work on "Syphilis and the Genito-Uninary Diseases" five years after such a marriage, mucous tubercles appeared in the wife who, moving in good society was also apparently above reproach. The husband had been three years treated by me for undoubted syphilis previous to marriage, but he had never been free from the fear that he should sometime communicate syphilis to his wife. He accepted her syphilis as a result of an infection from him, and I was almost compelled to the same conclusion although it stultified my belief and public teaching for the previous five years. By a fortuitous train of circumstances, I was, however, enabled to obtain a confession from her, of an accidental carnal contact with an old lover, who subsequently wrote to her inquiring after her condition and stating that while apparently well, except a little erosion on his penis, he found afterwards that the erosion was a chancre and he feared he had given syphilis to her. In the reported cases where syphilis has been claimed to have been contracted from persons whose syphilis had its initation three or more years previously, I believe that if the truth could be ascertained it would be shown that the disease was not contracted from such erosions, but always from a source less than three years from date of the infection. The overwhelming evidence as to the improbability of the communication of syphilis after the first three or four years from the date of infection as shown by the statistics of Mr. Fournier, should lead to the greatest opposition in accepting cases alleged where syphilis has been apparently acquired in contradiction of this position.

The traditions of syphilis claim that, once a man has had syphilis, he is a possible focus of contagion forever, and any evidence that a man has once had syphilis, is held as competent to prove that any syphilitic accident in his family, to the latest generation, may be reasonably credited to him. The important fact that syphilis may be and often is communicated through other sources is practically ignored. Syphilis from mediate contagion is common. It may be through the medium of a spoon, a pencil, a cane, a cigar, a kiss, the dentist's instruments. The accoucheur may acquire it through his finger. Nine cases of this sort I published some years since as occurring under my own observation, and I have seen several others since that time. Besides this, I have seen at least double that number of cases of syphilis, where no possible trace of the source of contagion could be ascertained.

A cup or any other article in common use, defiled with the secretions of a mouth, barboring a mucous patch, coming in contact with a crack, or abrasion of the lips of a healthy persons, may communicate syphilis through a resulting lesion, which shall pass away unnoticed. Any similar contact with the blood of a person in the active stage of syphilis, will communicate it. And yet, if the resulting syphilis is not distinctly traced to some one of these sources, the disease, where possible, is referred to some person who has been found to have had syphilis perhaps a quarter of a century before. It is the tradition based upon the everlasting contagious nature of the disease that the profession are wont to fall back upon to explain the mystery. Even M. Fournier is not free from the tyranny of this unproven tradition. Notwithstanding the convictions that his intelligent experience has imbued him with, that syphilis is not liable to be communicated by any person after the first three or four years from infection, and which impel him to state that *syphilis is but a temporary bar to marriage*, and which also make him say, "Yes, a hundred times yes, a man may marry after having had the pox, and the result of such a marriage, under these conditions, may be absolutely safe, medically speaking." Yet Fournier subsequently says: "We must still recognize some rare exceptions where the disease retains its contagious properties indefinitely. Such, for example," he says, "is the case of a patient whom I treated some time ago. This young man had been infected with a syphilis five years before, which one could fairly call mild, since the initial chancre was only followed by a roseola, a palmar syphilide of slight intensity, and a sore throat. He treated it, almost from the beginning, sufficiently well: several times he submitted, under my advice, to a strong mercurialization (fifteen to twenty centigrammes of proto-iodide daily). Well, in spite of this treatment, and in spite of all my efforts, the patient (who, by the way, is a smoker, a circumstance essential to note) had not ceased to be affected, during a period of five years, with lingual syphilides almost continuously. I cured him of one breaking out: one or two months later a new one attacked the tongue. Then came a new treatment, followed by a new cure: then reappearance of the malady, and so on. To be brief, I always cured him, and it always began again, to use his own expression. Now that he has completely given up tobacco (at my earnest solicitation), the eruptions become less frequent, but have not altogether ceased; and quite lately I have again seen him with syphilis coming on the back part of his tongue. Now, what would have happened if, relying on the mild nature of his disease, and satisfied as to the treatment followed, I had allowed the patient to marry, between the two outbreaks of such symptoms? What would have happened, I need not predict theoretically, because I have had a practical demonstration. This young man took as a mistress last year, a woman who till then was perfectly healthy; exempt from every venereal symptom. Some weeks later he brought her to me, affected by an indurated labial chancre, manifestly received from the lingual syphilides of the patient."

This case, and as he does not allude to any other, presumably the only one in his own experience, is presented as a typical one, to illustrate the possible persistence of contagious lesions after many years, notwithstanding the disease is of mild form, and has been systematically, persistently and efficiently treated, "almost from the beginning."

Now, is such a conclusion sufficiently warranted by this evidence, on a matter of such moment? Let us look at other causes equally possible, equally probable. The young man did not take for a mistress a woman whose virtue was above suspicion. Such a coincidence, as the contact of such a woman's lip, with some other lip, with fresher syphilitic lesions, would not be so extraordinary, as the acquirement of syphilis, from a lingual lesion, five years after infection. Such a woman would be quite in line of coming in contact with persons having active syphilis, and, either directly or by mediate contagion, might have acquired her labial chancre, even if she had not become this man's mistress, without exciting special comment.

Let me place here in contrast to this, a case taken from my own carefully recorded experience. A young man had undoubted syphilis; from the first under my own observation, characteristic initial lesion, general gland enlargement, roseola; no pronounced papular eruption; mucous patches on tongue and inner surface of cheek. After a somewhat desultory treatment, of two years, he was apparently well. Remained free from all trouble for two years; then began to have ulceration at the side of tongue, pearl color at edges; characteristic appearance of the so-called chronic mucous patch; was greatly addicted to tobacco, tongue resisted local treatment, unless accompanied by exclusion of tobacco! repeated recurrences for nearly five years; not markedly affected by specific treatment, which was tried from time to time, when at last, he married a *virtuous* girl. Since that time, already four years have elapsed, and the wife has not had a symptom of syphilis. As a result of this marriage, there is to-day, a perfectly healthy child three years old, and yet within the last month her husband has consulted me in regard to a recurrence of the ulceration at the border of the tongue.

M. Fournier ignores entirely the possibility of accounting for the initial lesion of the lip, in the rare case he quotes, in any way, except through the chronic lesion, which his history has shown, chiefly to be dependent, for the difficulty of cure, on the use of tobacco. This one case is placed squarely, as an offset against his eighty-seven cases, some of which were also cases of ulceration of the tongue, incontestably proved to be free from the contagious element of syphilis by the immunity from infection of the eighty-seven wives and one hundred and sixty-seven children involved. It is true he brings forward a few cases, in the practice of other physicians, to prove the possible inoculability of late lesions of syphilis. But these, in the face of such statistics as he has given us, are not to be accepted, while they all open to explanation, in various reasonable ways, independently of the claim of a contagious element, persisting for years from the date of infection. When we consider the important interests at stake in a just conclusion of this matter; when we realize that thousands of individuals acquire syphilis, every year, often innocently, and that very many of these are now doomed to suffer a life-long apprehension of communicating the disease, and this too, it is claimed without reason. We cannot admit in the adjudication of the point at issue any evidence unfavorable to such claims, without the strictest scrutiny, nor accept any but the most unequivocal facts. We cannot allow even such an authority as M. Fournier to force the acceptance, without question, of a conclusion, in such direct antagonism with the mass of positive and conclusive evidence that he has given us of the non-inoculability of the late lesions of syphilis. We are, I assume, fully warranted in claiming that the explanation of the only case, which he brings up directly, to prove that the late lesions of syphilis may, in exceptional cases, be contagious, undoubtedly lies in the acquirement of syphilis from a source quite independent of the seven years old lingual lesions to which he hastily attributed it. Eliminating this case, we have then a solid mass of evidence, which on any other point, would be absolutely conclusive.

In support of this, we have also, the failure of all experimental inoculations, with the secretions of the late lesions of syphilis, which have been failures *in every instance.* We have also the knowledge of some of the various occult ways in which syphilis may be acquired, defying absolute demonstration. In the absence of an old syphilis in the husband, we have various ways of accounting for repeated abortions, and pemphigoid infants, which rest upon the diagnosis of syphilis as a cause when such syphilitic history in the male parent might have been accepted, before we knew that the semen does not contain the contagium of syphilis. The great discussion in the Academy of Medicine in Paris, a résumé of which is given by Diday, (page 72 of his work on "Infantile Syphilis") shows that the conclusion was arrived at that "Pemphigus of the fœtus, was not an immediate result of syphilis, but an indirect sequel of the exhaustion which this disease produces." Disease of the placenta caused by syphilis has been shown to result in the continuation of abortions and the production of diseased infants, independently of the continuance of any contagious element in the mother, and thus we may reasonably eliminate the contagium of syphilis, as a necessary factor in the production of such accidents.

With this presentation of some of the facts and arguments which may be brought to bear in favor of a positive limitation of the contagious stage of syphilis to three, and at farthest to four years, with or without treatment, I rest my case.

RECTAL DISEASE OF UTERINE ORIGIN.[1]

BY C. P. STRONG, M.D.

Nearly every subject in gynæcology has been so thoroughly written about and illustrative cases so multiplied that it was with surprise I noted the lack of definite and detailed information regarding the causative influence of uterine disorders in cases of rectal disease. The literature of the subject, as found in the larger text-books is but the most general statements, while in monographs it is treated more from the point of view of the rectal specialist than the gynæcologist. It being my fortune to have several patients whose symptoms were mainly or entirely rectal, I sought to find some classification of symptoms or of lesions recorded, that would aid me in determining just how far I was justified in attributing their condition to uterine disease. My search was so unproductive that I have been encouraged to contribute the results of my personal observations and a few illustrative cases with the hope of adding, although it be but little, to the general knowledge.

There are certain symptoms that suggest at once rectal examination; constipation alternating with diarrhœa, frequent and ineffectual attempts at defecation, painful defecation, hæmorrhage, muco-purulent discharges, sensations of fullness in the rectum with general reflex disturbances of the digestive tract; and when one finds, associated with these symptoms, the lesions, internal hæmorrhoids, subacute and chronic proctitis accompanied usually with fissure of anus and often with ulceration of the rectal mucous-membrane, certainly an investigation of the uterus and its adruxa is demanded. I do not intend to imply that these conditions necessarily mean nterine disease, for there is a vast number of other sources from which they may arise, but rather, that when uterine disease does cause rectal trouble, these are the symptoms, and these lesions present, and that cure will be more certain and speedy, and relapses less frequent, proportionally to the attention paid to the uterine complication. Certain conclusions, too, I formed as to the nature of the uterine disorders that would produce these lesions: first, uterine malpositions, especially retroflexion when adherent, and retroversion, prolapse associated with laxity of the vaginal walls; second, periuterine cellulitis, most markedly when retrouterine and hardening and fixing the anterior rectal wall.

There are several reasons for the disturbing effect of uterine malposition upon the rectum, but the important one is the disturbance of the veinous circulation in the lower part of the bowel, which has both a mechanical and physiological explanation. The internal hæmorrhoidal veins, valveless and thin-walled, as they emerge from beneath the mucous membrane through the muscular coat of the rectum, pass through openings that are readily compressed; also, this lower part of the rectum is especially rich in its nerve supply, and the mal-placed uterus, depressing the rectal wall at this spot, acts as a stimulus, producing contraction of the muscular coat of the intestine, which occludes the veins and dilates their terminal branches. So far the conditions are analogous to those occurring during normal defecation, and if now the uterus were raised all would be well, but it maintains its place and under the stimulus of its presence the contractions of the muscular wall become constant, the dilatation of the veins is permanent, and internal hæmorrhoids are produced. Passive congestion of the area drained by the veins ensues, and with this a sub-acute inflammation of the mucous membrane leading to increased secretion and loss of epithelial covering, thus adding new factors for further disturbance. Coincident with these changes the usual alterations in the uterus consequent upon its displacement, continue rendering it more and more a source of irritation to the rectum. When the uterus is in its normal position and movable, although it may press firmly against the rectal wall it stimulates no contractions, because of the deficient nerve-supply at this point of the rectum, and because its position is so constantly varying; if, however, it is fixed by adhesions a new element is introduced, the condition is then analogous to a rectal stricture, formed by retro-uterine cellulitis, an obstacle is opposed to the normal descent of fæces preventing the regular and complete emptying of the rectum, irritating masses may be retained in the dilatations above and below, causing ulceration of the mucous membrane, and starting a new series of evil results.

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[1] Read before the Obstetrical Society of Boston, December 12, 1885.

There are two conditions that I pass over, content with merely naming them, their dependence upon uterine complications and their treatment being so obvious, hæmorrhoids during pregnancy, rectocele from a prolapsed uterus.

I have preferred not to enter too minutely into the various pathological changes that may occur in the rectum in consequence of uterine disease, because that would involve considerable theoretical discussion and necessitate a consideration of the mutual reflex disturbances, and my purpose in this paper has been only to record the results of my personal observations, therefore I pass at once to the cases I have selected as illustrative of the types of uterine disease whose symptoms are mainly rectal.

CASE I. Hæmorrhoids, internal and external, with profuse hæmorrhages and chronic proctitis. Caused by an enlarged and retroflexed uterus. Recovery without rectal treatment.

Mrs. X., widow, five years past the menopause, complexion anæmic and sallow, suggestive of malignant disease. For ten years has suffered from hæmorrhoids, which during the past two years have given her no rest night or day. Severe constipation, partly acquired as each dejection was accompanied by loss of blood, not infrequently to such an extent as to cause syncope. Protrusion of masses from the rectum at each defecation with abundant mucous discharge. Frequently confined to bed for several consecutive days. She had about exhausted the medical treatment of the rectum, having sought relief from many sources and refusing the operation that was finally urged upon her by all whom she consulted. As to the uterine symptoms, she had none, except backache, which of course could be readily explained by the condition of the rectum and her general poor health. The anus was surrounded by a fringe of hæmorrhoids, not inflamed but full of blood. Slight straining on the patient's part protruded about three quarters of an inch of the rectum turgid, streaked with blood and mucus; the numerous veins dilated to their utmost limit. The mucous membrane was thickened and here and there denuded of the epithelium, bleeding at the gentlest touch. Passing the finger up the rectum at the distance of an inch and a half to two inches it came against a firm globular mass occupying the whole calibre of the canal, suggesting at once a large rectal polypus, but noticing its apparent relation to the cervix as felt through the rectal wall, the diagnosis of retroflexion with adhesions was made and confirmed by vaginal examination. The uterus was much enlarged, three and a half inches was the internal measurement, although the catamenia had not appeared for five years. Both walls of the vagina were also lax. Owing to the tenderness of the rectum it was a matter of considerable difficulty to replace the uterus, but this was successfully accomplished by packing for two months, and then a retroflexion pessary readily retained it in its normal position. The amelioration of the symptoms when the pessary was substituted for the packing and the uterus lifted well forward was most marked and immediate. Bleeding ceased at once and has never recurred during the fifteen months she has been under my observation. Regular daily dejections, without pain, have been established. The internal hæmorrhoids have almost disappeared and the external ones form merely a fringe of hypertrophied skin. The uterus has decreased one-half inch in size and the patient's general health and strength has improved in a corresponding degree.

This case is especially interesting, because from the first visit to the last, a week ago, the only treatment has been directed to the uterus, notwithstanding all the symptoms were rectal. There has only once been any indication of a relapse. After an absence of three months, the patient returned and stated that for a few weeks past she had been troubled by the old sensation of fullness in the rectum, unaccompanied, however, by any graver symptoms. Examination showed that the uterus had bent backwards over the upper bar of the pessary and was pressing into the rectum. Replacement of the uterus and the insertion of a slightly longer pessary effectually cured this symptom.

CASE II. Subacute proctitis with fissures of the anus, dependent upon a slightly prolapsed uterus. Rectal treatment ineffectual until the uterus was replaced. Cure.

Mrs. X., aged forty, multipara, of exceptionally nervous temperament, has suffered since puberty with various uterine disorders, and has been under constant treatment for years. When she first consulted me, two years ago, there was dysmenorrhœa, leucorrhœa, inability to stand or walk, backache, and a host of kindred uterine symptoms, but during the past two years or more these had been overshadowed by rectal disturbances; constant pain in the rectum, acute suffering so intense during defecation that the act was postponed to as infrequent intervals as possible, profuse muco-purulent discharges, slight staining of the stools with blood. One of the most prominent symptoms, which she called "rectal neuralgia," was pain of severe character about the anus and lower part of the rectum, induced by surface chilling of the body, so that even in summer she never approached an open window without protecting herself by a thick shawl. Ether was necessary for an examination, and there was found the following conditions: a slight fissure of the anus; subacute inflammation of the rectal mucous membrane, extending quite as high up as the rectum could be exposed to view, the surface streaked with lines of pus and thick glairy mucus, and studded with minute, red, granular elevations, looking not unlike grains of red pepper. The uterine condition was not encouraging. Both tubes were dilated, especially the left one, which appeared about three-quarters of an inch in diameter, and outside these tubes there was considerable inflammatory deposits. The uterus lay about an inch below its normal level, pressing back firmly into the rectum. Rectal treatment was at once begun by stretching the sphincter, cleansing the mucous membrane and applying a strong solution of nitrate of silver. For several weeks a varying treatment was employed, including absolute rest in bed, hot rectal douches and astringent applications, but beyond the improvement caused by the healing of the fissure, her symptoms were but little benefited. Then the uterus was raised and kept free from the rectum by a pessary, and coincident with this manœuvre there was steady gain. The purulent discharges ceased and the pain disappeared. An examination four months ago showed a perfectly normal appearance of both rectum and anus. There has been no relape. The uterine condition and enlarged tubes have also improved, contrary to my expectations, under mild treatment, and except considerable dysmenorrhœa, the patient declares herself perfectly well, although it will be some time yet before I shall venture to permanently remove the support. The so-called "rectal neuralgia" is now never noticed. The rectal treatment of this case that was attended with the most benefit was the employment of suppositories of iodoform and hydrastin night and morning.

Case III. Chronic proctitis, with anal fissure depent upon cellulitis, extending behind the uterus and involving the anterior rectal wall, combined with prolapse of the uterus and left ovary. Improvement.

Mrs. X., thirty-six years. As with the preceding cases, the symptoms for which relief were sought were rectal. As stated by the patient, there was pain, discharge from rectum, resembling the white of eggs, or else yellow; inability to have a movement without employing both physic and enema, and often three or four enemata were required. The pain accompanying defecation is excruciating, often patient faints; and the rectum is never free from a feeling of fullness and soreness. The rectal symptoms were not very chronic, having lasted but six months, but for about a year, in consequence of a fall, patient had suffered from serious uterine troubles, for which she had received beneficial treatment. Previously to this accident she had been in good health. For the past three months, she had been in bed most of the time. Examination under ether revealed the presence of several superficial fissures in the posterior part of the anus; the rectal mucous membrane was thickened, of a dusky hue, and thickly sprinkled over the surface were minute ulcerations, varying in sizes from a pin head to a split pea. Pus and mucous abundantly present. On the anterior wall was a projection caused by the fundus of the uterus, which was firmly bound there by cellular inflammation, thus acting as a direct mechanical obstacle to the descent of the fæces. The rectal wall was so thickened and indurated, it could not be depressed to permit examination above. The uterine conditions were, a hypertrophied uterus over three inches in depth, lying low in the pelvis and rendered immovable by a mass of cellulitis, which involved as well the left ovary and the anterior rectal wall. From the sequence in time of the rectal and uterine diseases, it was quite evident that the former was dependent upon the latter; but until there was some improvement in the condition of the rectum it was hopeless to attempt any manipulations leading to re-position of the deplaced organs. Fortunately the most acute and troublesome rectal symptoms, the painful defecation and discharge of pus, improved by the dilatation of the sphincter, the use of hot rectal douche with weak solutions of nitrate of silver, and employment of the iodoform suppositories, so that very soon it was possible to treat the uterus directly. The gain was so rapid when the cellular effusion was absorbed and the uterus became movable, that rectal treatment was then entirely abandoned. At the end of five months the only reminder of the previous trouble were constipation, which was easily controlled by a laxative, and the presence of considerable mucous discharge, if the patient was long on her feet, showing that the rectum was still affected by the pressure of the prolapsed uterus and ovary.

The patient refused to wear a support, and so I have reported this case as improved, not cured, for I have no doubt that a recurrent attack of cellulitis will bring on her rectal symptoms again. It is about a year since she passed from my immediate observation, and there has been no opportunity since that time to make a local examination, but I have been informed that she is attending to her duties, and is not apparently an invalid.

Case IV. Chronic proctitis, with deep ulcerations and fissure of the anus, dependent upon a retroflexed and adherent uterus. Rectal treatment ineffectual until supplemented by replacement of the uterus. Cure.

Mrs. X., thirty-two years, multipara. Consulted me in November, 1883. Her symptoms were both uterine and rectal, but the latter assumed the greater prominence. From the graphic and intelligent history she furnished, I make an extract of the important points. Since the establishment of her catamenia, at the age of seventeen, she suffered greatly from dysmenorrhœa, backache, and bearing-down pains; symptoms exaggerated by constantly standing, as her duties as teacher demanded. In 1871 constipation became a symptom of increasing prominence, and to this was joined hæmorrhage at each defecation. Usually she made several abortive attempts to secure a dejection before being successful, and was subject to constant pain in the rectum. For four years she was under treatment by diet and medicine, and then, passing into other hands, was examined and cured of fissure of the anus by dilatation of the sphincter. There was very great gain in the rectal symptoms after this treatment for several months, but the uterine symptoms remained unchanged, and slowly the rectum returned to its former condition. In 1879 she had an attack of peritonitis, and after convalescence from this she thus describes her condition:

"There were five or six daily attempts at defecation, the fæces were hard, dry, and in small pieces, not over an inch and a half long and shaped like the handle of a silver dinner knife, having on one edge a streak of bright red blood and considerable amount of greenish yellow matter on the end." With these conditions unchanged the patient was married two years later, that is, in 1881. Marital life and duties exerted a most pernicious effect. She failed steadily, and when I first saw her, two years later, she was in a deplorable condition: emaciated, exhausted by pain, spending most of her time in bed, unable to walk or even stand for any length of time. She said she did not mind the backache or dysmenorrhœa, but that the trouble in the rectum was "killing her." At first I thought there must be malignant disease of the rectum to produce such depressing symptoms, but recognizing the sharply retroflexed uterus pushing into the rectal walls, and the presence of adhesions, I determined to try uterine treatment alone. A few attempts convinced me of the impracticability of accomplishing anything by this plan until there was greater tolerance of the rectum toward the necessary manipulations. Under ether the sphincter was dilated, showing several superficial and one deep fissure, and permitting the escape of a gush of blood and pus. When the sphincter was fully opened and the speculum in position, a single ulceration appeared, extending from the anus to a point about five inches up the bowel and involving the entire circumference of the rectum, except a strip of mucous membrane, varying from one-half to three-fourths of an inch in width, on its anterior aspect. This little strip of membrane was swollen and boggy from infiltration, and there were deposits of lymph on the surface from which the epithelium was very easily detached. A dark, grayish, dirty-looking coating covered the surface of the ulceration, exposing an easily bleeding granular base on its removal. Whatever the remote cause of this state of affairs might be, there was evidently but one course of treatment to pursue, and that was to promote as rapidly as possible the cicatrization of the rectum. I thoroughly curretted through the slough and granulations to a firm base and then brushed over with nitric acid, using the greatest care not to encroach upon the little remaining strip of mucous membrane. For three weeks the patient was kept absolutely recumbent in bed, and then for an equal space, allowed to move only about her room, spending most of the time upon the lounge. The medical treatment was a broth and beef-tea diet, aloin as a laxative, and enemeta of hot water, and iodoform suspended in liquid vaseline. The rectum at first would reject two ounces of hot water immediately, but at the end of six weeks would retain three pints and more for about fifteen minutes. At the end of ten weeks there was most gratifying improvement, but still the symptoms were not all gone. Blood and pus had disappeared from the dejections, there was almost no pain accompanying them, but the fæces retained their peculiar shape, and there was still the sensation of fullness in the rectum, inducing frequent attempts at defecation.

Examination showed, that the rectum was now completely cicatrized and the fissure healed. There was no change in the uterine condition. The patient was competent to attend to the rectal treatment and faithfully obeyed all my instructions, but after resuming her household duties, and being upon her feet a considerable portion of the day, she reported in July, five months subsequent to the operation, that the old rectal symptoms were returning, and she was alarmed lest she should relapse into her former state. Under its improved condition the rectum was tolerant of the course of packing that was necessary to raise the uterus, and this treatment was carried out until the adhesions were so far stretched that a pessary could be introduced to complete the cure. I abandoned the packing for the pessary sooner than is my custom, because of the irritating effect upon the rectum, and also because vaginismus made the operation of packing both tedious and painful. Immediately upon the successful replacement of the uterus, the remaining rectal symptoms disappeared and have never since returned. I saw the patient two weeks ago, and she said that she now had a regular daily evacuation of perfectly formed fæces, unaccompanied by pain or mucous discharge, that there was no abnormal sensation whatever referable to the rectum, that she never took a laxative to secure a dejection. In a word, as she stated it, "I never should know I had a rectum."

In reporting the foregoing cases, I have purposely refrained from entering upon the particulars of either the uterine or the rectal treatment, that the attention might not be drawn from the point under discussion by a confusing mass of details, and for the same reason have omitted mention of uterine complications that had no especial significance in this connection.

The cases have been selected from among a number as especially illustrative of the type of rectal diseases, that are dependent upon a uterine cause. That the cause of the rectal trouble was a direct consequence of the removal of the existing uterine lesions, not a coincidence, is shown by the fact, that, with one exception, Case III, the patients had previously received rectal treatment for years, improving but never getting thoroughly well, and always relapsing.

RECENT PROGRESS IN OTOLOGY.

BY H. L. MORSE, M.D.

Dr. Charles H. Burnett publishes [1] an article on "Hernial protusion of the mucous membrane of the tympanic cavity, through the membrana tympani, in some cases of chronic purulent otitis media." This affection closely resembles granulation tissue, or a polypus with a broad base, the points for a differential diagnosis and for treatment, are as follows: The hernia of the mucous membrane is sensitive to the touch, forms suddenly, does not bleed easily upon being touched, but bleeds profusely if wounded, and yields quickly to the proper treatment.

Polypi and granulations are not sensitive, bleed easily, as a rule, upon being touched, and are cauterized, or removed by means of the snare without pain. On the other hand, hernia of the mucous membrane of the tympanic cavity, is made worse by any endeavors to cauterize, or to remove it by the snare. It can be properly treated in two ways only, first either by the application of powdered boric acid, or boric acid and alum in the proportion of ten grains of the latter to one ounce of the former, or by the instillation of absolute alcohol. The discharge attending it, is usually slight, and of a thick, purulent character. There is no tendency to spontaneous bleeding from the protuding mucous membrane, though Dr. Burnett has observed a tendency to recurrence of the hernia at the menstrual epoch. It is also worthy of note that this affection of the tympanic mucous membrane has been observed only in women. In conclusion, Dr. Burnett says, "I have seen only two or three such cases, but their peculiar liability to be mistaken for polypi or polypoid growths, as well as their resentful demeanor to the treatment applicable to true polypi or granulations, has induced me to record my experience with them."

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[1] Medical News. Vol. xlvii, No. 17.

We notice an instructive article[2] by Herr Adolf Hommel, on a new method of treatment for deafness resulting from what is known as sclerosis of the tympanic cavity, or chronic dry catarrh with anchylosis of ossicles of the middle ear. Dr. Hommel gives the history of his own case, and that of one patient, and the results are so good, and the method of treatment so easy to carry out, that the article is here quoted, notwithstanding the small number of cases in which the method has been tried. In 1877, examination of Dr. Hommel's ears gave the following results.

Chronic catarrh of both middle ears. Hearing distance for the watch, left ear 20 cm., right ear 260 cm., moderate central cloudiness of the membrana tympani. A second examination in the year 1879, showed the hearing to be, left ear 15 cm., right ear 200 cm., and at a third examination in 1881, the hearing distance for the watch, had decreased to 10 cm. in the left ear, and 150 cm. in the right ear. Bone conduction on both sides was good.

This steady increase in deafness had come on, in spite of treatment by means of Politzer's air douche. At this time Dr. Hommel began to make use of the treatment to be described. At the end of one month the hearing distance had increased in the left ear to 15 cm., and in the right to 190 cm. At the end of six months to 30 cm., and 380 cm., respectively, and at the last examination given on his chart, a little more than four years after this treatment was begun, the hearing distance had increased in the left ear to 40 cm., and in the right ear to 615 cm., that is to say, his hearing for the watch had been quadrupled. As compared with the previous four years, when he was either without treatment, or was treated by means of the air douche, and during which time his hearing diminished in the left ear one-half, and in the right ear more than one-third, this result is, to say the least, a very satisfactory one.

The other case reported is that of a thirteen-year-old boy, who had previously had a perforation of the membrana tympani, and a discharge from the middle ear on the left side, and progressive deafness increasing from year to year on the right side. At the time treatment was begun, examination showed, a dry perforation of the anterior inferior quadrant of the left membrana tympani — bone conduction was good — hearing distance for the watch was 5 cm. There was marked cloudiness of the whole of the right membrana tympani, slight tinnitus, bone conduction was good, and the hearing distance for the watch in the right ear was 12 cm. After seven months' treatment the hearing distance in the left ear had improved to 160 c.m., and in the right to 340 cm. That is to say, the hearing in the left ear was thirty-two times as great as before, and in the right ear twenty-eight times as great. The cloudiness of the membrana had gradually disappeared. The method of treatment pursued by Dr. Hommel in producing these very favorable results is as follows: With the finger, press the tragus against the meatus auditorius externus so as to close the latter completely, making it an air-tight chamber filled with compressed air, which forces inward the membrana tympani and the chain of ossicles, then allow the meatus to open again; the outward rush of the compressed air, assisted by the springing back again of the membrana tympani to its usual position, will carry with it some of the air normally in the external auditory canal, and cause a partial vacuum there, and this partial vacuum will suck outward the membrana tympani and the chain of ossicles. So that each inward movement of the membrana tympani, will be followed by an outward movement of it, and of the ossicles. This is to be done rythmically about 120 times a minute, four or five times a day. Dr. Hommel found that too long and too frequent use of this manœuvre brought on pain in the ear, but that by temporarily omitting all treatment this disappeared.

The principles upon which this method depends, are not new, namely, a sort of passive motion of the chain of ossicles in the middle ear which increases their mobility, and an increased activity of the lymphatics and consequent absorption of pathological material. It is by this latter process that the disappearance of the cloudy thickening of the right membrana, in the second case reported, is explained. Alternately compressing and then partially exhausting the air in the external auditory canal, is one of the well-recognized methods of increasing the mobility of the stapes and of the other ossicles, by what is analogous to the passive motion which is used to increase the mobility of a stiff knee or elbow joint. The simplicity of the method proposed in this article for accomplishing this, makes it well worth a fair trial.

In the "Transactions of the American Otological Society," Vol. III, Part 4, occurs an article by Charles H. Burnett, M.D., on "The relation between chronic otitis media catarrhalis and chronic rhinitis," in which he says, "chronic catarrh of the middle ear, that is, otitis media catarrhalis chronica (non-suppurativa) is invariably associated with some form of chronic rhinitis. The latter is usually of the hypertrophic form, since only about four per cent. of all cases of chronic rhinitis are of the truly atrophic form." . . . "It will be found that the catarrhal processes in the Eustachian tube and middle ear proceed from those in the nares and naso-pharynx, and hence partake of their nature, or, that they occur simultaneously with them, and are relievable by treatment of the nasal disease; therefore, all cases of chronic naso-aural catarrh, that is, catarrh of the middle ear, may be divided into two classes, namely, the hypertrophic and the atrophic." Again he says, "It may have been observed that I have said nothing about the faucial and pharyngeal symptoms in chronic aural catarrh. It is because the nasal symptoms are so much more important, because in fact, the pharyngeal symptoms, in comparison with the nasal are unworthy of consideration as causative elements in aural disease." For the description of the symptoms and appearances of the membrana tympani in these cases, and for the methods employed by the author to treat the nose and naso-pharynx, the reader must be referred to the original article, as space to describe them fully cannot be given here; the following, however, are three of the four conclusions formulated by Dr. Burnett at the end of his article.

(1) "That there is a constant causal relation beween chronic nasal and chronic tympanic catarrh, in

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[1] Archiv. für Ohrenheilkunde. B. xxxiii, heft 1 erstes heft.

which throat and faucial diseases play only a subordinate part, and this naso-aural catarrh is found under two chief forms, namely, the hypertrophic and the atrophic."

(2) "It follows that, owing to this close connection between the nose and the middle ear, treatment of chronic catarrh of the middle ear, to be efficient must be coupled with that of the coexistent and causal rhinitis, and that treatment of the throat alone is of little avail in chronic aural diseases. Treatment of and by the way of, the external ear is of course useless." . . .

(4) "It behooves the aural surgeon, therefore, to inspect and treat the non-surgical forms of nasal catarrh as they occur in chronic catarrh of the middle ear, laying more stress on the condition of the nares than upon the fauces, so far as any causal relations between these parts and the deafness are concerned."

Dr. Burnett's article states forcibly the intimate connection between chronic rhinitis, and chronic catarrh of the Eustachian tube and tympanic cavity, and the necessity of treating the former, in order to secure a lasting improvement to the latter. Improper treatment of the nose is worse than no treatment at all, for by it fluids are often forced through the Eustachian tubes into the ears to the detriment of the latter, but proper treatment of the nose, such as Dr. Burnett has described in his article, combined with treatment of the ears, is the true way to obtain satisfactory results in these too often most unsatisfactory cases.

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

February 8th, 1886, the President, Dr. F. W. Draper, in the Chair.

Dr. George B. Shattuck reported the following case of

ACUTE MILIARY TUBERCULOSIS.

B. K., twenty-one years of age, single, housework, born in Ireland, had scarlet fever last August, from which she made a good recovery. Otherwise, her health had always been good. Her father was said to have died from typhoid fever; the family history in other respects, was of a negative character. She was brought to the Boston City Hospital February 1st, in the ambulance, having been found by the police in a fainting condition in the street, when on her way to the Dispensary, where she had been under treatment for some days. She reported that her sickness began four weeks before — about January 1st — with languor, general malaise, pains in her bones, and chilly sensations. She had previously, a slight cough, which kept her awake somewhat at night. She kept on with her work for a week, and then gave it up, although she continued to expose herself to changes in temperature, to do some washing, etc. She had amenorrhœa for three months before coming to the hospital, and quite profuse epistaxis two weeks before; had been annoyed by vertigo, and had sweat considerably both by day and by night. She had lost, she thought, a good deal of flesh and strength, but was well developed and very well nourished.

February 1st, the temperature was 101.3°, pulse 120, respirations 40, the heart-sounds were feeble; the resonance over the lungs was normal, but there were very numerous coarse and fine sibilant and sonorous râles over both lungs, front and back; some dyspnœa; no cerebral or intestinal symptoms; urine negative. February 2d. Increased dyspnœa; some cyanosis; profuse perspiration; temperature, 101.2°, A. M., 103.2°, P. M.; respirations, 40, A. M., 48, P. M. February 3d. Same conditions, accompanied by increasing weakness. February 4th. About 6 A. M., after a fairly comfortable night, developed severe dyspnœa, the temperature rising to 105°, the pulse to 138, the respirations 48. Face and finger-tips markedly cyanosed; profuse sweating; perfectly conscious, and continued to take nourishment freely and easily. Number of fine râles much increased, heart-sounds weaker, physical signs otherwise unchanged. Steam was administered at noon, and her condition improved for a time, only to relapse towards evening, and she died about 9 P. M.

Dr. W. W. Gannett, who had made the autopsy, described the appearances found, and showed the specimens, the case being a typical one of acute miliary tuberculosis.

The body was that of a well-developed and remarkably well-nourished woman. In the pia of the under surface of the frontal lobes, were several tubercles. The pericardial surface of the left auricle showed the presence of many tubercles and a circumscribed tubercular pericarditis, evidently an extension from the neighboring portion of the lung. Both lungs were voluminous, of a red color, and very thickly studded throughout with gray, miliary tubercles.

The spleen, kidneys, and liver, showed similar tubercles, and in the spleen were also agglomerated, cheesy tubercles, the size of hemp seeds. The bronchial and lumbar lymph-glands were enlarged, and contained cheesy nodules. The lumbar lymph-glands were the larger, and were evidently the primary focus of infection. The thoracic duct and the abdominal veins were free.

Dr. Shattuck said that the case suggested some points for discussion, arising from the difficulty of diagnosis. He had sought for the cause of disease in the history of the patient, but without finding it. She could have inherited the disposition from no one, so far as could be learned at the hospital. The great number of coarse and fine râles, unaccompanied by cerebral or intestinal symptoms, was suggestive of bronchitis extending into the smaller bronchi, and she had been much exposed to the weather. Such diffused and constant râles he had never met with before in acute miliary tuberculosis. He had not detected any dullness. Some slight change in resonance or elasticity might have been found by one who believed that it ought to be present; but in any such case, being bilateral, as well as exceedingly slight, it would be extremely difficult to detect. The mutual relations of pulse, temperature, and respiration, are of value in doubtful cases as a means of diagnosis, the respiration of acute miliary tuberculosis being sometimes rapid, out of proportion to the other signs mentioned. The only way, however, of reaching a certainly correct diagnosis in this case, so far as the speaker knew, would have been by an examination of the sputa for bacilli.

Dr. George C. Shattuck said that he was reminded by the case, of one seen under his own observation at the Massachusetts General Hospital, whose symptoms were those of exhaustion and dyspepsia, with dyspnœa, but with little or no fever, or cough, and no physical signs. Death occurred in six weeks after admission, and the autopsy showed tubercles to be uniformly distributed through the lungs, and abdomen so as to effect percussion.

DR. MINOT called attention to a peculiar duskiness of integument of the whole body, which was frequently present in acute miliary tuberculosis of the lungs, probably the result of the slow asphyxia which affected the patient, and which, when present, was of considerable value in the diagnosis. Also to the fact that an eruption on the abdomen, resembling that of typhoid fever, was occasionally found, adding to the obscurity of the diagnosis, and causing the disease to be mistaken for that fever.

DR. R. H. FITZ said that diagnosis is always difficult in cases such as that reported to-night, and is to be made rather from the antecedents of the patient and the course of the disease, than from the physical signs. Without positive evidence of tuberculosis of the choroid or the discovery of bacilli in the secretions, the typhoidal course of the disease with the absence of symptoms of typhoid fever might excite suspicions of the nature of the case. The time necessary for such evidence was wanting in the present instance, and the clinical diagnosis must necessarily remain obscure.

OCULAR SYMPTOMS IN RENAL DISEASE.

DR. H. W. WILLIAMS reported a case seen by him on the day of the meeting, where a young lady, apparently in perfect health, had two weeks previously, lost the power of reading with her right eye, and now found vision slightly impaired in left eye. Her attending physician had not suspected anything more than, perhaps, the need of help by glasses, her vision continuing good at a distance. Examination proved that only the left eye was available for distant vision, having nearly normal acuteness; and the opthalmoscope disclosed a very large amount of albuminuric change in the retina about the optic disc, and the region of the macula lutea in the right eye, and similar considerable changes in the left eye. The urine was found to be loaded with albumen. When questioned, some headache, and not feeling very strong, were the only symptoms discoverable, except those above mentioned.

ACUTE ARTICULAR RHEUMATISM.

DR. JAMES AYER reported a case of acute articular rheumatism, which was of interest because the patient had lived to be eighty-seven, and this was his first attack.

DR. C. F. FOLSOM read a paper on

CASES OF EPILEPSY TREATED WITH BORAX.

Dr. Folsom said, in answer to questions, that he had selected these cases for reporting because, as they had been treated previously by accomplished men, who had, without doubt, paid attention to matters of diet, etc.; therefore, they were good cases in which to compare the results of the borax treatment with other methods. A perfectly monotonous diet is not always better than one more varied, and patients complain of it. Meat need not be absolutely excluded, although the diet must be carefully regulated. A good way is to get an elaborate bill of fare from a large hotel, and mark on that the things from among which the patient may choose. Undoubtedly, diet is an important element in treatment; and yet many observers must have been struck with the fact that certain patients may have attacks when using the greatest care in this respect, and at other times may be free from them while using no care at all, showing that with them, other factors are of greater importance.

DR. J. P. REYNOLDS said that he had supposed that monotony was not of so much importance as the avoidance of sources of irritation in diet. In the form of eclampsia that he sees most of, that of pregnant women, he thinks that sleep and proper attention to the bodily functions, as well as diet, are of great importance.

DR. FOLSOM said, in answer to a question by Dr. Lyman, that it is hard to generalize in regard to the effect of borax on the different forms of epilepsy. Some patients have *le petit mal* for years without having the *le grand mal*. In others, the facts are reversed, and in others, again, both forms occur. Bromide of potassium often diminishes the severity of the attacks of *le grand mal*, and at the same time, increases the number of attacks of *le petit mal*. One of these cases had the milder form of attack twenty times a day, and in her, its severity was diminished by the use of borax.

DR. WHITE inquired as to the constancy of the action of borax on the skin, when taken internally.

DR. FOLSOM answered that in four cases there had been disturbance. Two ladies had itching, with rapid exfoliation of the epithelium in the form of dry scales. One out-patient at the City Hospital gave up taking borax because of a distressing eruption. There was in him, an immense infiltration of the skin, resembling ivy poisoning, but without the brilliant coloring. This all disappeared, and the patient was able afterwards to take ten grains every second day without its returning.

DR. B. F. DAVENPORT asked as to the administration of borax.

DR. FOLSOM said that it is best given in cold water an hour and a half after meals. A few patients take it best in hot water. With either way there is often nausea, but this can be relieved entirely by adding spirit of chloroform, cardamon, or spirit of lavender to the dose. The only unpleasant effect is to the skin, and that is relieved by arsenic.

DR. LYMAN suggested the use of capsules. He thought there was nothing more revolting to take than the bromide, and is glad, on that account, that we have a new drug for epileptics.

DR. FOLSOM said that borax has been used for this purpose for five years at the London Hospital for Epileptics and Paralytics. This hospital has not given up the use of bromides, by any means. So far as he knows, borax was first used *here* at the Boston City Hospital. We must not expect too much from it in a disease in which the prognosis is rather unfavorable.

Some patients have distinct premonitions that an attack is approaching, which may be even visible to others. If such a patient goes to bed, takes five or six grains of calomel, and large doses of bromide and chloral, he may succeed in averting the attack. If, with such premonitions, the attacks come but seldom, there is no need for the continuous use of bromide.

Many patients have an aura for two or three minutes, long enough for them to select a place in which to lie down. Many such patients carry glass capsules, containing m. iii–v of nitrite of amyl, and by its use, some entirely avert the attack.

Dr. H. W. Williams said that he had learned by experience that borax is often adulterated, and that if it is desired to have it pure, it must be bought in crystals.

LOCALIZED AMYLOID DEGENERATION.

Dr. Fitz showed for Dr. W. F. Whitney an amyloid tumor resembling a lymph-gland, both in gross and microscopically, which was removed from below the lower jaw by Dr. Porter. Localized amyloid degeneration of the heart, larynx, and conjunctiva, had been reported. Amyloid degeneration of lymph-glands had also been recorded, but he did not recall a lymph-gland tumor in which this was a local process.

PARIETAL THROMBUS OF THE AORTA.

Dr. Gannett showed an unusually good specimen of parietal thrombus of the aorta, about the size of the last two joints of the little finger. It was of the pale variety, and had undergone central softening. The aorta showed a diffuse dilatation to nearly twice the usual diameter, and there were evidences of extensive chronic endaortitis. The individual was seventy-five years of age, and had been confined to bed for three months, as the result of a fracture of the femur.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

December 12, 1885, the President, Dr. A. D. Sinclair, in the chair.

Dr. C. P. Strong read a paper on

RECTAL DISEASE OF UTERINE ORIGIN.[1]

Dr. Fifield said the reader's success was remarkable, as such cases are usually despaired of: the subject was known and spoken of, however, by writers on rectal surgery. Mr. Allingham has warned all who treat rectal disease to look out for uterine complications, not alone retro-version, but other conditions. Rectal disease may induce uterine disease, and *vice versa*. Inflammatory disease of the bladder is also interdependent on uterine disease. Charles Bell touched on the sympathy of mucous membranes with the rectum, although they are distant from it. So for a long time surgeons have been aware that in diseases of the bladder and urethra, one must look also to the rectum.

Dr. Boardman was pleased to hear the matter so fully and ably treated: he could confirm the writer's theory and submit cases illustrative of it. Affections of the bladder are often due to some disease of the uterus, and can only be treated successfully by attention to the latter organ. Simple retro-displacements of the uterus without adhesions are less liable to affect the rectum than when adherent; but a non-adherent uterus may be displaced under the utero-sacral ligaments, and thereby affect the rectum: such cases will often not bear pessaries and are therefore difficult to treat.

Dr. Baker said the paper was in accord with his own practice and experience: he wished that the reader, in a future paper, would consider the effect of loss of the perineal body in the causation of rectal disease. In the treatment of this class of cases which the reader had described, he had sometimes seen the rectal symptoms relieved by packing, strange as it would appear: this relief was due, he supposed, to the resulting improvement in the position of the uterus, and to the diminished congestion effected by the use of glycerine with which the tampons were moistened. He had been struck in some cases of fallopian or ovarian disease, and even in cases of uterine fibroid, by the reference of great pain to the rectum even when it showed no sign of disease. He asked the reader whether he had ever seen cases of proctitis resulting from anterior displacements of the uterus.

Dr. Strong replied that he had occasionally seen rectal disease coincidently with a heavy uterus in a position of anteflexion, when the cervix burrows into the rectum; but as a rule, he thought, anterior displacements will not affect the rectum. In his own experience packing the vagina aggravated, rather than relieved, the rectal symptoms: he could imagine, however, that packing would sometimes have a good effect on the rectum by giving uniform pressure. He was sorry to have been understood to say that no allusions had ever been made to the subject on which he had written: such a statement he had not intended to make; but that in looking up the matter he had found no satisfactory work on the subject. Much more has been written on the relations of the bladder and uterus, than on those of the rectum and uterus.

CAPUT SUCCEDANEUM: CEPHALHÆMATOMA.

Dr. Fifield spoke on this subject and narrated a case in which, three days after birth, a bloody tumor formed over each parietal bone, unaccompanied by a bony ring: the blood was fluid and absorption was slow. It used to be the practice to incise these tumors, when of long standing, and he had never seen harm follow this treatment: he believed, however, that it was better to let them alone.

Dr. C. D. Homans said that two cases of double cephalhæmatoma had been reported to the Boston Society for Medical Improvement; one by Dr. J. Homans Sr., and one by Dr. H. C. Haven, three years ago. Both cases got well without treatment. In both cases the ring of bone (so-called) was felt.

Dr. Boardman had seen a case of double cephalhæmatoma this year at the Boston Lying-In Hospital: the tumors were let alone and the child died.

Dr. Wellington had never seen the double tumor, but saw a single one a year ago, appearing the day after labor, and the child died: the child also had purpura.

Dr. W. L. Richardson said that he thought Dr. Fifield had two different conditions confused with each other. The term caput succedaneum was a name applied to the swelling often found in that portion of the presenting part which had escaped the pressure surrounding it. It was due to an obstruction of the venous circulation and was only a venous hyperæmia which in extreme cases might pass into an œdema or even extravasation. The term cephalhæmatoma is only applied to extravasation of blood between the pericranium and cranium. While the caput succedaneum, when present, is always seen at the time of birth, the cephalhæmatoma does not appear until twelve to twenty-four or even forty-eight hours afterwards, the blood being very gradually poured out after the delivery of the head allows of its escape from the minute vessels, which have been torn as the pericranium was separated from the cranium.

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[1] See page 151.

The elevated ridge which encircles this form of tumor is at first the edge of the clot; but later, as the process of repair goes on, an inflammatory fibrinous exudation takes place and the circle appears more sharply defined and simulates a bony ridge. He had seen not a few cases of this disease among the three thousand cases at the Boston Lying-in Hospital. Many years ago he opened one and the result was an alarming hæmorrhage and the production of an abscess which refused to heal, and the baby died. Since then he had left them alone and they gradually disappeared within from four to six weeks.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING, WEDNESDAY, FEBRUARY 3.

A STATED meeting of the Councillors was held at the Medical Library, Boston, on Wednesday, 3d inst.

The meeting was called to order at eleven A.M., by the President, Dr. C. D. HOMANS. Eighty Councillors indicated their presence by signing the roll.

APPOINTMENT OF DELEGATES AND COMMITTEES.

On nomination by the Chair, the following delegates to other State Medical Societies were appointed:—

Maine: Drs. R. Amory, E. G. Cutler, of Boston.

New Hampshire: Drs. J. A. Douglass, of Amesbury; O. Warren, of West Newbury.

Rhode Island: Drs. W. Ingalls, of Boston; G. S. Eddy, of Fall River.

Connecticut: Drs. F. H. Hooper, of New Bedford; G. S. Stebbins, of Springfield.

New Jersey: Drs. F. H. Brown, of Boston; J. Severns, of Roxbury.

Committees were appointed: —

To Audit the Treasurer's Accounts: Drs. I. H. Hazleton, A. L. Mason.

To Examine the By-Laws of District Societies: Drs. S. D. Presbrey, J. C. White, F. W. Chapin.

AMENDMENTS TO RULES AND ORDERS.

In accordance with notice given at the last meeting, Dr. Draper offered the following which was adopted:

Voted: To amend the Rules and Orders of the Councillors, as follows:—

Paragraph 4 of Section 5, by omitting the words "obtaining . . . at the annual meeting, and also pointing out some mode in which Fellows who do not attend the meeting may obtain them;" and after the word "dinner" inserting the words "and the distribution of," so that the section shall read:

5. The Recording Secretary shall issue, and send by mail to every Fellow, one month before each annual meeting, a circular, which shall contain —

A notification of the time and place of the annual meeting of the Fellows; —

A similar notification of the stated meetings of the Councillors for the whole year, and of the stated meetings of the Board of Censors for the Suffolk District; —

All necessary information concerning the payment of assessments, admission to the annual dinner, and the distribution of the Society's publications;—

The conditions of admission to the Society, and all necessary information concerning the steps to be taken by those desirous of it.

Section 7, by striking out the word "Resignations" in the third line and substituting the word "Finances" by inserting the word "and" before the words "a Committee on Ethics and Discipline;" and by omitting all the words after "Discipline" in the fifth line; so that the section shall read:

7. At the annual meeting of the Councillors, the following Standing Committees shall be appointed: viz., a Committee on Publications, a Committee on Membership and Finances, a Committee of Arrangements for the Anniversary, and a Committee on Ethics and Discipline.

Section 8, by striking out the words "a Committee to examine the library and cabinet; also" in the third and fourth lines; and the words "all of" in the sixth line; so that the section shall read:

8. At the third stated meeting of the Councillors, there shall be chosen a Committee to examine the Treasurer's accounts, on the week preceding the annual meeting, and a Committee to examine the By-Laws of the District Societies, to see whether they conform to the Laws of the State and of the State Society; which Committees shall make their reports to the Councillors at their annual meeting.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

EIGHTIETH Annual Meeting. Held at Albany, February 2, 3, and 4, 1886.

FIRST DAY. — MORNING SESSION. — ADDRESS BY THE PRESIDENT.

The meeting was held in the Common Council Chamber. After prayer by the Rev. W. D. Nicholas, the President, DR. ALBERT VANDER VEER, of Albany, made an address of welcome, in which he suggested that every alternate year the meetings of the Society should be held in some other part of the State than Albany, in order to stimulate local interest, and stated that he favored the idea of semi-annual meetings. He also remarked upon the unfavorable character of the time for holding the meetings at present (the early part of February), on account of its being a season when other organizations were centering temporarily in the capital city; and in the latter part of his address criticized the action of the American Medical Association, in refusing recognition to those who adhered to the code of ethics of the State of New York.

COMMITTEES APPOINTED.

The following committees were appointed: —

Credentials, — Dr. S. H. Freeman, Albany, Chairman.

Business, — Dr. W. W. Potter, Buffalo, Chairman.

President's Address,—Dr. F. R. Sturgis, New York, Chairman.

Invitations, — Dr. W. C. Wey, Elmira, Chairman.

THE COMMITTEE ON LEGISLATION.

Dr. Daniel Lewis, Chairman, reported a bill pending in the Senate and Assembly to establish a State board of medical examiners. Also that bills had been passed empowering the State Medical Society to regulate and control its own membership; permitting medical societies to hold property to an amount not exceeding $100,000, and providing that no member of a medical society should be assessed more than five dollars per annum.

PAPERS READ.

The following papers were read and discussed: "The Curative Potency of Prolonged Sleep," Dr. J. Leonard Corning, New York; "History of a Case of Abscess of the Kidney," C. L. Styles, Oswego; "Abscess of the Kidney," W. S. Ely, Rochester; "Report of a Case of Empyema," Dr. B. F. Sherman, Ogdensburgh; "The Treatment of Aural Polypi by the Injection of Carbolic Acid," Dr. Herman Bendell, Albany; "Results of the Operation for Convergent Squint," Dr. D. B. St. John Roosa, New York; "Spontaneous Expulsion of a Large Calculus in the Case of a Female aged Sixty-Eight Years," Dr. Harvey Jewett, Canandaigua; and "Vesical Calculi in Female Children, with Cases," Dr. N. A. Powell, Edgar, Ontario.

AFTERNOON SESSION. — DISTINGUISHED VISITORS.

The report of the Committee of Arrangements, DR. S. B. WARD, Chairman, was read, recommending that a large number of physicians from various parts of the State be invited to attend during the meeting, after which the following visitors were introduced and made brief responses: Drs. Wm. Gardner and James Stewart, professors respectively of gynæcology and materia medica in McGill College, Canada, and Dr. T. J. Allen, of Montreal. The

COMMITTEE ON PRIZE ESSAY,

DR. W. W. POTTER, Chairman, reported that only one essay had been submitted, and that in the opinion of the committee this does not give evidence of sufficient original research to entitle it to a prize.

PAPERS READ.

The following papers were read and discussed: "Rheumatic Affections of the Joints," Dr. A. Hadden, of New York; "A Case of Tumor of the Maxillary Antrum and Orbit," Dr. T. R. Pooley, New York; "Infant Feeding," Dr. E. F. Brush, Mount Vernon; "Peritonitis of Infants and Children," Dr. A. Jacobi, New York; "General Arterio-Capillary Fibrosis: Its Relations to Cardiac and Renal Disease," Dr. Alfred L. Loomis, New York; "Ulcerative Endocarditis, Dr. H. R. Hopkins, Buffalo; "The Early Management of Cases of Mental Depression," Dr. Willis E. Ford, Utica; and "Hints on the Treatment of Diphtheria," Dr. J. M. Bigelow, Albany.

EVENING SESSION. — PAPERS READ.

The first paper of the evening was one contributed by Lawson Tait, F. R. C. S., on "Methods of Diagnosis," which was read by Dr. S. B. Ward, of Albany. It was followed by one on "Diseases of the Fallopian Tubes, with Reports of Cases and Characteristic Specimens," by Dr. W. Gill Wylie, New York; after which Tait's operation was discussed by Drs. P. F. Mundé, New York, Wm. Hailes, Albany, W. B. Chase, Brooklyn, W. G. Wylie, New York, and the President. Dr. P. R. Furbeck, of Gloversville, then read a paper on "The Establishment of a State Board of Medical Examiners," which was referred to the Committee on Legislation.

SECOND DAY. — MORNING SESSION. — PAPERS READ.

"Case of Abscess Illustrating the Importance of Drainage," by J. W. Whitbeck, of Rochester; "Lessons in the Management of Club-Foot," by Dr. V. P. Gibney, of New York; "Ozæna," by Dr. John O. Roe, of Rochester; "Medical Testimony and the Hypothetical Question," by Dr. Wm. C. Wey, of Elmira; "Bacteria: Identification and Classification of Species," by Dr. Wm. Hailes, Jr., of Albany; "Acute Nephritis, especially as following Diphtheria," by Dr. A. R. Simmons, of Utica; "Removal of Piece of Iron from Interior of Eye," by Dr. W. F. Mittendorf, of New York; "A New Method of Operating upon Abscesses in the Soft Parts," by Dr. M. J. Roberts, of New York; "The Radical Treatment of Hydrocele and Varicocele," by Dr. E. L. Keyes, of New York; "Fatty Tumors of the Knee-Joint," by Dr. R. F. Weir, of New York; "Excision of the Knee-Joint, with Cases," by Dr. A. M. Phelps, of Chateaugay; and "Burns considered as Wounds and Treated Antiseptically," by Dr. R. T. Morris, of New York.

AFTERNOON SESSION. — REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The Committee on President's address reported that they favored the adoption of an amendment to the bylaws by which all delegates of three years' standing should be admitted to permanent membership on the vote of the society, provided that in case of objection to any name the matter should be referred to the committee on ethics for decision. They did not recommend any increase in the number of delegates or change in the time or place of meeting. They strongly urged the Committee on Legislation to use every legitimate means to ensure the passage by the Legislature of a bill substantially the same as that recommended by the Society at its last session, providing for a State board of medical examiners. They also recommend the appointment of a permanent business committee by the president-elect at as early a period as possible. The report was adopted.

A resolution was offered by Dr. C. H. Porter that a special committee of three should be appointed by the President to report at the next annual meeting in regard to the advisability of making any change in the number and length of term of delegates from county societies.

PAPERS READ.

"The Prognosis and Treatment of True Lateral Curvature of the Spine," by Dr. Newton M. Shaffer, of New York; "The Relation of the State Board of Health to Local Boards," by Dr. Maurice Perkins, of Schenectady; "On the Limitation of the Contagious Period of Syphilis, in Relation to Marriage,[1] etc.," by Dr. F. N. Otis, of New York; "Non-Venereal Syphilis," by Dr. L. D. Bulkley, of New York; "The Treatment of Tertiary Syphilis of the Nose, Mouth and Throat," by Dr. D. H. Goodwillie; "Pin Operation for Deviated Septum," by Dr. W. C. Phillips; "Tubercular Ulceration of the Larynx," by Dr. F. W. Hinkel, of Buffalo; "The Hygiene of the Ear: Based upon the Record of More than 2,800 Cases," by Dr. C. R. Agnew, of New York; "Some Observations on the Treatment of Uterine Displacements in General Practice," by Dr. L. E. Felton, of Potsdam; and "Croupous Tonsillitis," by Dr. L. E. Holt, of New York.

SECOND DAY. — EVENING SESSION. — ANNIVERSARY ADDRESS.

The President, DR. VANDER VEER, delivered the anniversary address in the Assembly Chamber at the capitol; taking for his subject, "The Water Supply of Cities and Villages." In speaking of the supply derived from wells, he said he was impressed with the belief that in the system of driven wells put down by the gang method we had embodied the principle of natural filtration, and that wherever the ground-water was of good quality, sufficient quantity and proper depth, and was free from sources of contamination, it furnished by far the safest water short of what might be considered nature's purest supply, spring water.

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[1] See p. 147 of this Journal.

As the water obtained by this system comes from depths of forty to one hundred feet below the surface, it is very pure, and the supply is steady throughout the year. By other systems the supply is taken from the surface water, and its quality is often impaired by local impurities, while the quantity in different seasons varies with the rain-fall. In this system the water is taken from natural recesses, reservoirs or undercurrents, and there is no exposure to vegetable or animal growths from sunheat and changes in temperature. These wells may be located along ponds and running streams, and if the water be not below their level, it is almost positive proof that the supply is from the rainfall, springs and natural drainage area of these furnishing wells. The water in these collecting driven wells is naturally found quite free from organic matter, but must be examined carefully as to mineral substances. It is a well know fact that they often derive their supply from currents of water feeding running streams or lakes.

Dr. Vander Veer then took up the method of conveying water to cities from distant points by means of aqueducts, as in the days of the Roman Empire. The great cost of this system stood in the way of its use at the present time; but he said he would venture to predict that it would not be many years before this subject of water supply would be handled by capital and be made to pay a good dividend, and that every city and village in the State would be furnished with a full, wholesome supply of water at a reasonable price.

It was necessary to study the sources and kinds of water. There was scarcely a town in the State without some manufacturing interest to be taken into account. It was easy to talk about having one supply of indifferent water for manufacturing purposes, to control fires, etc., and another for domestic use, but the question of expense and other points occurred; often making such a scheme so intricate as to become altogether impracticable. This one broad principle was safe to act upon, that waters of excessive hardness might, in the human economy, do harm by causing or developing urinary and other diseases, while for domestic and manufacturing purposes they were often exceedingly embarrassing and expensive.

Having dwelt for some time upon the relative properties and effects of hard and soft water, he said that beyond a doubt, spring-water, as procured from deep springs, or as fed to our mountain lakes, is not only the most palatable, but the most wholesome of waters. Next, we may rely upon artesian or driven wells, keeping ever in mind the danger of sewage contamination. Large rivers may be made use of, or smaller streams fed by springs and surface water; but contamination must be guarded against with the greatest care. River water that has a long distance to run may purify itself from sewage and other forms of pollution; but it, together with water from shallow wells, must be looked upon as dangerous, though it may be pleasant to the taste and sight. The dangers of wells, cisterns, and other sources of supply becoming contaminated was adverted to and Dr. Vander Veer traced the history of various epidemics caused by polluted water; dwelling particularly on that at Plymouth, Pa., last year.

In conclusion, he said that America was fortunate in the number of springs of pure water which she possessed, and, from their cheapness, these waters were finding their way into many households for drinking and domestic purposes. Much as we might deplore it, it was a fact that a large proportion of the waters supplied by public works at the present time, required filtration. The water needed for domestic uses, therefore, should be secured, first, by gravity and from mountain streams, lakes, or springs; next, if this were not possible, by the gang syphon driven wells, provided the surroundings were safe and proper in every respect; next by a system of storage, but so arrangeing the reservoir that proper aëration could be employed; and, lastly, if necessity compelled, and it had to be taken from sources known to be polluted, then a thorough system of filtration should be employed and the water be as completely oxygenated as possible before distribution.

At the conclusion of the President's address,

THE ANNUAL BANQUET

was held at the Delavan House, Dr. S. B. Ward acting as toast-master.

THIRD DAY. — THURSDAY, FEBRUARY 4th. — PAPERS PRESENTED.

Several reports of committees were made; after which Dr. D. B. Simmons, of Poughkeepsie, read a paper on "Leprosy in Japan"; Dr. J. H. Bailey read one on "Hemorrhoids in Pregnancy"; Dr. W. H. Thompson, of New York, one on "The Prevention of Hemiplegia," and Dr. F. C. Curtis, of Albany, one on "Ringworm of the Scalp in Asylums and in Private Practise." The following papers were also presented; some of them being read by title: "Abscess of the Liver," by B. C. Senton, of Whitehall; "Early Ovariotomy" by Dr. T. H. Squire, of Elmira; "Cremation," by Dr. Charles Cary, of Buffalo; "Hæmorrhage after Removal of the Cervix Uteri, with the Galvano-Cautery Wire," by Dr. J. P. Boyd, of Albany; "Migraine," by Dr. F. S. Crego, of Buffalo; "A General System of Districting the State Asylums for the Accommodation of the Acute and Chronic Insane," by Dr. F. Peterson, of Poughkeepsie; "The Emission of Semen as a Means of Diagnosis of Death by Hanging," by Dr. F. N. Hamlin, of Auburn; "The Benefits Arising from Laws Regulating Pharmacy," by Dr. A. B. Huested, of Albany; "The Bacillus Ethicus Medicinalis," by Dr. S. S. Wallian, of New York; "Well-water in its Relation to Microspores," by Dr. F. E. Martindale; "The Free Dispensary System," by Dr. J. W. Howe, of New York; and "The Treatment of Epilepsy," by Dr. C. L. Dana, of New York.

ELECTION OF OFFICERS.

The committee on nomination reported the names of the following gentlemen, who were duly elected:—

President, Dr. Wm. S. Ely, of Rochester.

Vice-president, Dr. Solomon Van Etten, of Port Jervis.

Secretary, Dr. Wm. Manlius Smith, of Syracuse.

Treasurer, Dr. Chas. H. Porter, of Albany.

Honorary Members, Lawson Tait, F.R.C.S., of Birmingham, England; Drs. E. N. Brush and J. G. Richardson, of Philadelphia; Dr. T. Henson, of Copenhagen.

Medical and Surgical Journal.

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THE REPORT OF THE COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION ON DISINFECTION AND DISINFECTANTS.

AT its annual meeting at St. Louis in 1884, the American Public Health Association appointed a committee, of which Dr. George M. Sternberg was chairman, to investigate and report upon the subject of Disinfection and Disinfectants. Unofficial preliminary reports of their work as it progressed have from time been given to the public, and a "plain, practical paper" for "popular use and distribution" had already been furnished at the request, last March, of the Sanitary Council of the Mississippi Valley, before the appearance two or three months since of the full and final official report.

The subject is one of such importance, and so much needing careful scientific illumination that any serious contribution tending to differentiate more exactly knowledge and ignorance in regard to it is deserving of hearty welcome. At the same time a report emanating from a committee composed of such well known sanitarians as is this, and endorsed by such a body as the American Public Health Association is liable to be widely circulated and the conclusions to be somewhat readily accepted and applied.

Under these circumstances some examination and criticism of the methods by which the conclusions are reached, and upon which the recommendations made are based, seem fairly indicated.

From a biological point of view, the greater part of the work done and all of the results reached are based upon the activity of certain reagents in the destruction of bacterial vitality; the method by which this activity is determined should therefore be most carefully observed and as carefully selected for its ease and precision. In the first place, the method selected by the observers in this instance does not recommend itself for the reason that the culture-flasks employed are difficult of preparation, are clumsy to handle, and have absolutely no advantages in the line of safety against external contamination over the ordinary test-tube plugged with cotton-wool, each being used by skilful manipulators.

Secondly, the method of exposing a given quantity of broken-down beef-tea with a given amount of the "germicide" under trial in unsterilized open vessels, and then transferring a portion of this material to a sterilized culture-medium in a closed vessel does not seem to us to be as precise a method as that of Koch, Miquel, Passet and others, where the germicide is introduced into a bacteria-containing medium in the first place, this material being kept in sterilized and closed vessels all the time.

Thirdly, the use of fluids and fluid culture-media is very strongly advocated by the authors of this report, but if they had felt it worth while to follow the methods most generally in use in this sort of work, by which action their results could be much more easily and definitely compared with those already obtained, very much less would have been said of such and such effects upon "the micrococcus of pus," or "the micrococcus of a vaccine vesicle." The use of solid culture-media would have shown the observers, and through them the readers, what micrococcus of pus they had under observation, whether it was the staphylococcus aureus, or albus, or possibly the streptococcus pyogenis or micrococcus tenuis. This point we have now no means of knowing, and yet it is of importance for, until it is *proved* to be the case, we have no right to assume that germicides act in the same way on all of the group of bacteria which seem to be concerned in the pus-forming processes in man.

Another point in the report which is certainly open to objection, is the distinction made — more particularly in the conclusions drawn from the work done "and collated" — between agents to be employed against spore and non-spore-containing material. Such distinctions are very necessary in all experimental work in this line, and in laboratory work, they must unquestionably be very carefully determined. It verges upon the absurd, however, when they are thus made in the "conclusions" of a pamphlet like the one under consideration, which is to be the guide and familiar friend of our Boards of Health, and their deputies and inspectors.

Koch, in his great work upon disinfection, states distinctly, and with perfect truth, that in the present state of our bacteriological knowledge, it is impossible to say what are and what are not spore-producing organisms, and that, therefore, at least for the present, our reliance for general and practical use must be placed upon those disinfectants of known spore-destroying power. Since this statement was made the general knowledge of bacteria has made very great strides in advance, but nothing, with which we are acquainted, gives any more authority than then existed for contradicting the statement. Before we can say that a certain material does or does not contain spores, the kind of bacterium concerned must be determined; then this bacterium must be so well studied that at least the great probability of its not producing spores may be established; and finally, every health inspector, into whose province it comes to say whether a spore-destroying or non-spore-destroying germicide is to be used, must have so thorough a training in bacteriology that he will not attempt to differentiate species by estimated weight and will, at least, know a spore from a micrococcus, and this latter from a piece of dirt. These results have not yet been attained, and therefore, it seems to be an entirely unnecessary complication, as well as a probable source of very great confusion, that the report should make this distinction in just the way it has been made.

Inasmuch as the specific bacteria of the acute exanthematous diseases, and even of typhoid fever or yellow fever, are as yet merely myths, or at best, only very dimly understood, there is no justification, as the report seems to imply there is, for taking it for granted that the organisms of these diseases do not produce spores, and there is, therefore, no sufficient ground for recommending the use of a non-spore-destroying germicide.

The wisdom of introducing the chapter upon commercial disinfectants is questionable. An instance of the complications to which it may give rise is shown upon page seventeen of the report, and this is probably not a solitary instance. Such investigations can only turn out to the advantage or disadvantage of certain manufacturers; the public, so far as they care about the matter at all, will employ the reagents recommended by the committee in their conclusions, and will have nothing to do with proprietary compounds *unless* they are advertised as being approved by some such authority as this. That great part of the public which does not care, and which prefers the cheapest or prettiest preparation, will certainly not go to any scientific authority for a recommendation or condemnation of what it proposes to use.

In the preface to the report (p. xii.) it is stated that "it would be desirable to test each disinfecting agent upon a variety of pathogenic organisms," and that this is "a task which should follow the more general study which we have made." The reverse of this is true, of course. A thoroughly scientific basis upon which measures for disinfection may be founded can only be reached after the investigation of each pathogenic organism has been made. This being done, then, and then only, will it be possible to say that the most effective germicidal agents are known. In order to reach such a result, however, the knowledge of pathogenic bacteria must be widely extended, and many of the diseases now seemingly taken for granted as being due to bacterial activity must be proved to be such, and not so classed by guess-work.

Biologically, therefore, it can only be said of this report that it furnishes merely a preliminary to something which must be very much wider in scope and more thorough in execution, before the conclusions advanced can be accepted as true. In other words, the work done can be considered as merely introductory and the results cannot be accepted as final — the more so as in the few cases where comparison between this work and that of Koch, Miquel, and others is possible, there are discrepancies in results which need explanation, and the reasons for which might be more clearly determined if the same methods of observation had been employed in all cases.

There might easily have been a little more distinct acknowledgment of the part played by the work of other observers in furnishing the grounds for the "conclusions" of the report than anywhere appears.

From a chemical point of view, the report of the Committee embodies the results of numerous investigations relating to the practical application of such disinfectants as have been found efficient, their cost, chemical relations, effects upon furniture or fabrics and their possible poisonous effects.

Experiments made with the proprietary disinfectants show that a large number of these are not to be depended upon for disinfectant purposes, though nearly all are perhaps more or less useful as antiseptics or deodorizers. The obvious conclusion to be drawn from these experiments is that it is much safer to employ as a disinfectant some agent, such as corrosive sublimate or a hypochlorite, the nature and strength of which is known, than to make use of preparations the composition of which is unknown and very likely variable.

The results of analyses made to determine the value of calcium hypochlorite (chloride of lime) and Labarraque's solution of sodium hypochlorite as disinfectants are interesting, since, in accordance with our present ideas, these substances are chemically among the most efficient agents at our disposal for this purpose, when of sufficient strength; their value depending upon the amount of available chlorine they contain. Preparations of sodium hypochlorite, bought in the open market were found to vary greatly in the amount of available chlorine; two samples containing less than one per cent. These variations are not necessarily due to any fault in manufacture, but rather to a gradual decomposition upon keeping. The figures given show the necessity of always determining the amount of available chlorine in these substances, before making use of them for disinfecting purposes. The sodium salt was found to be more stable when prepared by passing chlorine gas into a solution of caustic soda than when prepared according to the U. S. P. The strength of the preparation of chloride of lime was found to be satisfactory as a rule. This substance should contain from twenty to thirty-five per cent. of available chlorine.

A number of interesting experiments are described in connection with the investigations of sulphur dioxide. One of the most important of these, from a practical point of view, refers to the action of this agent upon fabrics. The strength of the fibre was impaired, while as to color only five of one hundred and sixteen samples were affected.

Most of the investigations to which we have briefly referred, together with some others relative to the action of the mineral acids and corrosive sublimate on metals are essentially repetitions of investigations previously made by others, and do not really teach us much that is new. They are practically important, however, and the committee is justified in directing the attention of health officers and the public to them.

Experiments made with reference to the danger of the passage of mercuric chloride (corrosive sublimate) from cesspools and vaults through the soil into wells, are unsatisfactory and hardly justify the conclusion reached, that the fear of poisoning the water is groundless. As corrosive sublimate promises, for a time at least, to be the fashionable disinfectant this question becomes a very important one, and we think is worthy of further investigation.

We have not hesitated to criticise this report where criticism seemed called for in the interest of the advancement of scientific hygiene and especially of applied bacteriology. But, on the other hand, we desire to express a genuine appreciation of the zeal and activity displayed by the committee in discharging its difficult duties.

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VENUS BEFRIENDS ÆSCULAPIUS.

To the medical man of serious tastes, who never, in whatever circumstances of frivolity he may find himself, forgets that he belongs to the gravest of professions, and who lets slip no opportunity of perfecting himself in the principles of his art, the prevailing mode in ladies' evening toilettes offers great possibilities.

Dragged, perhaps, unwillingly from his sterner duties by the demands of social life, his time is yet not thrown away. Should surgery be his delight, he finds abundant facilities in the drawing-room or at the opera, for viewing and reviewing topographical anatomy. The triangles of the neck are often most freely demonstrated by the very class of subjects in whom the anatomical landmarks are most clearly visible. There is more difficulty in studying the axillary space in its completeness, though its anterior and posterior boundaries, the pectoralis major and the latissimus dorsi, can usually be well made out. The advance of fashion has, unfortunately, not as yet brought under observation the other regions of great anatomo-topographical interest. While mechanically paying out his share of the small coin of social converse, the surgeon is really making the incisions for ligature of the subclavian, the brachial, and the innominate; he is considering how the appearances would be changed in case of a fracture of the coracoid process, or a dislocation of the humeral head, or of the sternal end of the clavicle. Perhaps he is planning out an operation for the ablation of the mammary gland. Who knows?

If chest diseases are his specialty, he lays out the boundaries of the pulmonary lobes, wonders if the cardiac dullness extends further to the left than the line which his practised eye describes as the normal boundary, and upon the lady who stands in front of him, determines the proper point to enter a needle for thoracentesis. These opportunities are not to be lightly overlooked by any.

MEDICAL NOTES.

— The hospital physicians and surgeons of Paris, to the number of one hundred and six, have signed a petition addressed to the Minister of the Interior, praying that the *religieuses* in the hospitals to which they are attached may be retained. In the present temper of the French people, it is thought that this petition will not be granted.

BOSTON.

— The late Henry P. Kidder left among his public bequests, reversionary legacies of $10,000 each to Harvard College and the Massachusetts General Hospital and $3,000 to the Children's Mission to the Children of the Destitute. Mr. Kidder was a State trustee of the Massachusetts Hospital.

— Mr. Nathaniel Thayer has been elected by the corporation a trustee of the Massachusetts General Hospital. Mr. David P. Kimball has also been appointed by the Governor a trustee on behalf of the State, to succeed the late Henry P. Kidder.

— In declining an invitation to dine at the Hotel Brunswick with the New York Odontological Society last week, Dr. Oliver Wendell Holmes wrote, "I often think of the forlorn condition of some of the great personages of history in the days when there were no dentists, or none who would be recognized as such by the dental artists of to-day. Think of poor King David, a worn-out man at seventy, probably without teeth, and certainly without spectacles. Think of poor George Washington, his teeth always ready to drop like a portcullis, and cut a sentence in two. See him in Stuart's admirable portrait, his thoughts evidently divided between the cares of empire and the maintenance of the *status quo* of his terrific dental arrangements. Think of Walter Savage Landor's melancholy complaint that he did not mind losing his intellectual faculties, but the loss of his teeth he felt to be a very great calamity. I will venture to propose, then, the dental profession and their association as its worthy representative: It has established and prolonged the reign of beauty; it has added to the charms of social intercourse and lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature and has lengthened enjoyable human life far beyond the limit of years when the toothless and purblind patriarch might well exclaim, 'I have no pleasure in them.'"

NEW YORK.

—A second physician has fallen a victim to typhus fever in the discharge of duty in connection with the epidemic of that disease in the penitentiary at Albany. Dr. James A. McCoughlin, one of the volunteer staff of physicians during the epidemic, died February 12th, after an illness of about a fortnight. There are now only three cases of typhus among the prisoners in the penitentiary.

— Dr. John S. Billings, of Washington, delivered the first of a popular course of lectures at Columbia College, February 8th. His subject was "The Uses and Dangers of Micro-organisms," and in the course of it, he expressed his regret that the study of microbes tended almost entirely to the investigation of the mischief which they wrought. "But they do more than that," he said, "they are everywhere, and their function is that of the unbuilders. We live at the bottom of a great gaseous ocean, the atmosphere, of which nitrogen gas is the chief component. This is a 'mugwump' sort of a gas, which is generally neutral, but on occasions, makes serious explosions. This gas is absorbed by plants in building up their structure, but when a plant dies or a tree falls, these organisms unbuild the structures and make nitrates, which ferment wine and fruit, purify rivers, and prevent diseases." Having mentioned that the study of such organisms had taught men to ship and carry fresh meats with safety, and, in certain instances, to protect individuals against diseases, one attack of which prevented others, he concluded with an appeal for more laboratories and more investigators in this department of sanitary science.

— Dr Alfred C. Post, the oldest and one of the most distinguished surgeons of New York, died of cystitis, after a few days illness, on the 7th of February in the eighty-first year of his age. He was the son of Joel Post, a prominent merchant, who occupied as his country-seat the property on the Hudson known as Claremont, now forming a part of the Riverside Park, and embracing the site of Gen. Grant's tomb. He was graduated from the academical department of Columbia College in 1822, and from the College of Physicians and Surgeons in 1827. He then went to Europe to further prosecute his medical studies, and after two years spent in Edinburgh, Paris, Berlin and other centres, began the active practice of his profession in his native city, and industriously continued it until the week before his death, a period of nearly fifty-seven years. From the first, he devoted special attention to surgery, in which department of medicine he quickly acquired a distinguished reputation, and as early as 1836 was appointed one of the surgeons to the New York Hospital. He was one of the founders of the medical department of the University of the City of New York, and at the time of his death was President of the Medical Faculty and Professor emeritus of Clinical Surgery in that institution. He was at one time President of the New York Academy of Medicine, whose meetings he attended with great regularity until his last illness, and also a member and officer of many other medical societies. Dr. Post was always noted for his devoted piety, and gave largely of his means and time to various charitable and religious associations with which he was connected. One of his sons is a practising physician in New York, and another, who is connected with the Presbyterian Mission at Beirut, Syria, has also won distinction as a surgeon. The funeral services, which was held at the Presbyterian Church of the Covenant, where Dr. Post was an elder, were attended by a very large number of the profession.

— At a meeting of the Clinical Society of the New York Post-graduate School and Hospital, held January 25th, "Hydrophobia and Its Prevention," was the subject of discussion. After a few introductory remarks by its President, Dr. D. B. St. John Roosa, Dr. Wm. A. Hammond said that those who have devoted their time to the study of nervous diseases know that there is such an affection as hydrophobia, and that it is incurable after it has once become developed in the system. Concerning methods of prevention, he stated that many cases of persons bitten by dogs, supposed to be mad, had come under his observation, and that in each instance he had immediately taken steps to ascertain whether or not the animal which had inflicted the bite was really suffering from hydrophobia. But whether this could be done or not he excised or cauterized the bitten part, first having applied the cupping glass, or caused the patient or some one else to apply his lips to the wound and suck out the poison. Provided that there was no abrasion of the mucous membrane of the mouth, this was unattended with danger to the person doing it. He also applied ligatures when this was possible; and he said that when all these precautions had been taken within a reasonable time after the patient had been bitten he had never known hydrophobia to develop. Believing that the disease could be communicated to a human being only by means of the saliva, he had always held that this was not possible through the blood. He has inclined, therefore to doubt the efficiency of Pasteur's method of inoculation; but at the same time he did not feel at present that he was in a position to express a definite opinion in regard to the matter.

Dr. Hammond quoted the statistics of 534 reported cases of hydrophobia, which showed that in 353 of these the lapse of time between the bite and the development of the disease was less than three months; while in only 30 was it more than six months. He believed, therefore, that the stories of persons being attacked by hydrophobia years after having been bitten were altogether mythical; and contended that there was not on record a single well-authenticated instance in which the patient died from the bite of a mad dog a year after having been bitten. Not more than one-third of the persons bitten by dogs actually affected with the disease contracted hydrophobia. In the case of the Newark children there was no proof that the dog had it, and there had been much useless agitation in the community regarding the matter. Dr. C. L. Dana, A. H. Smith, T. E. Satterthwaite and F. R. Sturgis also took part in the discussion.

Miscellany.

"GOD SAVE THE ALUMNI ASSOCIATION OF COOPER MEDICAL COLLEGE."

The *Pacific Medical and Surgical Journal*, confused, no doubt, by the similarity of its title to that of this *Journal*, reproduces in a recent issue, two of our editorial articles without credit. Sedulous to avoid falling into a similar error, we take pleasure in acknowledging our indebtedness to our contemporary for the report of a presidential address before the Alumni Association of Cooper Medical College, which contains, couched in the elevated diction of the Occident, a remarkable tribute to the medical profession in general, and to the founder of the College in particular.

"Every man entering into and acting up to the tenets of the medical profession," we are told, "is elevated inestimably above the rest of mankind, because it not only affords the opportunity of doing good, which is nothing in comparison to the other virtue it permits us to acquire if we possess it not, namely, the ability to suffer the grossest ingratitude from man, and the vilest slander from garrulous woman and be resigned. How few of us would ever have been able to possess this immense privilege, if there had existed no one to found a medical college at the time Professor E. S. Cooper conceived the idea of undertaking the immense task, which he brought to so successful an issue."

The gentlemen assembled on this occasion had met for six years as the Alumni Association of the Medical College of the Pacific, but on the demise of that institution, they convened to start the alumni institution of Cooper Medical College, "the young giant, rising pure and mighty." It is a little difficult to see how the death of the alma mater, even if she were less pure and mighty, should constitute her sons at once alumni of the young giant. Some filial reminiscences are indulged in of the impurer and feebler institution, and of the peaceful days before the plunge was made by her sons into the "raging, seething vortex of practice in which many, many sink, never to rise." It is pointed out with considerable plausibility that "It would be unnatural, were we to witness the demise of our dearest friend without experiencing the deepest regret." Also, that: "It is impossible to stand at the bier of a departed friend without anguish."

But after thus setting up the bier for the departed, the orator turns with new courage to worship the rising luminary. *Le roi est mort: vive le roi.* "The Alumni Association of the Medical College of the Pacific is dead; God save the Alumni Association of Cooper Medical College!" To which latter aspiration may we be permitted earnestly to add, "Amen!"

ACTION OF SUNLIGHT ON MICRO-ORGANISMS.

At the meeting of the Royal Society, on January 14th, reported in the *Lancet*, January 30, a paper on the "Action of Sunlight on Micro-organisms," was read by Dr. Downes, Medical Officer of Health for the Chelmsford combined districts. In previous papers to the Society in 1877, 1878, and 1879, the author, conjointly with Mr. T. Blunt, showed that sunlight was fatal to saprophytes by a process of hyperoxidation thereby induced. In this process, the more refrangible rays were the most active. In the course of the research, two other facts of importance also came out. It was found that in the presence of free oxygen, the molecule of oxalic acid might be entirely resolved into water and carbonic acid by the action of light, more especially of the more refrangible rays; $C_2O_4H_2 + O = 2\,CO_2 + H_2O$. Further, it was discovered that the alterative ferment of cane sugar (a representative of the singular and important bodies, the diastases, which play so important a part in animal and vegetable economy), was oxidized by sunlight. These investigations have not, as yet, been repeated as a whole, but each point put forward in them has now been confirmed by independent observers.

After a reference to the results obtained by Professor Tyndall in 1881, and by others, the author summarizes the recent work of Professor E. Duclaux, who finds that micrococci are apparently far more sensitive to sunlight than the spore-forming bacilli. Dr. Downes and Mr. Blunt, in their original memoirs, had noted the variation of resistance of different organisms — for example, of the hypho- and saccharo-mycetes — as compared with the ordinary putrefactive bacteria; and the former now describes a specially resistant form of bacterium, resembling, but not identical with, the ascobacteria of Von Teighem. Duclaux coincides with Downes and Blunt in regarding the process as an oxidation, and confirms their results as to the destruction of diastase by sunlight.

In refuting the conclusions of Dr. Jamieson, an Australian observer, that the injurious effect of sunshine on micro-organisms is simply a result of heat, Dr. Downes gives an account of recent experiments of his own, which indicate that a similar action, though, of course, in a less degree, is exercised by diffused light. He concludes with a reference to the well-known observations of Pringsheim on the destruction of vegetable protoplasm by light, and claims them as evidence of the truth of his former generalization that the hyperoxidation of protoplasm by light is a general law, from the action of which living organisms are shielded by a variety of protective developments of cell wall, aggregation of tissue or coloring matter, and in other ways.

POISONING AN INFANT BY ITS MOTHER'S MILK.

At the August meeting of the Medico-Legal Society of France, an interesting case of arsenical poisoning of an infant by *M. Brouardel* was presented which is thus reported in the *Medico-Legal Journal*: —

A man having failed in an attempt to purloin property from his wife and stepmother, was suspected of having attempted to poison his wife with *arsenic*, and of having caused the death of his nursing child.

The child had what appeared to be an attack of cholera infantum, several days after the mother had been similarly attacked. As it was in the hot season, nothing unusual was thought of it. In November following, the mother and stepmother was similarly affected, when suspicion fell upon the husband.

The wife claimed to have found a white powder in his pocket, which proved to be arsenic acid (1. acide arsenique.) Being called, I decided to bring the body of the child to Paris, exhumed after it had been buried six months.

Decomposition was so far advanced that I was unable to dissect the viscera, and it was therefore necessary to analyze the entire cadaver.

Its weight was two and one-half kilog. and it contained five millig. of arsenic.

I was convinced that the arsenic did not come from the linen around the body, or from the earth surrounding the coffin.

It was necessary, also, to determine how far the arsenic could be eliminated from the mother through her milk — a subject that had not been seriously studied at that time.

M. Gabriel Pouchet made some very conclusive experiments in that line. He gave to some nursing mothers in the Hôpital Saint Louis, some drops of Fowler's solution (2–12), and found that under these conditions the mother's milk contained a relatively considerable quantity of arsenic. Thus the milk of one mother, who took eight millig. per diem for six days, contained one millig. per one hundred gr. But this does not prove that it would have shown the same results if the arsenic had been given in a large dose, and there was no definite way to clear up this point, except by tests upon the female of animals, and even these experiments were not conclusive, as animals presented extremely variable susceptibility to arsenic.

It was ascertained by these researches that milk is a channel with decided predilection for arsenic, and that it would not be prudent to administer this agent to nursing mothers.

In the particular case in question, I certified that the body of the infant contained enough arsenic to kill a child a year old, and that it was probable, but not positive, that the vehicle by which the arsenic was communicated to the child was the milk from its mother's breast.

Neither the defence nor the prosecution seemed to comprehend what was fairly inferrable from this decision, and the man was condemned to twenty years hard labor.

Correspondence.

HUMANIZED VIRUS.

Mr. Editor, — As Dr. Chapin started this discussion, I must claim my privilege of bringing it to a conclusion, although I desire to add but little to what I have already said. The position taken by him is, that we must accept as a thoroughly proved fact the startling proposition that, owing to some occult influences peculiar to the locality, the long humanized virus of vaccinia has been preserved in Providence in a state of almost pristine excellence unparalleled in any other part of the known world. One must not for a moment question this because forsooth by so doing he casts a doubt, not upon the impossibility of any chance of error, but upon the personal veracity of certain local health officers, for whose infallibility Dr. Chapin vouches. Any argument based upon universal experience and the writings of the most eminent observers is to have no weight whatever. Certainly no farther discussion is possible under these conditions. I do not expect or wish any one to take my individual dictum in this matter. There in nothing novel or original in what Dr. Chapin is pleased to call my "unfounded assertions" and "gratuitous assumptions," as a very cursory study of the authorities will show. The matter at issue does not in the slightest degree affect my "business," nor shall I ever permit myself to be driven from the discussion of a purely scientific question by any such ungenerous slurs.

Very respectfully,

27 Dudley St., Feb. 13, 1886. S. C. Martin, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 6, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	612	257	15.52	20.32	.32	7.52	2.40
Philadelphia	927,995	369	106	9.45	12.05	2.16	5.40	1.08
Brooklyn	644,526	280	99	18.36	24.48	1.36	8.28	8.84
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	146	38	8.92	21 24	1.37	5.48	—
St. Louis	408,520	143	59	10.50	—	.70	2.80	1.40
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	109	27	11.16	9.30	.93	7.44	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	80	23	8.75	18.75	1.25	2.50	2.50
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	38	15	2.63	7.89	—	2.63	—
Nashville	54,400	18	6	—	16.66	—	—	—
Worcester	68,383	21	5	14.28	9.52	—	9.52	—
Lowell	64,051	25	9	28.00	12.00	—	16.00	12.00
Cambridge	59,660	14	4	14.28	14.28	—	—	—
Fall River	56,863	18	6	5.55	11.11	—	5.55	—
Lynn	45,861	—	—	—	—	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	13	2	15.38	15.38	—	7.69	7.69
New Bedford	33,393	13	4	7.69	—	—	7.69	—
Somerville	29,992	1	—	—	—	—	—	—
Salem	28,084	14	—	7.28	—	—	7.28	—
Holyoke	27,894	11	7	36.36	9.09	—	27.27	9.09
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	2	1	—	50.00	—	—	—
Haverhill	21,795	6	2	16.66	50.00	—	16.66	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	10	1	—	—	—	—	—
Newton	19,759	6	2	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	4	—	—	—	—	—	—
Newburyport	13,716	4	2	50 00	—	—	50.00	—
Northampton	12,896	5	1	20.00	20.00	—	—	—
92 Massachusetts Towns	—	35	6	11.44	8 58	—	11.44	—

Deaths reported 1,994: under five years of age 684; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 262, lung diseases 311, consumption 302, diphtheria and croup 131, scarlet fever 38, typhoid fever 21, whooping-cough 21, diarrhœal diseases 19, malarial fever 13, erysipelas nine, cerebro-spinal meningitis four, measles two, puerperal fever two, small-pox one, typhus fever one. From whooping-cough, New York 11, Brooklyn four, Baltimore and Charleston three each. From diarrhœal diseases, New York eight, Brooklyn four, Boston and New Orleans two each, District of Columbia, Nashville and Cambridge one each. From malarial fever, New York four. Baltimore three, Philadelphia and Brooklyn two each, New Orleans and District of Columbia one each. From erysipelas, New York and Brooklyn three each, Boston, Cambridge and Northampton one each. From measles, New York and Baltimore one each. From puerperal fever, New York and Baltimore one each. From typhus New York, one each. From small-pox New York one.

In 109 cities and towns of Massachusetts, with a population of 1,226,634 (population of the State 1,941,465), the total death-rate for the week was 14.25 against 16.59 and 18.23 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 23d the death-rate was 22.4. Deaths reported 3,906: infants under one year of age 869; acute diseases of the respiratory organs (London) 477, whooping-cough 159, measles 100, scarlet fever 38, diphtheria 38, diarrhœal 31, fever 38, small-pox (Liverpool) three.

The death-rates ranged from 10.4 in Birkenhead to 30.4 in Preston; Birmingham 23.4; Blackburn 30.0; Hull 21.8; Leeds 22.9; Leicester 16.1; Liverpool 26.3; London 21.9; Manchester 24.9; Nottingham 26.1; Portsmouth 20.7; Sheffield 23.0.

In Edinburgh 19.3; Glasgow 28.9; Dublin 29.6.

For the week ending January 23d in the Swiss towns, there were 40 deaths from lung diseases, consumption 33, whooping-cough eight, small-pox seven, diphtheria and croup seven, malarial fever one, typhus fever one.

The death-rates were: at Geneva 22.2; Zurich 15.3; Basle 17.0; Berne 31.0.

The meteorological record for week ending February 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 6, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ... 31	29.745	26.3	31.6	19.2	63.0	59.0	90.0	70.7	W.	S.W.	W.	14	11	5	C.	F.	N.	—	—
Monday, .. 1	29.897	22.8	30.0	15.3	82.0	61.0	74.0	72.3	W.	N.W.	W.	9	8	12	O.	C.	C.	—	—
Tuesday, .. 2	30.105	17.5	27.3	9.9	65.0	48.0	65.0	59.3	N.W.	W.	W.	14	15	10	C.	C.	C.	—	—
Wednes., . 3	30.244	11.7	18.2	8.6	65.0	57.0	89.0	70.3	N.W.	N.W.	N.	13	9	17	O.	O.	N.	—	—
Thursday, 4	30.009	3.6	10.6	-1.8	91.0	62.0	72.0	75.0	N.	N.E.	N.	25	20	22	O.	O.	C.	—	—
Friday, ... 5	30.270	-0.2	5.7	-6.6	70.0	56.0	69.0	65.0	N.W.	N.W.	N.W.	18	24	15	F.	C.	C.	—	—
Saturday, . 6	30.280	10.2	17.0	-2.9	54.0	57.0	67.0	59.3	W.	W.	S.W.	12	7	10	C.	O.	O.	16.0	0.16
Mean, the Week.	30.079	13.1	20.0	1.4				67.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 6, 1886, TO FEBRUARY 12, 1886.

Tilton, Henry R., surgeon and major (Fort Wayne, Mich). Granted leave of absence for two months, to commence on or about March 1, 1886. S. O. 8, Division of the Atlantic, February 9, 1886.

Brown, H. E., major and surgeon. Granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Department of the Missouri. S. O. 29, A. G. O., February 4, 1886.

White, Robt. H., captain and assistant surgeon. Granted two month's leave of absence, to take effect when his department commander may think proper. S. O. 29, A. G. O., February 4, 1886.

Shannon, Wm. C., captain and assistant surgeon. Ordered for duty at Fort Warren, Mass., relieving Assistant Surgeon John M. Banister, who will return to his proper station (Fort Adams, R. I.) S. O. 27, Department East, February 6, 1886.

Edie, Guy L., first lieutenant and assistant surgeon. Ordered for field duty in New Mexico with troop "K." 8th Cavalry. S. O. 23, Division of the Missouri, February 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE THREE WEEKS ENDING FEBRUARY 6, 1886.

Bennett, P H., assistant surgeon. Died at Detroit, Mich., February 3, 1886.

Watkins, R. B., assistant surgeon. To proceed to Detroit, Mich., for duty, February 3, 1886.

Pettus, W. J., assistant surgeon. Appointed an assistant surgeon, February 5, 1886. Assigned to duty at New Orleans, La., February 6, 1886.

RESIGNATIONS.

H. J. Bigelow, M.D., has resigned his position as surgeon to the Massachusetts General Hospital. His resignation has been accepted by the trustees and he has been made surgeon emeritus with five beds placed at his disposal.

George C. Shattuck. M.D., has resigned as visiting physician to the Massachusetts General Hospital and has been appointed consulting physician.

APPOINTMENTS.

A. T. Cabot, M.D. and M. H. Richardson, M.D., have been appointed visiting surgeons to the Massachusetts General Hospital.

THE LATE DR. F. H. LOMBARD.

At a meeting of the Obstetrical Society of Boston, held February 13, 1886, the following minute was unanimously adopted and ordered to be spread upon the records:

The Society wishes to express its deep sense of loss in the untimely death of Dr. Frederic Howard Lombard. Only a few weeks have elapsed since his unanimous election to membership; but on two occasions he presented to the Society, by invitation, communications of more than usual value and interest. These papers evinced his marked abilities as a careful and intelligent observer, a conscientious practitioner, and a clear and vigorous writer.

He was especially interested in the pursuit of those departments of medicine, the knowledge of which it is the object of this Society to cultivate, and after a careful preparation at home and abroad he had already achieved success in the practice of his chosen specialty.

He held appointments at the Boston Dispensary and the Free Hospital for Women, and had rendered material service to the Boston Lying-In Hospital, with which during two summers he was temporarily connected. He was much interested in the teaching of obstetrics, and his work in that department of the Summer School was conducted with the same ability and success which characterized his other undertakings.

Manly, courteous, kindly, and upright in all his dealings, he was beloved by his patients and respected by his professional brethren.

SOCIETY NOTICES.

Norfolk District Medical Society.—A meeting for Scientific Improvement will be held at Room 7, Palladio Hall Building, corner of Warren and Dudley Streets, Roxbury, February 23d, at 7.45 P.M. Communications: I. "A Case of Femoral Aneurism," C. A. Bemis, M.D. II. "Epistaxis, with Cases," C. W. Sparhawk, M.D. Members of other Districts are cordially invited to be present and participate in the discussions. Refreshments will be served after the meeting.

S. Allen Potter, M.D., *Secretary.*

Boston Society for Medical Improvement.—A regular meeting will be held at 19 Boylston Place, Monday, February 22d, at quarter of eight, P.M. Reader: Dr. F. W. Hooper. Subject: "Adenoid Vegetations in the Naso-Pharyngeal Cavity." Report of the Committee appointed in consequence of Dr. Fifield's paper on "The Appointment of Medical Examiners." Medical Examiners of Massachusetts are invited to be present.

E. M. Buckingham, *Secretary.*

Original Articles.

A CASE OF CONGENITAL CAVERNOUS LYMPHANGIOMA OF THE BACK.

BY C. B. PORTER, M.D.,
Surgeon to Massachusetts General Hospital.

The patient, an infant four months old was brought to my office for examination and advice. Three pedunculated tumors were attached to the median line of the back between the third to sixth dorsal spines. One was the size and shape of a large sausage with narrow pedicle springing from near the middle. The other two were much smaller and more sessile. All were soft and more or less compressible, apparently giving slight impulse during crying, producing pain when handled as evinced by crying. The two smaller ones translucent, the larger one dark and dusky. The mother stated that this had been translucent, but of late had become dark and angry looking, and much more sensitive when the child was bathed or moved, and it looked at one point as though it was about to ulcerate. The normal skin extended a short distance up the pedicle and then ended in a distinct line, the sac of the tumors looking like thickened serous membrane. The child was so fat that it was impossible to determine whether or not the arches of the vertebræ were incomplete. There was no paralysis, the child making all motions in a perfectly natural manner. The bodily functions unimpaired.

The child breathed, nursed, slept, urinated and defecated in a healthy manner. The mother stated, however, that the child was becoming more and more peevish, crying when the larger tumor was handled, and that it seemed more sensitive than at first, and that the color had changed.

Recognizing the uncommon seat and also the rarity of multiple character of the deformity, I nevertheless thought that I had to deal with multiple spina bifida. The character of the sacs; their translucency; the compressibility, the contents apparently receding under pressure causing crying, and redistension. All combined made it probable that there was a communication with meninges of the cord. The friends desired operation, understanding fully the dangers. I consented to operate, fearing that the large tumor was soon to open by ulceration of the sac. The two important indications were:

First, to prevent draining away of the cerebro-spinal fluid, and to meet this I proposed to ligature the pedicle subcutaneously by silver wire.

Second, to prevent extension of the inflammation from wound to meninges, this to be prevented as far as possible by thorough antiseptic precautions.

The operation was performed October 16, 1884. The child being etherized, the largest tumor was surrounded at its base by a silver wire passed subcutaneously; this was twisted tight. The tumor was then punctured by a small trocar to draw off and preserve the fluid. Very little fluid escaped, but by firm pressure a few drachms were evacuated. The tumor was then cut off, no fluid escaped from the proxinal end of the pedicle. The skin was brought together by silk sutures making a linear wound about one and one-half inches long. The two smaller tumors were treated in like manner except that the pedicles were so near together that they were both included in the same wire ligature. The wounds were treated in the most thorough antiseptic manner throughout, dressed with iodoform and carbolic gauze, with compression. The child did well up to the eighth day. The silver ligatures were removed on the fourth day, the superficial wounds having united by first intention except a small part of one, all sutures removed the seventh day. On the eighth day the child commenced to have frequent painful discharges from the bowels, the milk being passed in small lumpy curds undigested with mucus and some streaks of blood, marked tenderness of abdomen. The thighs drawn up, complete anorexia, the child refusing the breast most of the time. This condition continued with more or less amelioration till the twelfth day, when the child died exhausted. The wounds were healed except a small granulating surface size of a pea bean. There were no convulsions. The cause of the muco-enteritis of which the child died, seemed to me to be due possibly to some change in the mothers' milk, induced by care, anxiety for the well being of the child and loss of sleep, as she insisted on being almost constantly with the child, holding it most of the time in her lap, although a nurse was in attendance desirous of relieving her. Dr. Belt, of South Boston, very kindly saw the child a number of times with me and in my absence Dr. Gannett examined the tumors and reports them to be typical cavernous lymphangiomata.

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TWO CASES: OPERATION FOR THE CURE OF SPINA BIFIDA; AND FOR THE RADICAL CURE OF HERNIA.[1]

BY E. H. BRADFORD, M.D.,
Surgeon to Boston Children's Hospital.

The patient was a fairly-nourished infant five months old, presenting a cystic tumor in the lower cervical region. The tumor presented all the characteristics of a spina bifida, which did not increase when the child cried, and did not diminish on pressure. The inference was that the communication, if any, with the spinal cord was small. The tumor was stationary, but the walls were thin and were beginning to ulcerate. As the pedicle was long, it was decided to attempt amputation according to the method suggested to me by Dr. Porter.

A silver wire was passed subcutaneously around the pedicle, using for the purpose a long, curved needle, with a handle and an eye at the point. Little difficulty was encountered in passing the wire, and the sac was not punctured. On tightening the wire, however, the end was twisted off, and it was found that a small opening remained. This was closed by a catgut suture through the pedicle after amputation of the sac. No new filaments were found in the sac.

The wound was dressed antiseptically with corrosive gauge, and no leakage took place for three days. On changing the dressing, however, at the end of that time, a slight amount of serous fluid was found exuding. The patient was quiet after the operation, but became quite restless after twenty-four hours, and died without convulsions at the end of four days without symptoms of meningitis. The temperature was slightly elevated until the day before the patient's death, when it became sub-normal — 98°.

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[1] Read before the Suffolk District Medical Society, Surgical Section, February 4, 1885.

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The case presented difficulties and demanded an operation, as rupture of the sac was imminent. It was impossible to determine positively whether a direct communication persisted with the cord, but it was inferred that no such communication did exist or was minute.

The statistics appear to show that Brainard's method of abstraction of a certain amount of fluid by aspiration, and the injection of a certain amount of iodine (iodine pure, 0.5; iodide of potash, 1.0; distilled water, 30.), promises success in a certain number of cases.

Löbker reports a case of cure of a case of lumbar spina bifida. The case was operated on three times, at five to eight days' interval; five grains of fluid was abstracted, and two grains of solution of iodine injected. The child was entirely well a year and a half later, and the tumor had shrivelled and disappeared, except that a growth of hair marked the spot.

Löbker [2] also reports a successful amputation after tying the pedicle in a child five days old, the case being one of lumbar spina bifida. Also, a second case of death following the same operation.

The statistics collected by Wernitz in 153 cases were as follows:—

Treatment.		Cured.	Died.
Compression	4	4	0
Puncture	57	17	40
Injection	55	42	13
Ligature	16	10	6
Incision	5	2	3
Excision	8	6	2
Amputation	5	4	1
Plaster	3	1	2
	153	86	67

Tabular statements of this sort, however, are manifestly of little value.

Mr. Holmes [3] justly states that no case of spina bifida should be subjected to operation, except in most urgent circumstances, and prefers injection, the American method, the sac not being emptied before the injection of the iodine, to the French method, where iodine is used as in a hydrocele. The pedicle should be compressed during the injection, and the fluid is sometimes allowed to flow out.

As death in these cases, is threatened more from direct exhaustion rather than from meningitis, and the exhaustion appears [4] to be largely induced by a loss of cerebro-spinal fluid, it would seem that Dr. Porter's method offers, as the leakage of the fluid is prevented, a more reasonable chance than either direct amputation or excision, and it is decidedly more surgical than the method of clamping the pedicle, or ligaturing the skin, as well as the sac.

OPERATION FOR THE RADICAL CURE OF HERNIA.

J. H., a boy two years and two months old, presented a congenital hernia of large size (size of a small peach). He was sent to the hospital by the Society of Prevention of Cruelty to Children, on account of abuse by his parents, and for the purpose of having his hernia cured. Treatment by truss, or the injection of white-oak bark not being feasible, on account of the lack of care in after-treatment, a radical operation was determined upon. The method introduced by Mr. Banks, of Dublin, was decided upon. This consists of twisting the sac after reduction of the hernia, and using the twisted folds of the sac to act as a plug in the ring, a suture being passed through the pillars and the twisted sac to prevent the plug from untwisting.

A free incision was made down to the sac, reaching from above the external ring to the scrotum. The sac was then cleared at its middle, and a ligature passed around the sac, but avoiding the cord. This latter procedure required careful disection, as the parts were, in a child of that age, very thin and delicate. The ligature (catgut) was then tied and the sac cut off above, the lower portion serving as a tunica vaginalis. The upper portion of the sac was freed by stripping as far as was possible, up to the ring, and was then gently twisted. A silk suture was then passed through the pillars and twisted sac, and tied. The free end of the sac was then rolled up, and stitched as an extra wad. The skin wound was closed with catgut sutures.

Thorough antiseptic dressings were impossible, owing to the child's urine, but the wound was kept covered with iodoform. The skin did not unite by first intention, but gaped completely, and the boy's temperature rose to 104°, and his condition for ten days seemed alarming. At the end of a fortnight, however, the temperature was permanently normal, and the wound well in progress of cicatrization. At the present time, the child's wound is completely healed, and the opening is entirely closed, and though the child cries, and runs about without a truss, the hernia is kept well up.

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A CASE OF PISTOL-SHOT WOUND OF THE HEAD RESULTING IN ABCESS OF THE BRAIN, WITH A REPORT OF THE AUTOPSY.[1]

BY ROYAL WHITMAN, M. D.

ON October 16, 1884, I was called to attend the patient whose history, as I afterwards learned, was as follows:

He was fifty-seven years of age, born in Ireland, and had never suffered from any severe illness. He had had much trouble in his family affairs, but of long duration; and there appears to have been no especial cause for anxiety, financially or otherwise. He occupied a responsible position in a large establishment, where he had been employed for twenty-six years; and, until a week before his attempted suicide, nothing unusual had been noticed about the man mentally or physically. At this time he left work, ostensibly on account of a cold; but the real reason appears to have been mental depression. Daily visits were made him by various employés, at the request of the firm; and, on this particular morning, a report had been made that he was in a very depressed state. Shortly after, having dressed himself in new underclothing, he shot himself in the right ear with a revolver of 32 caliber, the final exciting cause having been, it appears, the failure of the furnace to draw.

On my arrival, I found him lying on the bed, his shirt saturated with blood which was slowly flowing from a ragged wound in the right ear just above the external auditory meatus. He was conscious, pale, with a pulse of 80, of fair strength.

Ether was given; and, after shaving the right side of the head, an irregular body could be felt under the scalp, at a distance of about three inches above the meatus. This was cut down upon; and I extracted what I supposed to be the greater part of the bullet, flattened out to about the size of a five-cent piece, with rough, rolled-up edges. The temporal muscle was considerably lacerated and blackened, and several small fragments of lead were removed from the vicinity. On passing my finger down the track of the ball, the temporal bone appeared to be slightly depressed; and I thought that I could detect several fissures in its surface, which was still covered by a portion of the muscle. On examining the ear, it was found that the ball had entered the concha just above the meatus; and, from this opening, several radiating tears extended, through which the cartilage projected. The ridge of bone about the upper portion of the meatus was bare, and the cartilaginous canal of the ear partially separated and slightly depressed from it. It seemed clear at the time that the ball, entering, had struck the firm wall of bone just above the meatus; had flattened and passed upwards, fracturing the squamous portion of the temporal bone.

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[2] Centralblatt f. Chir., No. 33, 1884, page 559.

[3] System of Surgery, Vol. II.

[4] V. Real. Cycl. Article spina bifida.

[1] Read before the Suffolk District Medical Society, Surgical Section February 4, 1885,

Several bleeding vessels were ligated, a seton introduced through the track of the ball, and pressure applied over this area, which practically controlled the bleeding, though a slight oozing continued during the following night. In the afternoon the patient signed a transfer of property, and a will, making comments on the latter, as it was read to him. During the night and the several succeeding nights his mind wandered at times, and he was restless and sleepless, for which various sedatives were given. On the following morning the hæmorrhage had ceased, and the wound was irrigated with a solution of corrosive sublimate, and dressed with corrosive-sublimate fomentations. During the following week there was but a slight discharge from the wound, the seton was entirely removed on the fifth day, and the upper wound closed soon after, the treatment consisting of rest in bed, milk diet, ice bag on head, and cathartics. The patient complained of no pain, his mind seemed clear but weak, and his memory much impaired. He had no recollection of shooting himself, but concluded that he had been injured by a fall, and was utterly unable to understand why he had not put a pistol to his ear, and blown his brains out, as he had intended. All the acute symptoms connected with his injury having subsided, I now advised his removal to the McLean Asylum, as his mental power was considerably impaired; and, if he was to recover, as seemed probable, it would be advantageous to him to have it understood that his attempted suicide was caused by temporary insanity; and he accordingly entered there, on October 25th, at his own request. For the further details of the case, I am indebted to Dr. Cowles.

October 30th. It was noted that his memory was poor and he was very voluble. There was at this time a moderate discharge of pus from about the ear. The wound was treated by daily irrigation with a solution of carbolic acid and carbolized compresses, and the patient kept in bed.

November 3d. He sat up for the first time and seemed rather depressed.

November 12th. There seemed to be a slight improvement in his mental condition.

November 18th. Necrosed bone could be felt for three-fourths of an inch above and about the meatus. His temperature was taken at this time, showing it to be below normal.

November 23d. He discovered a scab on his head, over the cut made for the removal of the ball, and talked about it incessantly, insisting that it was the "barbers' itch," showing marked mental weakness.

November 24th. He was dressed for the first time, and for the two following weeks there was but little change in his mental condition, his memory being much impaired. His appetite was good, his bowels obstinately constipated, necessitating the administration of various cathartics, while his general physical condition seemed to have improved somewhat.

December 7th. Seven weeks after the injury, he first complained of frontal headache, which continued a prominent symptom until his death; and for the several succeeding nights was restless, disturbed the other patients by talking to himself, and during the daytime by repeating the same stories over and over again. Altogether there seemed to be such a mental failure that he was removed to another ward.

December 15th. Dr. Hodges was called in consultation in regard to the rather extensive area of necrosed bone about the ear, but advised non interference, there being at this time, a moderate, free discharge of pus from the meatus and the neighborhood. The hearing on this side was tested several times, but seemed to be perfect.

December 19th. About an hour after the ear had been syringed and dressed as usual, there was a sudden further discharge of a teaspoonful or more of pus from the ear, which the nurse described as being thinner and darker than usual. The patient became faint, vomited, and when he was put to bed, it was noticed that he dragged his left foot.

On examination, it was found to be very difficult to make him understand simple questions. He seemed stupid and dazed. Called the physician by his daughter's name, and the nurses by the names of his various friends. The movement of the left leg and the grasp of the left hand were feeble. The left side was cooler than the other, and the sensibility to touch diminished. On the following morning, he lay in bed in the same stupid condition, from which he could with difficulty be aroused.

December 21st. Compressed sponges were placed in the meatus for the purpose of dilating the canal, and for the few following days, he appeared brighter, though the paresis of the left side continued and increased.

December 28th. The paralysis of the left side was now complete, and the patient lay in a deep stupor. A twitching of the muscles of the paralyzed arm was noticed, and the discharge of pus from the ear ceased. The patient now would not swallow, and nutritive enemas were given.

December 31st. Dr. Hodges called. The face was now drawn to the left and the patient comatose. On passing a probe into the auditory canal, necrosed bone could be felt all along the upper boundary and the probe passed in a direction upward and inward for two inches, then striking upon a yielding substance, apparently the dura.

January 1st. Conjugate deviation of the eyes to the left was noticed, and during the afternoon, the patient died, seventy seven days after the injury.

The following is the report of the autopsy, which was made by Dr. Gannett:

"Autopsy made fifteen hours after death. Body well developed and nourished. Slight lividity of dependent portions. Ratio of head to body, and of cranium to face, apparently normal. Ant.-post.-diameter of skull, 18.8 cm.; transverse, 13.9 cm.

"From the right ear, a thin, foul, puriform fluid exuded. On the removal of the scalp, the pericranial tissues just behind the right ear, about one cm. below its upper border, were discolored, bluish-black over an area two cm. square, from the centre of which numerous small granules of lead were removed. The temporal muscle showed a similar bluish discoloration, and was considerably depressed below the level of the surrounding bone substance. In the middle of the right temporal bone, was a depressed, comminuted fracture twenty-five by thirty cm. in diameter, some portions near the centre being loose, those on the periphery being, for the most part, adherent to the surrounding bone. About the edge of the fracture, several minute fragments of lead were imbedded. The inner surface of the tabular portion of the right temporal bone showed a series of comminuted fractures, with elevation of fragments. About one cm. from the vertical portion, was an opening in the petrous portion, which communicated, both with the meatus and with a fistulous track lying just above the meatus.[2]

"The calvaria showed no noteworthy appearances; freely separated from the dura. The dura on the right side showed numerous bluish-black patches. On the inner surface of the dura, were numerous dark patches, elevated about one mm. above the surface, which could not be washed or scraped off. The pia over the convexity of the right hemisphere had a slightly yellowish tint, and on pressure, this half of the brain fluctuated. On removal of the brain, it was found that the dura was intimately adherent to the pia over the seat of fracture in the right temporal bone already described. Just beneath this adherent portion of the dura, in the right temporal lobe, were two cavities, one the size of a large English walnut, with sharply-marked, smooth walls of connective tissue, about one mm. thick, just outside which could be seen brain substance, showing nothing abnormal beyond a series of small, dark-red points following the course of this wall. The other cavity was the size of a plum, its contents consisting of softened, yellowish brain substance. To the outside of this cavity, for a distance of nearly two cm. in all directions, the brain substance was softened, moist, of a pale-yellow color, resembling baked custard. Above, and to the inside of these two cavities, was one of an irregular shape, nearly as large as a peach, situated in the white matter of the temporal, lower parietal, and anterior occipital lobes, also involving the whole of the posterior third of the nucleus lentiformis, and a portion of the contiguous inner capsule. This cavity contained rather soft blood-clots, the brain surrounding it being softened and of a gray color, with abundant punctate hæmorrhages. The remaining portions of the brain were quite firm and showed nothing remarkable." The sinuses of the dura were everywhere free.

The examination of the body having no particular bearing on the case, has been omitted.

The case presents, I think, one or two points of interest:

(1) The complete smashing of the ball into so many different fragments, a rare occurrence when a conical bullet strikes a bone with its full initial velocity. In this case, one fragment fractured the squamous portion of the temporal bone, another fractured and penetrated the petrous portion, another lodged in the bone, while the remainder was broken up into the numerous fragments, as described.

(2) The normal or subnormal temperature observed during the whole course of the abscess formation, a symptom of abscess of the brain as yet not fully recognized as of importance as a diagnostic sign. Hulke, in Holmes's "System of Surgery," says that this symptom deserves attention; while Nancrede, in Ashurst's "Encyclopædia of Surgery," says: "I believe that an abscess involving cerebral tissue alone, will be accompanied, in most cases, by a subnormal, or at least, not an elevated temperature. When a high temperature is observed, either the pus-collection is simply a localized suppurative arachnitis, limited by adhesions, or there is a meningitis in addition to the abscess. If originating from bone caries, middle-ear disease, or where the abscess is secondary, there is almost, of necessity, an elevated temperature, although even here, during the height of the symptoms, as in a case reported by Huguenin, the temperature may be normal. If these observations are confirmed by others, a valuable diagnostic point will be afforded."

The sequence of events in this case, seems to have been 1st, Fractures of different portions of the temporal bone with contusion of the brain. Then inflammation of the membranes and formation of an abscess, the symptoms of which were almost latent until December 7th, when the symptom of headache became prominent. On December 19th, the abscess burst, partially evacuating itself through the meatus, the sudden disturbance of the cerebral tension resulting in the dizziness and vomiting which followed the discharge of pus. The second abscess then formed, with implication of the deeper structures of the brain, as shown by the rapidly-increasing paralysis and stupor, finally resulting in the hæmorrhage, which appears to have been the immediate cause of death.

All authorities agree that it is extremely difficult to make an early diagnosis of chronic abscess of the brain, particularly, when, as in this case, it was situated in the temporal lobe, which is not directly connected with sensibility or mobility.

Looking at this case after the autopsy, the symptoms appear to have been almost typical of an abscess in this region.

(1) A cause for the abscess existing.

(2) Mental weakness and loss of memory, though these symptoms might have been explained by a supposed mental disease, which caused his attempted suicide.

(3) Persistent headache during the last months, which a localized meningitis might have caused.

(4) Constipation.

(5) A normal or subnormal temperature and slow pulse, the former not, as yet, a fully recognized symptom of abscess, and finally, paresis, stupor, and death.

In regard to abscess of the brain in general, authorities practically agree that it is impossible to decide before an operation, whether or not an abscess is complicated with a meningitis. That an abscess following an injury of the skull is usually situated in that portion of the brain immediately beneath it, and that having made a diagnosis of abscess, the only possible remedy is in the evacuation of the pus.

With regard to trephining, the following rules appear to be generally agreed upon by the various writers on the subject:

If an injury over the motor region has been followed by symptoms of abscess, with paresis or paralysis of the opposite side, uncomplicated with anæsthesia, the prospect of evacuating the pus and relieving the symptoms would be good, the extent and completeness of the paralysis being an important element in the prognosis.

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[2] On section of the bone another fragment of lead was found firmly embedded in the fractured posterior or wall of the tympanic cavity.

The prognosis would be much graver, and the operation possibly contra-indicated, under the following conditions :

(1) If the paralysis was on the same side as the injury, showing a probable implication of the opposite side of the brain, in which case it would be useless to trephine over the original injury.

(2) The combination of anæsthesia with the paralysis, showing a lesion of the white substance of the brain, or of the internal capsule, too extensive to be relieved by an operation.

(3) With an injury in the frontal or occipital region, or over the sensory area of the skull, if paralysis occurs, which would indicate an extension to the motor area, or to the deeper parts of the brain. Although, as authorities agree that death is certain if the pus is not evacuated, it would seem that operative interference would be justifiable, even under such adverse conditions.

Having trephined the skull in search of pus, it would seem advisable to aspirate the brain through the dura, or to incise that membrane, whether or not it showed signs of an underlying inflammation. I have found no cases reported where immediate death followed aspiration or incision of the brain substance, while there are many instances where, at the autopsy, abscesses of the brain were found lying under the opening made by the trephine or in the vicinity which were not opened, either because the dura presented a normal appearance, or from fear of incising the brain substance.

Having opened an abscess of the brain, as much attention should be paid to drainage, as in the case of an abscess in any other situation. Cases are reported where the evacuation of the abscess was followed by a temporary relief of the symptoms of compression, and afterwards by death from extension of the abscess, which was not thoroughly drained.

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REPORT ON OBSTETRICS.

BY C. M. GREEN, M.D.

THE CHOICE OF METHODS IN ABDOMINAL DELIVERY.

Dr. R. P. Harris,[1] to whose unflagging interest the profession ever looks for light on this subject, gives a terse and lucid *résumé* of the present aspect of abdominal delivery in view of recent improvements in the operation, and tabulates the results of the Cæsarean operation by the new method of Sänger and its modifications during the past five years. Any method by which the uterine wound can be successfully closed is a great improvement on the so-called "old" Cæsarean operation, as has been shown by results in recent cases. But, as Dr. Harris has so frequently and forcibly pointed out, no method of operation, no amount of care in matters of detail, will often result successfully in cases which have been suffered to linger for hours and days undelivered in the vain hope that abdominal section may not be necessary. Delay and futile attempts at delivery are doubtless responsible for many failures in cases wherein timely operation by approved methods would have been successful. "When," says Dr. Harris, "will the accoucheurs of the United States realize the fact that the high rate of mortality lies at their door rather than at that of the operator?"

Sänger's method consists essentially in the resection of a strip of the muscular uterine wall on each side of the incision, whereby a free border of peritonæum can be turned in and its serous surfaces sutured. Spencer Wells has made it familiar that two peritoneal surfaces in apposition unite in twenty-four hours: and this fact was shown in Dr. Drysdale's case, in which death followed the operation in twenty-six hours and the peritoneal surfaces in the line of incision were found united post mortem. It has been found in practice, however, that muscular resection is not always necessary, as in some cases, after the uterus contracts, its serous coat is sufficiently loosened to readily allow the peritonæum to be slid over the edge and turned in. Several methods of suture have been devised by Sänger and others; but they all consist essentially of deep sutures of silver wire passing through the muscular tissue, but not including the decidua, and superficial stitches of cat-gut or silk so introduced as to approximate the turned-in peritoneal surfaces. Unless the uterine tissue is degenerated by disease or unduly long labor, this method ensures persistent closure of the uterus and prevents leakage into the peritoneal cavity. And with the improved methods of antisepsis now so generally employed there is no reason why the operation should not result successfully in a large proportion of cases, if only it is performed while the patient is in a favorable condition. Leopold, who follows Sänger's method with some modification, has saved four women and five children in five operations, a result very largely due to the fact that the operations were timely. Dr. Harris' table includes twelve cases, of which three were in this country and nine in Germany: of this number there were saved 50 per cent. of the women and 83 1-3 per cent. of the children. In five cases the condition was unfavorable at the time of the operation.

The chief obstacle to success in late Cæsarean operations, apart from the generally unfavorable condition of the patient, is undoubtedly the degenerated condition of the uterine tissue, on account of which union will not take place. In delayed cases, therefore, where the obstacle to natural delivery is not in the lower segment of the uterus, Dr. Harris thinks that laparo-elytrotomy deserves to be more thoroughly tested, as by this method incision of the uterus is avoided. The author has tabulated twelve cases of this operation, being all which have been performed in the last fifteen years since Dr. Thomas' first operation. Ten of these cases were in this country, and two in England. Of this number 50 per cent. of the women and 58 1-3 per cent. of the children were saved; but only four cases were considered "favorable" for the operation, and these all recovered and the children were all saved. Unquestionably in this country laparo-elytrotomy has been more successful than the Cæsarean operation.

When the child is putrid, the choice of operation should lie between the Porro-Müller operation and laparo-elytrotomy; but it appears safer to Dr. Harris to select the former method as affording less risk of subsequent septic absorption. The Porro-Cæsarean operation has proved very successful in Milan and Vienna, but quite the reverse in Germany, where the new methods have raised the old operation to greater estimation.

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[1] American Journal of Medical Sciences, October, 1885.

DIAGNOSIS OF THE POSITION OF THE HEAD BY FEELING OF THE FŒTAL EAR.

Lomer,[2] of Hamburg, recalls attention to the value of feeling of the fœtal ear as a means of verifying, in certain cases, the diagnosis of the position of the head. When the medical attendant sees a case of labor early, the diagnosis of position can usually be made by abdominal palpation, and confirmed by vaginal examination of the sutures and fontanelles. It sometimes happens, however, that the patient is not seen until late in the labor, when extensive œdema of the scalp has so obscured the sutures and fontanelles that by their examination no positive opinion can be formed. It is in such cases that instrumental interference is often necessary, and it is a matter of utmost importance that the fœtal position should be accurately made out. The anterior and posterior borders of the ear present such well-marked differences that examination of that member leaves no room for doubt towards which side of the pelvis the occiput is directed. When the head is low in the pelvis an ear can be reached without difficulty: if, however, the head is high, it may be necessary to introduce the half-hand; but as in such cases operative interference is usually indicated, when there is sufficient obstruction to cause enough œdema of the scalp to obscure the sutures and fontanelles, and as the patient would previously be anæsthetized, the examination with the half-hand can be made without difficulty. Where there is room between the head and pelvic walls for the forceps blades, there is room for the tips of examining fingers.

THE TREATMENT OF PREMATURELY-BORN INFANTS.

This subject has deservedly received considerable attention from recent authors; and it is now well known that, if any expectation is to be entertained of rearing prematurely-born infants, great care must be taken to maintain a suitably high temperature and to ensure a properly regulated nourishment. The former desideratum may easily be obtained by the use of either Credé's hot-water cradle or Tarnier's couveuse, the construction and method of use of which are now well understood and which are figured and described in the last edition of Lusk's Midwifery. To ensure a proper amount of nourishment for infants too weak to suck, M. Tarnier, in a recent paper[3] recommends the use of "gavage." The apparatus for practising gavage consists of a soft rubber catheter (size No. 18, Charrière) with a small glass cup fixed to its upper end. This catheter, well oiled, is passed down the œsophagus about six inches, when it may be supposed to have entered the stomach. The nourishing liquid is then poured into the glass cup and allowed to flow into the stomach by its own weight: in withdrawing the catheter it is necessary to do so rapidly, else the fluid may be regurgitated. The number of times in the twenty-four hours in which gavage should be employed and the amount of nourishment to be administered each time are to be determined, of course, by the age and strength of the infant: in general, the feedings should be more numerous and the amount of nourishment given each time diminished according as the age of the infant is less and its vital powers more feeble. When the child is very small and born considerably before full term, eight grammes is a sufficient amount for one feeding. Tarnier has used asses' milk with success; but of course human milk is to be preferred. In some cases the infant is sufficiently strong to suck in part, and the breast feeding can be combined with gavage. By the use of the couveuse and gavage, Tarnier has successfully reared two infants which were born soon after the sixth lunar month, and he does not altogether despair of rearing children born even before that time.

THE EFFECT OF FULL HOT BATHS IN EXCITING LABOR PAINS.

Led by the successful experience of Breus,[4] in the use of hot baths in the treatment of nephritis and eclampsia in the pregnant and puerperal conditions, Sippel,[5] of Frankfort, tried Breus' method in two cases, with the following interesting results: —

The patients were advanced to the thirty-second and thirty-fifth weeks of pregnancy: in both, albuminuria with scanty urine, œdema, nausea, vertigo and other symptoms foreboded eclampsia: neither patient as yet had labor pains, in both the fœtal pulse was normal. Both patients were put into a full hot bath at a temperature of 110° F.; kept there for twenty minutes, and then wrapped up in hot, moist blankets and subjected to profuse diaphoresis. Shortly after the removal from the bath uterine contractions set in. In one patient the pains continued and a living child was naturally delivered fourteen hours after the beginning of the bath: there was no hæmorrhage, the puerperium was normal, and the urine was free from albumen on the tenth day. In the other case the pains ceased after an hour and a half; but on the next day a second bath was given in a similar way, and forthwith pains set in which continued, and ten hours after the beginning of the bath a living child was spontaneously born. There was no hæmorrhage, the convalescence was normal and albumen disappeared from the urine within five days.

In the two cases in which Breus had used the hot-bath treatment during pregnancy, for the relief of uræmic symptoms, premature labor did not ensue: and Breus expressly states that this treatment may safely be employed during pregnancy, in cases of threatened eclampsia, without fear of inducing premature labor. This difference in results Sippel attributes to the fact that Breus in his cases gave chloral freely by rectum, which drug so diminished the reflex sensibility of the peripheral nerves that the hot baths did not excite labor pains. Premising that a like reflex irritability exists in the healthy gravida as in the pregnant woman suffering with nephritis, Sippel believed that if this irritability were not obtunded with narcotics, the hot bath might prove a valuable means of inducing premature labor, when for any reason that operation was indicated. An opportunity for testing his theory presented itself in the following case:

A secundi-gravida with a generally contracted pelvis having a diagonal conjugate of 4.2 inches, and who had advanced to the thirty-fifth week of pregnancy, was to have labor induced in the interest of the child. She was placed in a full bath at a temperature of 106° F., which was raised with tolerable rapidity to 110°: she remained in the bath twenty minutes, towards the end of which time slight pains set in, but soon disappeared. As there was no occasion to employ diaphoresis, the patient was then allowed to attend to her usual occupation. On the next day she received a second bath under similar conditions: slight pains ensued; but they soon ceased. On the following day she was placed in a third bath at a temperature of 110° F., which was soon raised, however, to 114° F., and she remained in the bath half an hour. During the bath pains began and labor progressed from that time, the head descending characteristically of the generally contracted pelvis, that is, in a position of extreme flexion. A living child was born, there was no atony of the uterus and the puerperium was normal.

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[2] Centralblatt für Gynäkologie, No. 35, 1885.

[3] Archives de Tocologie, September, 1885. Am. Jour. Med. Sciences, January, 1886.

[4] Vide Vol. cix., No. 2 and Vol. cx. No. 2, of this Journal.

[5] Centralblatt für Gynäkologie, No. 44, 1885.

Sippel is not led by his few observations to draw general conclusions, but hopes that the profession will give the hot-bath treatment due trial. If it is found that labor can be brought about with tolerable certainty by this method, the induction of premature labor will be freed from its greatest danger, namely, the danger of septic infection.

Dental Memoranda.

COPPER AMALGAM.

BY WILLIAM HERBERT ROLLINS.

THERE are many teeth too decayed to fill with gold, because the operations are too exhausting for the patients and much sound tooth substance must be cut away to make the cavity of the proper shape. The alternatives are gutta percha, cements and amalgams. All the gutta perchas are soft, all the cements are soluble, so that both these kinds of fillings require constant attention.

Amalgams are said to injure the health of patients; to shrink, making leaky fillings; to assume a somewhat globular form in setting, thus drawing out of the angles and allowing moisture to get in; to bulge after setting, through some slow molecular rearrangement, in this way leaking or splitting the tooth; to break at the edges of the filling so allowing food to lodge and produce fresh decay, and also all amalgam fillings change in color.

My experience with amalgam is extensive only with one made of copper. To what extent do these objections apply to this amalgam?

First, I have not yet seen any constitutional effect from its extensive use. Second, with regard to shrinkage—this amalgam does not shrink nor expand. Third, tendency to assume a globular form in hardening. If an irregular hole with sharp angles is made in a plate of glass and the hole packed with copper amalgam and placed in a colored solution, no leakage is seen, so that in this amalgam the globular tendency is not injurious. Fourth, bulging. In several hundred fillings I have seen no case. Fifth, fracture at the edges. Copper amalgam is twice as strong as the ordinary compound amalgams, and although it has not the edge strength of gold, a case has recently been reported in which the fillings on the grinding surfaces of the molars were perfect after twenty years wear. Lastly, copper amalgam does discolor badly: it makes the blackest kind of filling, but does not discolor the tooth unless the filling leaks, when it should be renewed.

Several methods of making this amalgam are given in works on chemistry and dentistry, though they differ in details they all agree in trying to make mercury unite with copper precipitated from a solution of one of its salts. This is difficult in practice, and the amalgam produced by any of these processes is always impure.

The following process is supposed to be new, is simple, and the product pure.

Distilled water 5 gallons. Sulphate of copper C.P. enough to saturate. Sulphuric acid C.P. one pound: mix, filter and pour into a wooden firkin. Place ten pounds of pure mercury in a gallon glass battery-jar and immerse in the copper solution. To the zinc plate of a galvanic-battery attach an insulated copper wire, leaving one end bare for quarter of an inch. This exposed end is then plunged under the surface of the mercury. Tie two pounds of pure granulated copper in a coarse cloth and hang it in the copper solution in the firkin, connecting it by a wire to the carbon of the battery. The battery is to be kept in action till the mercury is a paste.

This paste is to be washed in water and the surplus mercury squeezed through buckskin. The resulting soft amalgam is allowed to harden. On a large scale a dynamo would be more convenient, but one gallon-cell of a Bunsen battery will produce two pounds of amalgam in three days.

PREVENTIVE FILLINGS.

It is rare to find molar teeth in which the fissures formed in development on the grinding surfaces of the crowns do not decay and form cavities in a few years. These fissures are usually of such shape that a semi-liquid material can be worked into them with fine instruments. As soon as a molar has erupted, an attempt should be made to fill all the fissures on the grinding or other surfaces. The tooth should be made dry with absolute alcohol and warm air, after which copper amalgam is to be worked into all the minute cracks with suitable instruments. Copper amalgam is superior to all other substances for this purpose, because while it can be used in a semi-liquid state, it afterwards gets hard and insoluble. If the teeth on one side are treated in this way before decay begins, and on the other side treated in the ordinary way, that is, if nothing is done till more or less extensive decay has appeared, only a few years will be needed to show that this preventive treatment is of value, particularly in those delicate teeth, the first permanent molars.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

FEBRUARY 4th 1885. DR. C. B. PORTER presiding. DR. ROYAL WHITMAN reported

A CASE OF PISTOL-SHOT WOUND OF TEMPORAL BONE, FOLLOWED BY ABSCESS OF BRAIN.— AUTOPSY AND SPECIMEN.[1]

DR. GANNETT spoke of a case of cerebral abscess occurring at the City Hospital, which was remarkable on account of the absence of symptoms that would point to such a lesion. The patient was cook on an English steamer, and twenty-four hours before the time of sailing, having been in the hospital for a short time with slight symptoms, was up and about the ward, and wished to sail the next day. That night he died suddenly. On autopsy an abscess as large as a lemon was found in the right frontal lobe.

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[1] See page 170.

Dr. E. H. Bradford reported

A CASE OF OPERATION FOR THE CURE OF A SPINAL BIFIDA, AND AN OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA,[2]

the two cases being reported together on account of the similarity of the operative procedure.

Dr. A. T. Cabot asked the reader if he would inject iodine if the opening into the spinal canal was a large one.

Dr. Bradford replied that he probably would not, as what was wanted was to set up a slight irritation of the lining of the sac without its extending to the cord. If the sac could be drawn out so as to be clamped at its base, the injection might perhaps be made. He did not know of any cures by this latter method.

In reply to Dr. Harrington, Dr. Bradford said that the advantage in the method of operating adopted by him, was that two layers covered the opening into the spinal canal.

Dr. Cabot said that it seemed to him while watching Dr. Bradford's operation, that if a clamp were used to secure the pedicle, the ligature could then be passed and secured without danger.

In remarks on the hernia operation Dr. Green wished to know how many cases of the radical operation resulted in a permanent cure. From his own observations he concludes that all operations that depend for their success on a closure of the ring by a plug of deposited lymph, almost always fail, owing to absorption of the mass, and descent of the hernia. This operation being on a different plan, seems to promise better results. In regard to the success of Heaton's operation, he could say that in the past few months he had seen at least ten cases of relapse, some of which had been reported as successful operations.

Dr. Bradford said that at the City Hospital many cases had been operated upon by Heaton's method but the cases were seldom followed up so that the final result could be known. In one case, there was now, after two years, no relapse — two operations having been performed. Sometimes the patient can wear a truss after the operation where it was impossible before.

Dr. Mixter spoke of the difficulty in determining the exact point where the oak bark was injected. In several dissections made on children, after injections of colored fluid about the ring by one of the hospital surgeons, the point of the needle was shown to be sometimes in the peritoneal cavity, and sometimes at different points in the vicinity of the ring, rarely in the right spot.

Dr. Cabot mentioned a case operated on by him about a year ago for strangulated hernia, where the pillars of the ring were sewed together with catgut, and there was now no return of the hernia.

Dr. Conant spoke of a similar case, operated upon in similar manner, by Dr. J. C. Warren at the Massachusetts General Hospital, and said there had been no relapse.

Dr. C. B. Porter reported

A CASE OF SUPPOSED MULTIPLE SPINA BIFIDA, WHICH PROVED BY MICROSCOPIC EXAMINATION TO BE MULTIPLE CONGENITAL CAVERNOUS LYMPHANGIOMA OF THE BACK.[3]

Dr. Gannett showed the tumors removed by Dr. Porter, together with sections of the same under the microscope.

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MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

January 20th, Monument Hall, Charlestown, Z. B. Adams, M. D., President, in the chair.

IRREDUCIBLE AND STRANGULATED HERNIA.

Dr. S. E. Wyman, of Cambridge, read an able paper, giving a *résumé* of the descriptive anatomy of the subject. Dr. W. Everett Smith, of Framingham, followed with an account of the pathology:

Birkett attributes the strangulation of hernia to a predisposing cause, relying, first, on a previously existing disordered or relaxed state of the bowels, and, second, on a condition of congestion and hypersecretion of the small intestines.

Erichsen, on the contrary, believes these conditions to be the *result* and not the cause.

Three states are recognized: first, simple congestion with effusion of clear serum; extravasation of blood, occurring either from the firmness of the constriction or from the employment of taxis. Second, inflammation; the bowel appears softened, dull-looking, and leathery or pulpy. Lymph is seen on the peritoneal surface, and adhesions among the adjacent tissues. The serum in the sac becomes turbid, coffee-like, or filled with flocculi of exuded white corpuscles. Third, gangrene, commencing at the seat of firmest constriction — more rapid in direct inguinal, and femoral hernia, because the strangulation is more rigid and linear than in other varieties — may quickly involve the whole of the constricted parts, intestine or omentum. Where the pressure is diffused, ulceration and even perforation at the line of stricture is a more common occurrence. The peritoneal surface of the gut is duller than normal, the color ashy or black, adhesions form, the serum of the sac contains blood and pus, and sometimes a general peritonitis occurs. That the return of the gut into the abdomen is the usual cause of this general peritonitis (as maintained by Hutchinson and Gérard), is an assumption not borne out by the facts.

When, after reduction, the bowel ulcerates, either at the line of stricture or, as is common in femoral hernia, at the centre of the knuckle, an extravasation of fæces may occur. This may be localized by adhesions, and an artificial anus result. Statistics from Guy's Hospital Reports clearly go to show, however, that gangrene of the knuckle of intestine with subsequent artificial anus is far more common in femoral than in inguinal hernia, whereas ulceration at the line of stricture is more common in inguinal hernia and results usually from forcible taxis.

The mucus membrane of the gut is deeply congested, from the very beginning of the strangulation, the villi becoming swollen, softened, and friable. These lesions are especially pronounced at the afferent end of the loop, which is usually open and distended by fæcal matter or gas. The portion below the strangulated loop is diminished in calibre, and is also the seat inflammatory action. The junction of the loop with this portion is always occluded.

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[2] See page 169.

[3] See page 169.

Ulceration or gangrene proceeds from within outwards, that is, from the mucous towards the serous surfaces. The ensuing perforation may be very minute and difficult to find.

If the strangulation be sudden and complete, a slough may form in the space of twenty-four or forty-eight hours. If, however, the process of constriction has been gradual, the tissues become thick and leathery, a condition which adds materially to the difficulty of reduction by taxis, but which serves to show that the tissues are not dead.

Gas may be present in the sac, and give a marked crepitation. Fæcal matter is rarely found in the sac.

Strangulation is most violent in the femoral and the incomplete inguinal varieties, perhaps owing to their being overlooked by reason of smaller size than others. It should also be remembered that an old hernia is more liable to strangulation than a recent one, although in the latter, the symptoms are more dangerous, and likely to be attended with mortification. The relative frequency of seats of strangulation in inguinal hernia is, first, internal ring; second, edge of conjoined tendon; third, occasionally only, at outer ring.

ETIOLOGY. DR. WALTER ELA, CAMBRIDGE.

The best view to take to explain the mechanism of strangulation is that it is due to changes taking place in the protruded parts occasioned by their constriction by the tissues external to them. It may be due to an increased size of the hernia, from the presence of gas and fæces in the irreducible form, or it may come about in this way:

A knuckle of intestine or piece of omentum is suddenly protruded during effort of some kind; this immediately becomes compressed by the sides of the narrow aperture through which it has escaped; the return of its venous blood is consequently interfered with, and swelling and œdema rapidly ensue. If the ring is hard and sharp, the strangulated part may thus be deprived of vitality in a few hours. If otherwise, the congestion may run into inflammation. The return of the protruded parts will be rendered difficult or impossible by swelling, by œdema, and by adhesive inflammatory products.

DIFFERENTIAL DIAGNOSIS. DR. J. T. G. NICHOLS, CAMBRIDGE.

Strangulated hernia is most likely to be confounded with *obstructed* hernia, in which the included intestine is filled with fæcal masses and flatus, or with inflammation of the hernia or its sac, caused oftenest by violent taxis or by an ill-fitting truss. In the first-named affection the symptoms are rarely urgent, and by careful manipulation one can often press a portion of the contents of the hernia back into the intestinal canal. In inflammation of the hernia or sac, most commonly seen in irreducible hernia, the distinction is not always easy. Perhaps the rule which will oftenest guide us aright is this: in strangulated hernia the general symptoms precede and predominate over the local; in inflammatory hernia, the local symptoms precede, and are for a considerable time most marked. It is in these cases, in which the life of the patient turns upon our decision, that the rule applies, "When in doubt, operate."

Inflammation of the testis, arrested in its descent through the inguinal canal, may be mistaken for strangulated hernia. So, also, in inflammation of the lymphatic glands in the inguinal or femoral region, care in examination will seldom fail to clear away all doubt. Besides the ordinary seats of hernia, the trouble may show itself in unusual places, and so be overlooked or mistaken for something else. Among these, hernia into the labia majora and in the perineum, can hardly escape detection; so, also, hernia into the vaginal wall, if attention is directed to it. In these situations, hernia is rarely strangulated.

In obturator hernia the diagnosis is often extremely difficult. In many, indeed in most, cases of this rather rare disease there is no tumor to be seen. The pain in most of the cases recorded is described as being along the inner part of the thigh, inner aspect of the knee, and sometimes along the front of the leg and inner side of the foot. The presence of a tumor in the upper and inner part of the thigh, behind the femoral artery, instead of in front as in femoral hernia, might make the diagnosis possible or even easy. The pain follows the distribution of the obturator nerve and its anastomosis, and would of itself justify an exploration of this rather rare seat of hernia, (the obturator anastomoses with the interior cutaneous branch of the anterior crural and the internal saphenous branch). The pain may sometimes be elicited by rotating the hip outward. In cases of doubt, exploration by the rectum or vagina should not be omitted. In one case this hernia was discovered during an operation for the relief of supposed internal strangulation. Five cases are recorded in which this form of hernia was complicated by other herniæ: in one with double femoral, in three with femoral of the same side, in a fifth with inguinal hernia of the same side.

In fourteen out of twenty-five cases reported by Birkett in Holmes's Surgery, obturator hernia was discovered only after death. In hernia through the ischiatic notch, the tumor may be felt under the gluteus maximus muscle.

Diaphragmatic hernia has no certain diagnostic marks. The easiest way to overlook a thing is not to look for it; and this is the cause of many of the fatal mistakes in strangulated hernia. In any case in which the symptoms of strangulation present themselves, it is the duty of the physician to examine with the utmost care, not only the ordinary but the unusual seats of hernia.

HOW DOES IRREDUCIBLE HERNIA AFFECT LIFE INSURANCE? DR. THOMAS CROZIER, CHARLESTOWN.

In the medical selection of lives for insurance, hernia is not a frequent cause for rejection. Various estimates have been made of the proportion of hernia in the general population, varying from 40 to 83 per 1000. In the New England States, particularly in our cities, it is much more frequently met with than in the Western States. During the late war the examinations made on account of the draft showed the extreme prevalence of this disability in this section. About 6000 men were exempted in Boston alone by this disqualification. There does not appear to have been any very exhaustive attempt to fix the proportion throughout the general community, but various estimates make an average of about 60 per 1000 as the proportion in men. A careful examination of the writer's records of all applicants accepted and rejected during ten years, shows that hernia existed in 25 cases per 1000 examined, almost equally divided between right and left inguinal.

Knowledge of any infirmity which would be a bar to acceptance will deter the applicant, and agents are not anxious to lose time in soliciting doubtful cases; and this perhaps explains the comparative rarity of hernia in applicants for insurance. No medical man would pass as an average risk an applicant afflicted with irreducible hernia of any organ; irreducibility in intestinal hernia making strangulation more probable. If a hernia has been relieved by operation, the fact of its having once existed would be no bar to insurance.

Mortality from strangulation and attendant inflammation is a very small item in the losses. One company of long standing, for a recent loss from peritonitis following obstruction of the appendix caeci, paid an amount which would more than cover all losses from hernia during forty years of its existence. A simple hernia unless very large *would not of itself alone* be a sufficient cause for rejection.

The writer desired to call attention in closing to the valuable contribution to vital statistics now accumulating in the ordinary routine of experience of life insurance companies in Europe and America.

TREATMENT OF STRANGULATED HERNIA. S. W. DRIVER, CAMBRIDGE.

When called to a case of strangulated hernia in early stages, after careful examination, ascertaining as nearly as possible the kind of hernia and contents of sac, if no contra-indications, I have always tried gentle taxis even without ether, and have often reduced the hernia. Failing in this, I put patient in favorable position of relaxation, direct hot fomentations, and leave to return after some hours prepared to operate. Give ether, and always aspirate first, whether contents of sac be fluid or gas, or not determined. Then use firm and gentle taxis. (In two cases of crural hernia over forty-eight hours old, I aspirated and reduced; another crural was aspirated, taxis failed, was then relieved by cutting; one large inguinal, aspirated, taxis failed, and was returned after cutting.) Taxis failing, operate. If of a good many hours standing and there are signs of the later pathological changes about the tumor, I should not dare to use taxis, but cut at once.

Epigastric Hernia. I have seen but one epigastric hernia, and that traumatic. Man, aged forty, fell upon a cart-stake. Vomiting, shock, pain, present. Gave ether at once and reduced the hernia which was small and elastic, midway between umbilicus and ensiform cartilage, right. All went well for twenty-four hours, when symptoms of peritonitis appeared and death in six days. If unable to reduce I should have operated at once with similar methods as in any laparotomy.

Umbilical Hernia. One case of non-surgical treatment. Woman, fat, fifty-six, very large hernia, which had been strangulated before and reduced. At this time there was a portion of omentum which had escaped through the lower border of sac into a supplementary pocket. Patient cold, vomiting, colic pains, and bowels becoming tender. Hot fomentations, ether and taxis failed. Gave full doses of opium by injections and stimulants; applied belly-band and hot compresses. After three weeks of very critical symptoms she slowly began to convalesce and was fitted with a large shield truss. Four years after was again attacked with symptoms of obstruction and inflammation; as the contents of the sac could be displaced into the abdominal cavity and no strangulation could be shown to exist, patient was put on same treatment as before, and she died in less than a week. No autopsy.

Other means failing in this form of hernia we must decide whether to operate excising sac and ring under antiseptic precautions, closing the wound as in ovariotomy; or operate less radically freshening edges of ring and bringing together with catgut sutures. I prefer an operation which shall be essentially subcutaneous in those cases where you can locate the edge of the ring and define the sac and contents. (Remember there is no peritoneum covering the hernia.) Two subcutaneous knives, probe-pointed, right and left, with very short cutting edges bent at an angle of 45°, one inch from probe point; also right and left probe-pointed guards, to hold back the neck of the hernia from the ring and guide the knife. Puncture the skin one-half inch from edge of the sac, at point where you can best reach the edge of the ring. Enter probe-guard in front of the ring and press back the sac, following with knife with its back to the hernia and guard; elevate the wrist and nick slightly. I believe I have seen two cases suitable for this method of treatment. Any adhesions might prevent the return of the hernia, but strangulation would be relieved in this way.

I reduced a strangulated umbilical hernia lately, as follows:[1] The patient was fat, fifty years old or more, with a big belly. Hernia size of half a turkey's egg. Failing with ordinary taxis, I gathered the tumor together with all the fingers and thumbs of both hands and while exercising firm pressure lifted the anterior abdominal wall with careful force, hoping that either the shortness of the mesenteric attachments or spasmodic contraction would act as counter extension; at the same time I vibrated my hands with a view as it were to *unbutton* the ring. I was gratified to find that there was a counter-extension force and felt the hernia slipping through and dropping out of sight and touch. This hernia had been strangulated for twelve hours.

Oblique Inguinal Hernia. Here Dr. Driver explained in detail his method of operating. It is not desirable to open the sac if you can avoid it. The pons asinorum is to determine when you are in the sac. In case of small hernia with thick indurated sac there may be difficulty. Ordinarily you can pick up and divide each layer separately. The moment you slit the peritoneal layer there is a flow of liquid of greater or less amount. To release the strangulation a very slight nick ordinarily suffices. Slight adhesions in the contents of sac may be separated, but if extensive and the history is that of an old hernia long down, you will have to be satisfied with releasing the strangulation. If the sac contents, whether omentum or intestine, be necrosed you must generally leave it and drain the wound. In some cases necrosed portions of omentum had better be cut away and cat-gut ligatures applied to bleeding vessels.

Direct Inguinal Hernia. This requires similar treatment to the last mentioned, and great care should be exercised in picking up the layers external to the sac, remembering always that the internal epigastric artery lies external to the sac.

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[1] This method I have not seen described in any book of surgery nor by any surgeon.—S. W. D.

Crural Hernia. Do not mistake for omentum a layer of fat lying beneath the fascia propria. "Feel for obturator artery before cutting."

Obturator Hernia. This is rare. The incision is begun above Poupart's ligament at a point midway between spine of pubes and artery, exposing fascia covering pectineus muscle. Divide its fascia and separate the fibres of this muscle. Then dividing fat and separating fibres of the obturator muscle you can place your finger on the outlet of the obturator canal. Other rules apply as in the treatment of hernia above explained.

CASES OF STRANGULATED HERNIA.

July 2, 1874, M. D., age eighty. Large scrotal hernia, left. Seen at night, symptoms indicated strangulation. Ordered opium and hot compresses. Consultation in morning with Drs. Nichols and Wyman. Ether, aspiration and taxis failed to reduce. Cut down upon neck of sac with T incision. Dilated ring with the fingers. Failed to reduce and opened the sac. Nicked upper border of ring with hernia knife and reduced easily. Wound dressed antiseptically. All went well for four days. Wound closed kindly without tenderness or redness. Patient had a chill followed by swelling of left parotid gland, followed soon by inflammation and imperfect suppuration. This was opened but patient sank and died on the seventh day with symptoms of blood-poisoning. This occurrence may be cited to show the sympathy between the testis and parotid gland, as in mumps.

Mrs. H., American, age seventy. Right crural hernia. Symptoms of strangulation for two days. Directed hot applications, left her and returned after a short interval prepared to operate. Gave ether and aspirated a small amount of dirty fluid. Then after a careful and not severe taxis reduced the hernia. Patient sank in twenty-four hours. Treatment, stimulants and opium. I think in this case, not alone because the patient was old, but because of weakness of age, delay was fatal.

Dr. Driver showed specimen of a hard thickened hernial sac, crural, and a section of the large intestine in which was a segment of dark brown tissue marking the point where one-third of the lumen of the tube had been caught in the sac; there had been no necrosis of tissue but only intense congestion.

History. English woman; good circumstances, age eighty-two. Subject for many years, in August and September, to attacks of vomiting and later diarrhœa, caused generally by eating fruit or vegetables. On Sunday she ate peaches, on Monday complained of pain, nausea and vomiting. Wednesday vomiting recurred during night and at noon was reported to be stercoraceous. I had known patient for many years, had attended her in many similar attacks, but had never had any report of a tumor or swelling in her groin or anywhere else. On the appearance of this new symptom I examined for hernia and found this tumor in left groin. In consultation next morning Dr. Wyman aspirated a few drops of fluid and then reduced by taxis. Patient sank during following night. Autopsy showed no peritonitis even commencing. Patient died from shock.

These cases teach us the danger of delay in the aged. Where had this hernia been? what its history during all the years of its unrecognized existence?

Symptoms of patient and condition of tumor, not the age of the patient, should be the factors to decide the problem of procedure. In the earlier hours, gentle taxis without ether will sometimes succeed. Failing in this, and always when the case is seen late, the order is, ether, then aspiration, gentle firm taxis, and these failing, cut.

Dr. E. R. Cutler, of Waltham, cited cases, stating that he had operated ten times for strangulation. That the operation presented no difficulties, and if not delayed too late, or if no violent taxis had been employed, was, generally speaking, successful. That the danger was in delay and temporizing measures.

The President, Dr. Adams, in concluding the discussion of the subject, stated that he had lately had the pleasure to hear a paper read before the New York State Medical Association, at its annual meeting in New York, entitled, "The Difference in the Symptoms of Strangulated Oblique Inguinal Hernia," by Dr. Hyde, of Courtland County, New York, and also the question further discussed in a paper by Dr. John W. S. Gouley, of New York. The following is a summary of what was then heard, with one or two observations and illustrations derived from the writer's experience.

Repeated forcible attempts at taxis are dangerous and tend to enhance the risks of the operation which must be afterwards made, by increasing the inflammation and œdema of the parts. Dr. Gouley said that two minutes' trial in a warm bath is all that should be permitted.

By violent taxis doubtless a reduction may be produced *en bloc*, but this is believed to be a rare occurrence. Much more frequently may taxis deceive by causing a disappearance of the contents of the sac or of the fæcal matter in the intestine, while the hernia still remains unreduced and as much a source of danger as ever. An œdema caused by the taxis may also obscure and cover up the true condition of the parts.

The danger from opium is two-fold: first, we may be lulled into a false security and thus be led to defer operation until sphacelation has occurred, an accident especially liable to happen in the aged and in the case of a small omental hernia. Second, opium may cause such a degree of dryness of secretion, accompanied with constipation, vomiting, etc., and such nervous phenomena, as to lead us to think an operation called for when in fact the symptoms are chiefly due to the remedy. This especially in old irreducible cases. And in this connexion the fact should be noted that the doses of opium recommended in strangulation are poisonously large.

When once the diagnosis of strangulated hernia is made, there should be no delay in operating.

Dr. Gouley cited two cases where an operation for hernia was done, no hernia existing; enlarged glands were found and removed, and no harm done.

The age of the hernial strangulation is a very important factor, the age of the patient very much less so.

Successful cases of operation, it is true, are reported after six days, and even it is claimed thirteen days, of strangulation.

It is certain also that old herniæ, of long standing, will endure pretty severe taxis without grave injury resulting.

Symptoms, even in fatal cases, may be almost entirely absent. There may be neither tumor nor pain nor peritonitis nor vomiting.

Of this sort was my first case of strangulated hernia, thirty years ago. Feeble man, eighty years old, a dispensary patient. There were absolutely no symptoms except prostration, constipation and occasional but rare vomiting. On the second day a careful inspection disclosed a slight blush in one of the groins, but no tumor. Dr. R. M. Hodges, who kindly saw the man with me, thought it might be well to explore by cutting. A bit of strangulated omentum not larger than a small pea was found sphacelated. The man died soon after.

In general, it may be said that the symptoms, local and general, are less severe in inguinal, (especially oblique), than in femoral hernia, and that there is less danger in operating.

In the summer of 1882, Mrs. E., wife of a well-to-do farmer, age about fifty years, and of rather delicate constitution, was attacked somewhat suddenly with symptoms of strangulation. On examination an irreducible inguinal hernia of the left side, about as large as half a hen's egg was disclosed, which had existed for years, had never given her any trouble, and for which she had never used a truss. It was slightly tender, there was colic pain, with tympanites, obstinate constipation, vomiting, etc. She was treated with opium, rest, turpentine stupes and injections; and at the end of a week, without resorting to taxis or any other means, recovered.

In the summer of the next year she had another attack with the same or similar symptoms. In this second sickness there was no œdema, swelling, nor tenderness in the region of the tumor, and scarcely any pain. Feeling great confidence that the same happy result would follow from the use of opium as in the former seizure, the same treatment was ordered again. Her condition becoming alarming, she was seen by another physician in my absence. An operation was advised and practised, and a condition of gangrene disclosed. She sank a few hours after.

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NEW YORK ACADEMY OF MEDICINE.

Stated meeting, February 3d, 1886.

Dr. M. A. Starr read a somewhat technical paper on

THE INTRA-CEREBRAL TRACTS, THEIR PHYSIOLOGY AND ITS BEARING ON THE DIAGNOSIS OF LESIONS OF THE CENTRUM SEMI-OVALE,

which was illustrated by different specimens of brains prepared in such a way as to exhibit the three sets of fibres, the projection, the commissural, and the association fibres.

Dr. A. G. Caille read a paper on

PERMANENT DRAINAGE IN ASCITES.

He began by relating the case of an elderly gentleman who applied to him for treatment about four years ago, suffering from cirrhosis of the liver. This soon necessitated tapping and in the course of the next seven months he was tapped no less than nine times. Before resorting to a tenth tapping Dr. Caille determined that he would make a fistula in the abdominal walls, and put in a permanent drainage-tube. He therefore made an incision one inch in length in the linea alba below the umbilicus, and inserted an inch of drainage-tube into the peritoneal sac; retaining it by means of a varnished safety-pin, and using antiseptic precautions in the dressings applied. In about a week an eczema of the abdomen and thighs developed, owing to the fact that the patient could not keep himself dry by means of the cloths with which he was supplied. The abdomen and thighs were then smeared with mutton tallow, and the eczema disappeared in six days.

The result of the permanent drainage was, that the general œdema and all the other distressing symptoms from which the patient had been suffering, disappeared. He was soon able to go about with ease, and for nine months was able to attend to his ordinary avocations, contented and comfortable. He finally died from heart failure. When the drainage-tube was first put in from two to three pints of fluid were excreted daily; but this gradually diminished, until it ceased entirely, and the ascites never reäppeared. An autopsy was made; when it was found that there was cirrhosis of the liver, with cardiac hypertrophy. There was not the slightest evidence of peritonitis at the point where the tube had been inserted.

A second case was that of a man forty-six years of age, who had been a confirmed whiskey drinker, and who was suffering from cirrhosis of the liver, ascites and general anasarca, with all the distressing symptoms usually attending such a condition. He also had purpura hæmorrhagica, stomatitis and vomiting, and the heart's action was irregular and miserable. He was tapped once, and then the fluid reäccumulating, Dr. Caille made an opening, and inserted a drainage-tube in the same manner as in the preceding case; protecting the parts with iodoform gauze and dry towels. When the patient was in bed or sitting in a chair, a rubber tube conveying the fluid to a vessel on the floor was often attached to the drainage-tube. There was at once great improvement in the general condition; but about three weeks after the fistula was made, the patient suffered from a severe attack of epistaxis, which necessitated the plugging of the posterior nares. The purpura, vomiting, stomatitis and other troubles then disappeared, and he lived in comfort, without any return of the ascites, for a considerable period; finally dying of paralysis of the heart. In this case no autopsy was made.

Of course, he said, it was not claimed that this treatment was curative. Its object was simply the amelioration of the troublesome symptoms always associated with ascites. All the points involved in it were comprehended in a discussion of four questions. The first was, what are the symptoms most troublesome and dangerous in ascites? Ascites might occur alone, or associated with general anasarca; but in either case, dyspnœa, flatulence, constipation, debility, renal trouble from the pressure of the fluid, and a host of other troubles were liable to ensue.

The second question was, how is collateral circulation established in cirrhosis of the liver? At some length, Dr. Caille pointed out the various channels through which this might be accomplished.

The third question was, will absence of intra-abdominal pressure promote collateral circulation, the functional activity of other organs, and the comfort of the patient; as well as tend to prolong life? This he answered in the affirmative.

The fourth question was, how is drainage best accomplished? It could not be denied, he said, that the large amount of fluid which was drawn from the system by the method which he advocated, constituted a considerable drain upon the vital forces, and he showed what an amount of albumen would thus be abstracted in a given time; but, on the other hand, this was of comparatively little importance on account of the benefit derived from the better performance of the functions of other organs which resulted from the establishment of drainage.

He then went on to say that the *technique* of the proposed plan of procedure might be improved upon. For instance, a hard rubber or glass tube might be employed and a flat bag or antiseptic pad, to be worn on the abdomen below the fistula, might be provided. In all cases it was necessary that antiseptic precautions should be observed; though the danger from penetrating the peritoneum was found to be much less when ascites was present than under other circumstances. A large experience, he said in conclusion, was needed to determine the indications for permanent drainage, and the cases in which it was applicable.

The President, Dr. A. Jacobi, said that the procedure described in the paper was an imitation of what is sometimes accomplished by nature spontaneously. Spontaneous rupture of the abdominal walls might take place in ascites, and it was not an infrequent occurrence. It sometimes took place in the linea alba, but most commonly at the umbilicus. The fistula made by nature, however, might be in a spot that was inconvenient or uncomfortable for the patient; but when the surgeon made an artificial fistula he could select the place which would be in every way most satisfactory. Not long since he had seen in the German Hospital a patient in whose case a spontaneous fistula had been already established when he came under observation. While he remained in the hospital he lost fifty pounds in weight, and he went out feeling comfortable and able to work.

He then related another case in which he said he had to resort to permanent drainage. This patient was a young woman, twenty-three years of age, in his service at Bellevue Hospital, who had a history of anæmia and chlorosis; having been nineteen before she began to menstruate. For six or seven months before admission menstruation had ceased, and some six months before the cessation she had noticed a circumscribed swelling in the right hypogastric region. This gradually increased in size until she came into the hospital, when it was found that the tumor was quite large. At that time, however, it was two-thirds in the left hypogastric region, and only one-third in the right. There was decided tympanitis in the renal region and over the ascending colon. From the fluctuation recognized through the tumor he decided that it was a cyst, and probably an ovarian cyst, originating in the right ovary. The uterus was normal.

An abdominal incision was made with a view of removing the tumor; when it was found that there was no cyst at all. The condition present was, in fact, ascites, with abundant adhesions on both sides; and a glass tube was left in the abdominal opening for six weeks. In the meanwhile, the fluid did not return, and the patient was discharged in an improved condition. Afterwards, however, he learned that there had been no reäccumulation. In this instance the ascites was probably due to tubercular peritonitis, and the fatal termination was only a matter of time. Dr. Jacobi remarked that a number of years ago he had made precisely the same mistake in diagnosis; but it was one to which all were liable, since ascites when thus circumscribed by adhesions presented exactly the same characteristics as an ovarian cyst.

A third case which he related had come under observation after he had become acquainted with Dr. Caille's method of procedure. The patient had cirrhosis of the liver, and suffered from icterus, purpura, epistaxis, dyspnœa and loss of strength. He introduced a trocar through the abdominal walls midway between the umbilicus and bladder, and through this inserted a sterilized tube into the peritoneal cavity. To this was attached a rubber tube to convey the fluid to a pail under the bed. This procedure was adopted as a palliative measure to give the patient, who was in a hopeless condition, as much comfort as possible, and the tube was kept in position until he died. At night it was usually plugged up with wax. The quantity of fluid which flowed through it at first was extremely large, but gradually became smaller and smaller. The general condition of the patient after the operation was favorable; but he finally died from exhaustion. At the autopsy there was not the slightest evidence of local peritonitis found. Dr. Jacobi said, in conclusion, that he was convinced that the plan proposed was a good one, and that he should repeat the operation whenever suitable cases presented themselves.

Dr. Lindley inquired whether any medicinal treatment for the relief of the condition was used in Dr. Caille's cases, in addition to the establishment of permanent drainage.

Dr. Meyer stated that he had had under his charge a case of cellulitis ending in a large accumulation of pus, in which a fistula was spontaneously formed below the umbilicus. In this instance he made a counter-opening from the peritoneal cavity into the vagina, and through this the pus had been discharging for the last two years. The quantity had, however, been gradually diminishing, and the cellulitis was also decreasing. In ascites also, occurring in females, it had occurred to him, therefore, that it might be advisable to make an opening into the vagina.

In reply to a question from the chair whether in the case mentioned, he was sure that the pus was in the abdominal cavity, Dr. Meyer said that he was positive of this, and that the patient had previously had peritonitis.

Dr. Caille having stated that in his cases great care was used in the selection of food, but that no medicine had been used with the exception of Horsford's Acid Phosphate, Dr. Lindley said that among the Dutch in South Africa he had found that honey was held in very high repute in cases of abdominal dropsy. He then related a case of his own there, in which, after tapping, the fluid rapidly reaccumulated. He was then persuaded by some of the old women to try the effect of honey; when to his surprise, the man, although he had every indication of cirrhosis of the liver, began to improve, and in time was apparently entirely cured. He would not pretend to give any explanation of this, but thought that it was worthy of note that the people there had such universal confidence in the efficacy of honey.

Dr. B. F. Sherman, of Ogdensburg, suggested that the peculiar virtue of the South African honey might perhaps be derived from the flowers from which it was gathered by the bees.

Dr. Jacobi then made some remarks on the medicinal treatment of the affection in question. He was confident, he said, that he had seen cases of cirrhosis of the liver getting perfectly well; but it was to be remembered that an interstitial hepatitis was not necessarily a universal hepatitis, just as interstitial nephritis, myelitis, and encephalitis might be partial, instead of involving the whole extent of the organ affected. In a number of cases which had come under his observation in which the diagnosis of cirrhosis had been made by himself and others, the ascites had disappeared, and now returned; the liver getting smaller, without a corresponding enlargement of the spleen, and the patient becoming practically well.

The treatment was to his mind simple. When he met such cases of interstitial inflammation in practice, and could make out a history of syphilitic trouble, we always congratulated ourselves and the patient on this account, because of the more favorable prognosis which it enabled us to make; there being a fair chance of recovery as a result of an appropriate course of treatment with iodide of potassium and bichloride of mercury. He then remarked that as a student he had been taught that it was a cruel thing to give mercury; that it was antiplastic, and that if with it you succeeded in curing the disease present in any case, it was only to destroy the patient with the remedy employed. Except in syphilitic cases, therefore, for a number of years he used no mercury whatever in his practice. During the last ten or fifteen years, however, he had been endeavoring to make up for this mistake in regard to this really most useful agent. He had found by experience that in various forms of interstitial inflammation, mercury was often very beneficial, and in this connection he related a case of tabes which he had had under his observation for about twenty-five years. For a long time there was no improvement, although nitrate of silver and other agents had been faithfully tried; but since he had resorted to the use of mercury there had been marked progress, and the patient, although he had never had syphilis, was now practically well.

In interstitial hepatitis, nephritis, myelitis, and encephalitis, therefore, he would recommend the use of mercury; and it should be given in such a form and in such doses as could be taken for a long time. As a rule, the bichloride was the most suitable preparation and it might be given, largely diluted, in solution, or preferably in pills; the ordinary amount called for being about one-tenth of a grain three times a day. The patient should be instructed to use a chlorate of potash wash and to carefully watch his gums. The cyanide of mercury had been recommended by some; but he had had little experience with it.

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NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting January 4, 1886. The President, W. R. BIRDSALL, M.D., in the chair.

A CASE OF SOFTENING OF THE CORPORA STRIATA, WITH SPECIMEN.

DR. J. C SHAW related the case, that of a gentleman thirty-eight years of age, whom he saw for the first time in July, 1883, in consultation with Dr. Fuller. The patient was a large man, healthy in appearance. About a month previously he had an attack of hemiplegia on the right side, with very temporary loss of consciousness. When Dr. Shaw saw him the arm had entirely recovered, but there was still dragging of the leg. The tendon reflex of that side was exaggerated. There had been no premonitory symptoms except that for six months previous the patient had at times been exceedingly irritable. He denied having had headache, or syphilis, and claimed that if it were not for the paralysis of the leg he would be in perfect health. At this time Dr. Shaw was in some doubt regarding the nature of the lesion; the diagnosis seemed to lie between cerebral hæmorrhage and a possible meningo-encephalitis. Against cerebral hæmorrhage was his age and the dragging of the foot, the toe scraping the floor; and about the only point which favored meningo-encephalitis was mental irritability. The patient would take no medicine except cathartics.

Dr. Shaw saw him again in consultation in June, 1884. He had suddenly become completely hemiplegic upon the left side; was unconscious and had stertorous respiration; he passed his urine and fæces in bed. Recovery gradually took place from this unconscious state. Paralysis remained on the left side. Trophic troubles began in the joints of the paralyzed arm, accompanied with pain. Patient would cry when spoken to, and could give no history of himself. At this attack Dr. Shaw concluded that there was cerebral arteritis, probably syphilitic, and thrombosis. The patient accused his wife of infidelity, became very noisy at night, and was sent to an institution, where he died in October, 1884.

At the autopsy the viscera appeared to the naked eye to be normal. Nothing special was observed in the meninges. Then ventricles were distended with fluid, and contained granulations. The corpora straita were softened, due to arteritis of both middle cerebral arteries and their branches. There was secondary degeneration in the cord on both sides, and the case seemed to illustrate the unequalness of the decussating fibres on the two sides. The degeneration on the right side in this instance being much more marked than on the left.

Dr. Shaw said that the points of interest to him were, that both arteries should have been involved in the arteritis, causing softening of the corpora straita on both sides. That the patient saw dogs, etc., at night, which might have been a form of visual hallucination. Lastly, the accusation of his wife of unfaithfulness, a symptom which is frequently met in chronic alcoholics, but rarely in other conditions.

DR. E. C. SEGUIN asked if there was not probably involvement of at least one internal capsule.

DR. SHAW replied that there was, and that the case probably was not one of limited involvement of the corpora striata.

DR. SEGUIN thought a point of interest was the fact that granulations were found in the ventricles, for this was a rare pathological condition except in general paralysis. It was sometimes found in other conditions, as chronic mania.

DR. SHAW said the granulations in this case were marked. He had seen granulations on the floor of the ventricles in a variety of conditions, in the chronic insane and others. Sections of the cerebral cortex did not show the lesions characteristic of general paralysis. Dr. Seguin may have noticed that the patient was unusually satisfied with his condition, almost amounting to delirium of satisfaction.

DR. GRACE PECKHAM then read a paper entitled,

MIRROR WRITING AND OTHER PATHOLOGICAL CHIROGRAPHY OF NERVOUS ORIGIN.

The paper was introduced by a reference to the expression of individuality in handwriting. "As the members of the body are the servants of the brain to carry out its will in motion, as the vocal organs express its thoughts in sounds, so in the act of writing the hand embodies the subtleties of cerebral action; it is therefore in writing that we may find express deviations from normal nervous conditions, sometimes too slight to be indicated in any other way."

The physiology of the handwriting was next considered. Poore's views with regard to the muscles employed in the act of writing were quoted. At no time in the act of writing are fewer than two nerves engaged. The cerebral centres which preside over writing and the inter-commissural tracts are not fully made out. Charcot and others think there is a word motor representative centre situated at the base of the left third frontal convolution, near Broca's centre of speech; auditory centres, employed when writing to dictation, in the temoral convolution; ocular centres, used when copying, in the parietal convolution.

We have a right-handed writing to be written with a centrifugal motion, in one direction, across the page from left to right, a writing which taxes the weak muscles of the hands, and which takes four or five times as long as is necessary for the representation of a word as is shown by stenographers who write as fast as a person can speak. In view of the increase of writer's cramp due to the extraordinary amount of writing to be done by book-keepers, book-writers, teachers and savants, it was suggested that a new method of writing should be intelligently discussed and one inaugurated which should be less elaborate, less taxing upon the small and weak muscles of the hand; a handwriting in which the letters can be formed as in the phonograph, disconnected, not requiring such precise and complicated motion to make them legible, and which can be written from above downward, from right to left or left to right, as one may choose.

Bianchi, in Italy, and Erlenmeyer, in Germany, were almost the only ones who had entered into the study of the pathological signification of the handwriting. The subject had been considered in a disconnected way as a symptom of some diseases treated of in various text-books. However remotely alluded to, there had been a general acknowledgment of the value of a diagnostic sign of the handwriting of disease.

The handwriting may become pathological through the alteration of any portion of the mechanism involved in its production. The paper included only a discussion of the changes produced by abnormal conditions of the nervous apparatus. Alterations in the handwriting may be mechanical or psychical, ataxic or tremulous, or a mingling of the two forms. The ataxic is physiological when seen in childhood, before the power of co-ordination of muscles for the complex act has been acquired. The tremor is physiological in the handwriting of the aged, in which also is seen a tendency to retrograde into childish handwriting. The principal pathological handwritings are: —

(1) Handwriting resulting from trauma to the nerves. (2) Mirror writing and agraphia, caused by injury to the cerebral centres. (3) Handwriting of general paralysis, caused by alteration of cerebral tissue. (4) Handwriting caused by sclerosis, cerebral and spinal. (5) Handwriting caused by functional disturbance, including paralysis agitans and writer's cramp.

Samples of handwriting can be shown occasioned by the interference with the conducting nerve-fibres. Erlenmeyer exhibits a very curious specimen in which there was injury to the radial nerve. The tremulousness, or, rather, interruption of the lines, especially of the upper stroke, is very peculiar.

It is to be regretted that handwriting following injury to nerves has not been more studied, as much of interest from a physiological as well as a pathological point of view might be attained.

At present, considerable discussion has been awakened with reference to mirror writing. Ireland called especial attention to it by his paper in *Brain*, in 1883. Hughlings, Jackson and Buchwald, first discovered mirror writing. From experimentation and investigation of the subject the writer reached the following conclusions: —

First. That mirror-writing may indicate a change in the perception of the nerve-centres of the brain, what Erlenmeyer would call retrographia. The patient suffering from this would read the reversed writing certainly as easily as the normal. This would be a means of diagnosis between a cerebral mirror-writing and one from mechanical causes alone.

Second. That from twenty-five careful examinations of cases on record no indication has been found that the mirror-writing occurred from other cause than a mechanical one; that is, the person writing with the left hand could do so more easily in a centrifugal than in a centripetal direction, the former association of ideas and muscular action making this so. Therefore a person weakened by disease, weak-minded children, and left-handed persons, would write centrifugally, or mirror-writing. The reason lies, therefore, not in a pathological, but in a physiological condition.

The subject of agraphia has been much discussed of late with that of aphasia. It was first spoken of by Marce, in 1856. There are very few cases of agraphia uncomplicated with aphasia on record. In agraphia, there may be word blindness, word deafness, or a volitional motor disturbance resulting in inability to write. The investigators of the subject have entered deeply into the discussion of the seat of the writing centre in the left hemisphere. The unilateral theory is not so fully endorsed as hitherto.

The diagnostic value of the handwriting in agraphia resides in the evidence it gives of the extent of damage done to the brain tissue in these cases of hemiplegia, and also an indication of the location of the trouble.

In the early stages the handwriting of the insane indicates little the invasion of the disease, but when there is bad spelling and omission of words it should awaken suspicion. The progress of the malady is marked by changes in the handwriting. It is the reverse of that of childhood. In the first stage there is a diminution of the handwriting, a running of the words together, and either not finishing the final letter or terminating it in an irregular outline or dropping it entirely. The letters are shaky, irregular, and there is a plentiful besprinkling of capitals. Later the letters are coarse, irregular, in uneven lines, and finally there are scattered pot-hooks and ataxic marks, like a child first learning to write.

The handwriting of multiple cerebro-spinal sclerosis is characterized by tremulousness.

In locomotor ataxia involving the upper extremities the changes are shown early when writing with the eyes closed, especially in round letters and l and e. They are formed by straight lines, more or less extended, instead of curves. When the disease is further advanced the writing is ataxic when the eyes are open, though not so much so as when they are closed. Later there is inability to write a single word.

The functional disturbances of the handwriting include the handwriting of paralysis agitans and writer's cramp, as also that of chorea and hysteria. In the two latter there is nothing of special diagnostic value. The writing of paralysis agitans shows the tremor in the early stages. Even when the handwriting looks normal to the naked eye, a glass will reveal the peculiar character given it by trembling. In writer's cramp the writing shows many forms of disturbance, and were there no history it would be difficult to say whether we were dealing with some of the various forms of tremor, paralysis agitans, progressive muscular atrophy, etc. A study of the handwriting will, however, reveal the nature of the disturbance, whether it is of the spastic, tremulous, or paralytic form.

DISCUSSION ON DR. PECKHAM'S PAPER.

Dr. E. C. Seguin said that in his practice he had frequently derived considerable help in diagnosis from the patient's handwriting. He thought the medicolegal aspect of pathological handwriting might after further study assume considerable importance. It would be of value to be able to say in a court of law whether a given specimen of handwriting were that of an aged imbecile, a general paralytic, or an intoxicated person.

Dr. Leszynsky thought he could hardly say from the specimens of handwriting of paralysis agitans presented that they were characteristic of that disease. He had a number of specimens of handwriting of chronic alcoholismus which were almost exactly similar. Dr. Peckham had not mentioned the handwriting of epileptics, nor had he read of anything characteristic about it, but he could recall two epileptics whose handwriting appeared to be rather unique. In some epileptics there was the condition known as the echo sign, being a repetition of words during conversation. He had seen the same thing manifested in the writing in two cases. He had recently had a case of telegrapher's cramp in which the movements were markedly ataxic, being without any control.

Dr. Putnam Jacobi had been struck by the great varieties and peculiarities in the handwriting of persons in usual health. Some of the peculiarities supposed to be more or less characteristic of the handwriting of diseased states were also observable in the handwriting of certain persons in a state of health. For instance, Dr. Jacobi was unable without giving special attention to write in a direct line across the page: the line always sloped downward. The question had suggested itself to her whether in the case of the insane the tendency, especially after writing for a while, to slope the line downward and to use capitals profusely, was not due to mental fatigue; and the use of capitals might be due to a desire to emphasize an idea which a fatigued and feeble brain was incapable of correctly expressing.

Dr. Dana said he did not think it would be practical for everybody to learn shorthand instead of other writing, but he thought some modification of shorthand might be adopted. There would result perhaps greater facility of expression if present methods of writing were simplified, but there would no doubt be an increased amount of writing which perhaps would be a greater misfortune.

Regarding mirror-writing he thought it was physiological. When we educate the centres to write with the right hand we at the same time educate to some extent the automatic centres for left-hand or mirror-writing. If a person put a pencil in either hand and attempt to write his own name, he will find that the left hand will write mirror-writing while from the right hand the usual writing will result. If then by hæmorrhage the centre for right-hand writing be destroyed it would be perfectly natural for the centre controlling left-hand writing, if not corrected by the will, to produce mirror-writing.

Dr. A. B. Judson presented a specimen of mirror-writing by a negro girl, eleven years of age, produced ten years ago. She had slight right hemiplegia, but was able to perform household work with the right hand, and she could also write somewhat with it. The writing with the left hand was a fine specimen of mirror-writing.

Dr. Peckham closed the discussion, and said that the echo sign, the repetition of written words, was well shown in the third specimen presented, that of a woman who had right hemiplegia and amnesic agraphia. Regarding the use of capitals and the tendency to underscore by the insane, she thought it in harmony with their exaggerated ideas.

Recent Literature.

Manuel de Technique des Autopsies. Par **Bourneville** et **P. Bricon**. Avec 16 figures et 5 planches. Paris: Librarie du Progrès Médcal. 1885.

This little book fulfills the purpose which its authors have indicated in its title. It is a concise and excellent guide-book for the performance of autopsies in accordance with scientific methods. It tells us what instruments to use, and how to use them; it describes the order in which the various organs should be examined, and explains the best way of their external and internal inspection.

With each step in the process, it gives a brief mention of the abnormal changes which may be found and which should be sought. In all this, the principal part of their work, the authors have given in new language, and with more or less elaboration in details, that which was already familiar to most students of pathological anatomy in the well-known manual of Virchow. To those who wish a safe and eminently practical guide through the somewhat mazy details of a full autopsy, this book may cordially be commended.

In addition to the purely technical matters relating to a post-mortem examination, the book contains interesting chapters on the bibliography of the subject, on the social and legal usages of various countries relating to autopsies, and on preservative processes and agents. It seems to have escaped the authors' recollection that most geographers make mention of a nation called the United States; it is satisfactory to learn that at Port-au-Prince, in Hayti, autopsies are made soon after death, because the climate promotes early decomposition, but why Port-au-Prince should be distinguished as the only locality on this side of the Atlantic worthy of any mention, is left wholly to the imagination.

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PTOMAINES AND LEUCOMAINES.

Panum in 1856 demonstrated that there exists in animal substances undergoing decomposition a poison of extreme activity. Armand Gautier, in 1870 discovered in the muscular juice of healthy animals, and even in their urine, certain alkaloids which he called *leucomaines.* In 1876 Selmi, in searching for arsenic in a cadaver that had been exhumed after thirty days' burial, discovered a toxic and crystallizable principle to which he gave the name *ptomaine.* All these animal alkaloids are similar in their nature to those produced by plants, but are supposed to be either a product of simple chemical decomposition, or a secretion of the animal cell under certain conditions (like vegetal poison) or else the work of bacteria.

These alkaloids are markedly toxic. Gautier's leucomaines have an action on the economy similar to that of strychnia; they more nearly resemble, however, the fly fungus muscarine in their physiological effects; among these are stupor, tetanic convulsions, cardiac irregularities with finally death by tetany of that organ. Brieger has recently found a base by the action of ether on nerve tissue, to which he has given the name of *neuridine;* it is non-toxic, but by simple exposure to air in a watery solution it is converted into that deadly poison muscarine; this same experimenter also claims to have obtained an alkaloid of the nature of ptomaine from the action of gastric juice on fibrin. Tanret, the well-known French pharmacist, has announced that alkaloids are generated by the simple contact of peptones with alkaline salts, while Bouchard and Arnold have completed researches in this direction by showing that toxic alkaloids of the nature of ptomaines may be extracted from fæcal matters.

In a remarkable communication lately presented to the Academy of Medicine, France, by Dr. Gautier, on "The Alkaloids Derived from Bacterial or Physiological Destruction of the Animal Tissues,"[1] are given some facts regarding these ptomaines which are worthy of reproduction in this connection. The ptomaines form salts such as sulphates, hydrochlorates, etc. The free ptomaines have some of them a pungent, some a urinous odor, some smell like hawthorn, some like wild rose, or orange flower. They have for the most part a piquant savor, which benumbs the tongue and is attended with a choking sensation.

Gautier gives the process of obtaining some of the principal animal alkaloids. Putrefying meat is subjected to the action of ether, and certain alkaline principles are dissolved out, which resemble at once sperm and methylamine. The alkaloids are isolated by evaporating off the ether; they are then dissolved in water. A gramme of this solution injected in a dog produces stupefaction, tremblings, chronic spasms of all the muscles of the trunk, slowing of the respiration and death after forty-five minutes. The heart is found arrested in systole.

After exhaustion of the putrefied viscus or muscle by ether, new alkaline bases may be got by subjecting the same parts to the action of chloroform. The solvent being evaporated away the residual ptomaines are taken up by acidulated water. A subcutaneous injection of the latter causes death in the dog with symptoms similar to those produced by veratrin or digitalin. If the residue of the ether and chloroform maceration be exposed to the action of amylic alcohol still a third series of ptomaines is extracted, which, injected in frogs, cause general anæsthesia and prostration and death after a few minutes. These ptomaines were obtained by Dr. Gautier from a human cadaver exhumed after being buried ninety-six days.

These are some of Gautier's conclusions:

(1) The fixed cadaveric alkaloids or ptomaines are venomous to a high degree.

(2) The free ptomaines are more poisonous than their salts, and those are especially toxic that are soluble in ether.

The principle phenomena to which they give rise in the frog are the following: (1) Dilatation, followed by contraction of the pupil. (2) Tetanic convulsions, followed by muscular flaccidity. (3) Slowing of the heart. (4) Absolute cutaneous anæsthesia. (5) Loss of muscular contractility.

In the dog similar phenomena are observed; death is preceded by somnolence and convulsions. These symptoms resemble those produced by muscarine.

Gautier, in some of his experiments, found a nitrogenous base, with formula $C^8 H^{11} N$, which he named *hydrocollidine*, the symptoms following the injection of which in birds and small animals resemble those of the venom of the most poisonous serpents, the cobra di capello, for instance. One milligramme kills a sparrow in an hour, with general spasmodic agitation and paralysis.

Continuing his investigations, the author of the memoir from which we are now quoting announced in 1881 that there constantly appear in the excretions of living and healthy animals bodies of the nature of ptomaines. He showed that the alkaloids of the urine discovered by Liebreicht and Pouchet ought to be classed along with the alkaloids of putrefaction already known; similar alkaloids have been found in the saliva and in the muscles; among the latter he designates xanthocreatine, crusocreatine, and pseudoxanthine. Gautier gives to all these the name of *leucomaines* to distinguish them from the cadaveric alkaloids. These divers alkaloids, according to this writer, accumulate in the blood, when for various reasons the skin, the kidneys and the digestive tube fail to eliminate them; they there exercise pathological influences more or less disastrous to the entire economy. Some idea of these effects may be gained by noting the results of the injection in animals of several of these new *leucomaines*, of a perfectly defined and crystalline character, which Gautier has extracted from muscle juice; these results are chiefly somnolence, prostration, sometimes vomiting and purging. The leucomaines are, however, less active than the ptomaines. These alkaloids are incessantly formed during health, and are as much products of disassimilation as urea, carbonic acid, creatine, etc.

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[1] Session January 12–19, 1886. (Journal des Societés Scientifiques, January 13–20.)

According to Gautier, we resist incessant auto-infection by two distinct mechanisms; elimination of the toxic principle, and its destruction by oxygen. Elimination by the kidneys can be proved, and the same experimenter has always detected alkaloids of the nature of ptomaines in normal urine, though in feeble quantity and the proportion materially augments in certain pathological states such as typhoid fever and cerebral diseases.

Elimination by the digestive tube is also probable, but the problem is rendered somewhat complex by the fact that ptomaines are constantly being formed in the intestines owing to the action of bacteria on the fæces, and these alkaloids are likely to be absorbed when any cause prevents their due removal in the stools.

But the most powerful means of elimination of these bases is their constant combustion by oxygen. The greater part of these poisons are very oxidizable, and it is by the vivifying influence of constantly renewed supplies of oxygen in the normal state that they are burned in the blood, perhaps also in the tissues, and disappear. Hence, normally, we find but a small proportion of muscular leucomaines in the urine.

But let any cause, whatever, diminish the access of air to the blood, or let the quantity of hæmoglobin diminish as in chlorosis and anæmia, or let some substance interfering with hæmatosis be introduced and there will soon be an accumulation of azotized substances of the nature of ptomaines and leucomaines. It is in accordance with this theory, says Gautier, that we may explain the nervous troubles of chlorosis, anæmia, pregnancy, and the beneficial influence of respirations of oxygen, the only means thus far known of combating efficaciously this vomiting, which is without doubt provoked by the retention in the blood of a poison imperfectly eliminated, or incompletely burned. "May we not be allowed to ask," adds the same writer, "if fever itself, which coincides with a minimum consumption of aliments and an inversely proportionate increase in the carbonic acid eliminated, and the oxygen consumed, also with a quickened circulation, may not have for its consequence the destruction of a poison which has been formed in excess in the economy?"

The therapeutic deduction which M. Gautier would draw from the above considerations is the beneficial effect likely to be obtained from whatever can excite the functions of the skin, the kidneys and the intestines, and what is perhaps of still more importance the powerful disinfection likely to accrue to the economy from everything which energizes respiration and hæmatosis.

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EARLY LAPAROTOMY IN INTESTINAL OBSTRUCTION.

Few questions of diagnosis and treatment are endued with more interest and importance than those of intestinal obstruction, surrounded as it is, by a cordon of doubt and uncertainty in both particulars. Though the admirable work accomplished by Treves is a most valuable contribution to medical knowledge, since it furnishes data which, at least, familiarize one with what may happen to the intestine, the hard fact, however, still presents itself, that patients are allowed to die with symptoms of intestinal obstruction where an autopsy shows, only too clearly, that a human life could have been saved by a timely and skillful operation. This is wrong, and deserves serious consideration.

The opinion of German surgeons, as expressed at Berlin during the past year, emphasized the necessity of an early diagnosis, since in cases capable of relief through surgical interference, complications — for example, peritonitis and collapse — follow rapidly the primary trouble. Hence, the longer the delay, the less the probability of a recovery. It is not the last stages of these cases, where the stercoraceous vomiting and marked collapse of the victim form a picture so characteristic as to admit of but one interpretation, that are so difficult of recognition; but their early development when the symptoms, few and indefinite, may denote merely a functional derangement requiring simple medicinal treatment, or may be the first premonitions of a hidden danger, destined to jeopardize life, and demanding the most prompt and decisive surgical interference.

To be able to positively assert that one case is a narrowing of the caliber of the ileum, or that another is an obstruction due to persistent omphalo-mesenteric structures is a perfection of diagnostic power, which will be most pleasing when acquired; but at present, such accuracy is of minor importance.

We are first called upon to distinguish cases requiring surgical aid, from those capable of relief by medical treatment; and it is at such times when delay is so vital, and the difficulties and uncertainties of diagnosis are so prominent that the absence of diagnostic power is so strikingly felt. It is also at this moment, that the full value of a laparotomy is realized.

Such means of establishing a diagnosis may seem too heroic; but it is not with any desire to undervalue the aid derived from other methods of examination or exploration, or to relinquish our efforts to discover, if possible, some way less extreme by which these cases can be recognized that we give it such an important place. It is desirable to make an accurate diagnosis if possible without laparotomy, but, if in the present state of our knowledge, that cannot be done, it is preferable to perform it than to run a greater risk of losing a patient through delay. One rarely operates too soon, and often too late. In these cases, a diagnosis must be made, and at once. One cannot wait till symptoms develop which permit an accurate diagnosis regarding the nature of the lesion. An operation, to be successful, must be done early, when diagnosis is difficult. Often while a surgeon waits for definite symptoms the golden opportunity escapes him, and he finds, when the case has developed so far as to present unmistakable signs, that he is too late, and is chagrined to discover, as he stands at the autopsy table of his patient, that a single stroke of his knife would have rescued a human life.

What surgeon in the present time would be justified in neglecting to explore an inguinal tumor of doubtful character when accompanied by acute symptoms of intestinal strangulation? Does he hesitate to dissect down upon such a tumor and relieve the strangulation even though he open the peritoneum? Why then in a case of intestinal obstruction with symptoms almost identical in character and fully as urgent should he hesitate to promptly find the cause by the aid of an exploratory laparotomy? The great difference of opinion on this subject is due to great difficulty in diagnosis, and indications for interference are not continued or stercoraceous vomiting, marked collapse, or symptoms equally prominent, but the failure of ordinary means to relieve. This is the real indication, and it is at this moment that the surgeon can by an exploratory incision, and with comparatively little risk, cut through the cloud, which obscures his vision, with the same stroke that divides the abdominal wall of his patient.

Apparently the reluctance of surgeons to interfere in these cases is due to the following reasons: First, the difficulties surrounding an accurate diagnosis. Second, non-familiarity with a methodical examination of the abdominal cavity. Third, lack of knowledge of what may prove to be the cause of the obstruction. Fourth, absence of technique in overcoming these difficulties.

On the other hand, lives are undoubtedly sacrificed occasionally by rash men who never carefully consider the difficulties a surgeon may be called upon to meet in abdominal operations. Genius and inspiration are often asked to fill the place of careful preparation in these explorations, and certainly in no operation should a surgeon more clearly understand what he may be called upon to do than in an exploratory laparotomy where the possibilities for complications and emergencies are almost unlimited. The trust is great; the care in preparation should be commensurate.

The use of massage, electricity, ice, opium and other modes of treatment are frequently harmful, and waste precious time. Pertinent to the danger of delay is the false security given by opium and stomach irrigations, the former of which masks the dangers, while the latter frequently, by temporary alleviation of the symptoms, deceives as to the nature of the case, or its urgency. From this we are lead to conclude, that should recognized medical treatment, as opium enemata and gastric irrigation fail to relieve the obstruction, laparotomy is indicated in all acute and sub-acute cases within forty-eight hours, especially if the diagnosis be undetermined. Regarding chronic cases, with the supervention of acute symptoms, it would seem that after similar preliminary treatment has been fairly tried without success, operative interference is indicated.

This procedure should be an aseptic one, a median incision is to be preferred as one most favorable to a general exploration of the abdominal cavity, unless some clue to the exact seat of the lesion indicates a particular region as the most direct route to the obstruction. It is exceedingly desirable that the examination of the intestine and abdomen should be systematically and rapidly made. For it is only by following some definite plan that an exploration can be thoroughly performed, and with the greatest economy of time.

Without some such method the operator cannot distinguish parts already explored from those still untouched and thus avoid repetition; there is much unnecessary manipulation of sensitive tissues; the shock of the operation is increased by its increased length; and most important of all, great risk is incurred of failing to find the object of search. Instances are not wanting to show these are no fanciful dangers; and a recently reported autopsy, when an easily reduced diaphragmatic hernia had been completely overlooked during an exploratory operation, serves to illustrate one of them.

The following brief rules for guidance in examining the intestines are suggested: Fix upon the most dilated or congested part of the bowel, and follow it with the finger as a guide to the seat of obstruction — congestion and distension are usually most marked at the point of occlusion, and serve as valuable indices to its site. If this fail, insert the hand and carry it successively to the coecum, umbilicus and sacral promontory. If this again fail, the intestine must be examined throughout its entire length. The starting point of this examination should be accurately located either by the fingers of an assistant, or by some anatomical characteristic. The wound is enlarged if necessary. A coil is drawn out of the abdominal cavity, protected by warm antiseptic napkins, examined and replaced if the result is negative. This is repeated with coil after coil until the obstruction is found. The cause being thus discovered, the subsequent treatment varies with the character of the lesion, and it is here that the value of a careful previous consideration of possible emergencies demonstrates itself.

The operation is apt to be considered finished by the removal of the cause, but no operation for the relief of intestinal obstruction should be considered complete until the over-distended intestines are relieved. This is a matter of great importance; and Mr. J. Grieg Smith considered this over-distension as exerting an important influence on the amount of relief derived from an operation. This surgeon found by experimentation that an intestine distended by injecting the duodenum extrudes from the half-opened abdominal cavity before the liquid fairly reaches the ileum, and that, with the abdomen fully opened, rupture of the peritoneal coat occurs at many points before the fluid escapes from the anus. He therefore concludes that the acute flexures of the distended intestine, caused by its mesenteric attachment, act as a succession of valves at the points of incurvation of the tube, and thus form an insuperable obstacle to the free action of the over-distended half-paralyzed gut.

Should an intestine be left unrelieved its inability to free itself of its contents would render valueless an otherwise effective operation. From the foregoing one would infer that emesis, either spontaneous or artificial, owes what efficiency it possesses to its power of freeing the dilated intestinal tract of liquids and gases.

In some cases where the condition of the patient contraindicates a prolonged operation, or sudden collapse supervenes, the formation of an artificial anus offers a means of relieving the obstruction, and rapidly terminating the procedure. Recently reported cases prove that this is not the intractable difficulty it was once considered to be, for by a properly performed resection operation it can be closed at some future convenient opportunity.

It may seem superfluous to dwell so much on the necessity for a thorough knowledge of the technique of abdominal surgery in these exploratory operations; but, since shock figures so prominently as a cause of death, and its severity is directly proportionate to the duration of the operation, the surgeon's ignorance of details may turn the scale against recovery by the delay thus caused.

A careful consideration of this whole subject of laparotomy in intestinal obstruction will lead, we think, to the conclusion that timidity and conservatism too often delay or prevent a prompt and beneficent operative interference in these most serious cases.

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MEDICAL NOTES.

—Professor Vulpian, of Paris, has resigned from the staff of the Hôtel-Dieu.

— Mr. Wm. T. Evans reports in the *British Medical Journal*, December 19, 1885, a case of a newly-born nursing infant which was fatally poisoned by opium given to the mother for after-pains.

— Professor Bartholow recommends for superficial neuralgia, that a five to twenty-per cent. ethereal solution of menthol be painted over the part.

— "Stammering of the urinary organs" is the apt term applied by Sir James Paget to the cases of difficult urination, wherein no pathological change can be found, where the patient has a difficulty in passing water at certain times and places, while at other times and under other circumstances, no such trouble is experienced.

— Many men who display good sense, prudence, and consideration in all that pertains to others, are foolishly careless about themselves. We learn from the *Philadelphia Daily Times*, that General Hancock seems to have illustrated the not uncommon folly of a man who feels himself "out of sorts," but goes about his daily duties without paying any attention to his health until he suddenly breaks down. It is clear that he had been dangerously ill for a long time, but he never consulted his physician, and his friends supposed that he was merely tired or depressed, and that he would be all right in time. The carbuncle, which was partly a symptom of his general condition, brought him to bed, and then the surgeons who were summoned found that he was incurable.

— At about the first of the year, it was stated in the Consular reports from Spain, that cholera morbus was prevalent in Algesiras, five miles from Gibraltar. On January 18, the Consul reported the disease to be Asiatic cholera, and that twenty-two cases and eleven deaths had been reported, and also, that quarantine had been established at Gibraltar. January 23, the Consul reports that no new cases have been reported for several days. Official reports from Italy state that from November 17, the day on which the publication of the Cholera Bulletins was discontinued, to December 28, there were one hundred and thirteen cases and ninety-eight deaths from cholera in Italy, as follows: In the Province of Palermo, fifty-three cases and forty-eight deaths; in the Province of Venetia, twenty-seven cases and twenty-five deaths; in Treviso, twenty cases and fourteen deaths; in Rovigo, twelve cases and ten deaths; and in Emilia, one case and one death.

— That medical advertising has become one of the fine arts is abundantly shown by the following extract from a pamphlet lately distributed among physicians. "The value of wine as a stimulant, in addition to good food in the enfeebled digestion of the aged, has ever been recognized from the earliest time. Ulysses urges upon his aged father a regimen well suited to his waning energies.

'Warm baths, good food, soft sleep and generous wine,
These are the rights of age and should be thine,'

"And Justus von Liebig pronounced wine to be 'as milk for the aged.' . . . At the present time the growing objection to alcoholic stimulants and the spread of the temperance, or even the total abstinence movement, has limited the resort to wine, and this in turn has led to the selection of substitutes of non-alcoholic character. For those who decline to accept the aid of wine, as did Timothy, who had to be told to 'Drink no longer water but a little wine for thy stomach's sake and thine often infirmities,' and who need something of a stimulant character in order to rouse the flagging powers of digestion, this syrup offers special advantages; and one or two teaspoonfuls in a tumbler of water, form a bitter tonic, sharpening the appetite, and giving tone to the digestive organs, taken before or with meals."

— The *Lancet* calls attention to the unhealthful conditions prevalent in the vicinity of Sandringham, the Prince of Wales's seat, where the princess and other members of the family have recently suffered from sore throat of a diphtheritic character. The estate of Sandringham includes about 7000 acres. It consists of a large portion of very wild, unreclaimed sporting land, and some rich meadow and pasture and salt-water marshes. The death-rate from diphtheria in this portion of Norfolk is in excess of the death-rate from the same diseases in St. Giles', Shoreditch, Bethnal-green, Whitechapel, or St. George's-in-the-East, which are among the poorest and least sanitary districts of London. Yet here is the home of the Heir Apparent and his family, purchased by the advice of the Government at a cost of £220,000. We cannot suppose that in the house at Sandringham insanitary conditions have been permitted to prevail, for it was here the Prince was so seriously ill from typhoid, by which attention should have been forcibly directed to the sanitation of Royal residences. The Prince Consort lost his life at Windsor, though it is suspected he contracted the disease at Sandhurst. The Prince of Wales nearly lost his life at Sandringham, though it is not quite clear where and how he contracted the fever. The Duchess of Connaught's life was in danger in the newly-erected residence in Bagshot-park; and at last the Princess of Wales has been subjected to risks, and with her in all probability others of the family and the many distinguished visitors who have been at Sandringham since Christmas. Our contemporary suspects the undrained marsh lands in this portion of Norfolk, as elsewhere, to be at the bottom of this diphtheritic tendency, and till they are drained diphtheria will prevail. It adds with what must be a fine sarcasm, that the Prince of Wales can scarcely, with his many duties, be expected either to understand or attend to such matters, but his advisers should. Had the Princess died, what would have been the verdict of the people?

BOSTON.

— His Honor, Mayor Grace of New York, lectured at the Boston Theatre last Sunday evening, in aid of the Carney Hospital. About $2,000 was netted for the hospital.

— A complimentary dinner was tendered Dr. Morrill Wyman at the Parker House last week by the Cambridge Medical Improvement Society. Dr. S. W. Driver presided.

— The trustees of the Boston City Hospital gave a hearing last Friday evening, February 19th. to the remonstrants against the petition that homœopathy should take part in the medical and surgical treatment of patients at the hospital. Members of the Hospital Staff were present by special invitation of the trustees.

— The entire force of the Board of Health has been at work since the inundation in examining the condition of dwelling-places in the district affected by the breaking away of Stony Brook, with a view to expediting the freeing of the cellars from water and the overcoming of dampness caused by the flooding. During last week about one hundred houses were reported upon a day. As fast as the reports are received the owners of houses pronounced defective, are officially notified of their condition. Where the walls of cellars have a coating of escaped sewage, thorough cleansing of the walls is required, after which whitewash is freely applied.

NEW YORK.

— The summary of mortality of the State of New York for the year 1885, as published in the monthly bulletin of the State Board of Health shows that the total number of deaths reported during the year was 80,407. Of this number 30,027, or 37.3 per cent. were in children under five years of age. The number of deaths from the principal diseases, is given as follows: cerebro-spinal fever, 446; typhus fever, 26; typhoid fever, 1,067; malarial diseases, 944; small-pox, 33; scarlet-fever, 1,184; measles, 1,170; erysipelas, 354; whooping-cough, 834; croup and diphtheria, 4,508; diarrhœal diseases, 7,301; acute respiratory diseases, 10,864: consumption, 11,238; puerperal diseases, 974; diseases of the digestive system (not diarrhœal), 4,343; diseases of the urinary system, 4,069; diseases of the circulatory system, 4,903; diseases of the nervous system, 8,651; cancer, 1,887. For the entire State, the ratio per 1,000 of deaths from all zymotic diseases to the total mortality in 1885 is 222.17, against 269.12 for nine months of 1884.

— State Senator Griswold, of Brooklyn, has introduced a bill into the Legislature abolishing the present fee system under which from $50,000 to $100,000 is collected annually by the Health Officer of the Port, and fixing the salary of that official at $10,000 per annum, in addition to an allowance of $6,000 for the expenses of the office, to be expended under his direction. It also provides that there shall be first and second assistant health officers at salaries of $3,000 and $2,000 respectively; and that after the passage of the act no fees or charges whatever shall be collected by the health officer in the performance of his duties. It is very doubtful, however, whether this bill will become a law, as the present large revenues of the office constitute too tempting an object in the eyes of the politicians to be thus summarily dispensed with.

— There is still a good deal of diversity of sentiment with regard to the advisability of constructing the contemplated enormous Quaker Bridge dam in connection with the Croton water supply. The latest opinion in favor of the project is that of Chief Engineer, Benjamin Church, of the aqueduct service, who in a report submitted at the last meeting of the Aqueduct Commissioners arrives at the following conclusions:

(1) It is the surest and most expeditious means of securing the required storage:

(2) Because it will give the purest water.

(3) Because it gives the best control of storage.

(4) Because it is the best safeguard against the stoppage of the city's supply by a possible failure of dams above, to the injury of the Croton dam.

(5) Because without it the supply of the whole watershed cannot be secured, and the size and cost of the new aqueduct will be rendered unwarrantable.

(6) Because it best preserves the healthful conditions for inhabitants in the Croton Valley by keeping the bottom of the reservoir always covered, and prevents local malarial influences.

Miscellany.

A CASE OF PROTRACTED PREGNANCY.

Dr. Arnold Thompson recently reported to the London Obstetrical Society the following case: — The patient was a delicate woman, not long married, who had had a miscarriage previously, occasioned by a shock. After this, menstruation recurred, and the last period ended June, 1884. Her husband left home a week after, and returned on Monday, June 16th, for one night only, on which coitus took place. He left home the next morning and was away for four months. Soon after the husband's departure signs of pregnancy appeared. Delivery took place April 13th, 1885, 317 days after the end of the last menstruation, or 301 days from the last coitus. The dates were absolutely certain. The child was not weighed or measured; it was a female, and appeared of full average size and weight. According to Prussian law the child would be legitimate; according to Scottish law and the French code, it would be illegitimate; in England its legitimacy would be determined by circumstances.

TUBERCULAR MENINGITIS CURED BY IODOFORM.[1]

A Swedish physician, Dr. Emil Nilsson, alleges that he has cured an undoubted case of tubercular meningitis by frictions on the shaved scalp with iodoform ointment (1 to 10). The patient was a boy, aged eight, whose mother had a family history of phthisis, and four of whose brothers and sisters had died from tubercular meningitis. The symptoms in this child's case were similar to theirs,— headache, torpor, convulsions, strabismus, and pyrexia. He was at first treated with calomel and iodide of potassium, but did not improve; and, after having been under treatment a week, became distinctly worse, being unable to take food or medicine. The pallor of the face, which had pre-existed, gave way to flushes of the cheeks. The child threw himself out of bed, and presented several clonic spasms of the limbs and of the facial muscles. The head was then shaved and iodoform ointment rubbed in, an oil-skin cap being put on. The friction was repeated three or four times in the day, and the next day there was a decrease in the convulsive movements, the sleep was calmer, and the spasmodic contractions, which had previously been excited by the slightest noise, now ceased to be so. Consciousness shortly afterwards returned, and the child's face became of a more natural color. This, however, was accompanied with a severe coryza, redness of the lips, and an irritable cough, the breath smelling strongly of iodoform. The ointment was discontinued, and syrup of iodide of iron given. The unpleasant symptoms rapidly disappeared, and the child was soon running about in good health.

NERVE SUTURING.

Dr. Michael Beverly of Norwich, England, has recently operated with success in a case where the ulnar nerve had been severed by a broken bottle, four months before the operation. A dense cicatrix over the nerve marked the point where the injury had taken place, one and one-half inches above the wrist. There was atrophy of the parts supplied by the nerve, and intense pain when the little and ring fingers were moved.

Under carbolic spray he dissected and found the upper part of the trunk of the ulnar nerve. This was traced down into the tendon of the *flexor carpi ulnaris* with which it was intimately adherent, and accounted for the intense suffering caused by movements of the little and ring fingers. He then dissected until he found the long portion of the ulnar trunk which had retracted and lay just above the annular ligaments. A clean section was made at the end of each part of the nerve trunk and the two fresh surfaces were united by two catgut sutures. The arm was placed on a splint and the hand kept in a flexed position. The wound healed by first intention. Sensation gradually returned into the parts from which it was absent, and it is now, two months after the operation, nearly restored. There is very little difference now between the two hands in either sensation or motion.

THE JUMPERS.

Dr. J. D. Thornton, of the U. S. Marine Hospital Service, gives some account in the *Medical Record*, of the French-Canadians who are victims of that form of hysterical disease recently described under the term miryachit. This affection, characterized by an uncontrollable impulse to imitation, has been noted among the Canadian-French lumbermen who go over into Maine for work. The cause which the writer assigns for the disease is worthy of note, though it seems rather inadequate.

"I had from time to time," says Dr. Thornton, "heard lumbermen and others, whose avocations lead them to spend much time among the French camps, speak of these 'jumpers,' but had given no credence to the, as I thought, absurd stories they related in regard to them, until one day, while attending to my duties in the waiting-room of my fumigating station, I incidentally let fall the window near my desk, by turning the button suddenly, thus letting the frame fall a short distance, making a quick, sharp noise, when three out of seven French-Canadians who were sitting near, awaiting their certificates of inspection, leaped into the air as if they had been shot, at the same time uttering a yell which would have done credit to a North-American Indian. From that time, I was on the watch for these strange characters, and, when possible, made inquiries of them through my interpreter, in regard to the cause of their condition. Before speaking of this, perhaps it will be well to enumerate some of the manifestations which give them the characteristic name of 'jumpers.' One or two instances will be sufficient. Recently, one of them, a French-Canadian of small stature, came out from an adjacent camp to the post-office. Just as he was about to ask the postmaster for his mail, he being a total stranger to the official, a man of sixty-five years of age, some one knowing the fellow to be a 'jumper,' mischievously cried out, 'Grab him by the throat!' The fellow sprung like a cat, and grasped the old man by the throat, and held on until removed, the irate postmaster pouring forth torrents of invectives on the poor fellow, who really was perfectly guiltless. Another unfortunate wood-chopper had just come into camp from two day's work, and was standing near the large camp-heater, in which was a very hot fire, when some one cried, 'Grab the furnace!' No sooner were the words said, than the poor fellow obeyed the order, and, as a result, left a scorched pattern of each hand on the nearly red-hot pipe, thus rendering him unfit for his work in the woods for some weeks. I could, were it not for taking up valuable space, enumerate instance after instance fully as peculiar as the above. In brief, it may be stated that at any time and under any circumstances, with the slightest provocation, and almost instantaneously on being spoken to, one of these fellows will obey any command, imitate any action, without regard to its nature, trivial or serious. He will leap on to a table, or over a stove, or into a river or pond; throw any article or weapon he may have in hand in any direction indicated; will repeat any sentence or exclamation. So serious a matter is this, that many of the lumbermen absolutely refuse to admit a man known as a 'jumper' into their camps. I find they are not wholly confined to French-Canadians, as occasionally a Canadian of Irish parentage will exhibit the same symptoms. As stated above, I have endeavored, when possible, to investigate as to the cause of this peculiar and distressing condition; and while I find, without doubt, that primarily, it is due to an inherited nervousness, the immediate cause is in taking such children, when small, and, while firmly held, tickling them until convulsive symptoms appear. This seems to be the story of such ones as I have made inquiries of. Whatever the cause, the condition is one much more easily acquired than lost, as it firmly clings to its victim far into adult life."

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[1] Therapeutic Gazette, January 15.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 13, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	736	270	18.48	15.58	3.54	8.73	1.65
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	310	104	18.74	16.15	3.23	8.07	4.20
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	182	57	11.00	19 80	—	4.40	2.20
St. Louis	408,520	128	43	7.81	14.04	3.12	3.90	—
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	132	30	13.68	12.92	—	5 32	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	105	37	12.35	13.20	.95	4.75	.95
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	40	12	2.50	15.00	2.50	—	—
Nashville	54,400	27	10	3.70	22.20	—	—	—
Worcester	68,383	19	6	5.26	22.04	—	5.26	—
Lowell	64,051	26	9	16.25	15.40	3.85	7.70	—
Cambridge	59,660	11	5	36.36	—	9.09	18.18	9.09
Fall River	56,863	24	13	20 80	12.48	—	12.48	—
Lynn	45,861	7	4	12.84	14.28	14.28	14.28	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	13	4	23.07	15.38	7.69	—	7.69
New Bedford	33,393	12	3	8.33	25.00	8.33	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	5	—	—	20.00	—	—	—
Holyoke	27,894	6	4	50.00	16.66	—	50.00	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	—	—	—	—	—
Brockton	20,783	10	1	—	30.00	—	—	—
Newton	19,759	5	—	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	11	4	9.09	9.09	9.09	—	—
Waltham	14,609	6	1	—	50.00	—	—	—
Newburyport	13,716	5	3	20 00	20.00	—	—	20.00
Northampton	12,896	6	1	33.33	33.33	16.66	—	16 66
82 Massachusetts Towns	—	36	6	13.90	25.12	5.56	5.56	2.78

Deaths reported 1,914: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 286, consumption 305, lung diseases 312, diphtheria and croup 138, scarlet fever 37, diarrhœal diseases 24, whooping-cough 22, malarial fever 17, erysipelas 12, cerebro-spinal meningitis 10, measles five, puerperal fever three, small-pox two. From diarrhœal diseases, New York nine, Boston and New Orleans five each, Brooklyn four, District of Columbia one. From whooping-cough, New York 16, Brooklyn five, District of Columbia one. From malarial fever, New York seven, Brooklyn and New Orleans five each, Springfield and New Bedford one each. From erysipelas, Brooklyn four, New York three, Boston, two, Lynn, Chelsea and Taunton one each. From cerebro-spinal meningitis, New York three, Fall River two, New Orleans, District of Columbia, Nashville, Lowell and Springfield one each. From measles, Brooklyn, Boston, Baltimore, District of Columbia and Lowell one each. From puerperal fever, District of Columbia two, New York one. From small-pox, New York two.

In 109 cities and towns of Massachusetts, with a population of 1,250,326 (population of the State 1,941,465), the total death-rate for the week was 14.25 against 16.59 and 18.23 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 30th the death-rate was 22.1. Deaths reported 3,850: infants under one year of age 862; acute diseases of the respiratory organs (London) 478, whooping-cough 168, measles 75, diarrhœal diseases 31, scarlet fever 29, fever 28, diphtheria 23, small-pox (Liverpool five, Nottingham one) six.

The death-rates ranged from 14.4 in Hull to 33.0 in Preston; Birkenhead 21.9; Birmingham 21.4; Leeds 17.7; Leicester 15.3; Liverpool 24.6; London 22.2; Manchester 23.5; Nottingham 21.1; Sheffield 24.8; Sunderland 20.1.

In Edinburgh 16.6; Glasgow 26.6; Dublin 3.19.

For the week ending January 30th in the Swiss towns, there were 30 deaths from consumption, lung diseases 30, diarrhœal diseases 18, whooping-cough seven, diphtheria and croup five, small-pox four, typhoid fever two, puerperal fever two, erysipelas one.

The death-rates were: at Geneva 24.0; Zurich 13.4; Basle 14.8; Berne 31.0.

The meteorological record for week ending February 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 13, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 7	30.102	23.4	28.9	13.6	67.0	60.0	71.0	66.0	W.	W.	W.	7	1	8	O.	C.	O.	—	—
Monday, .. 8	29.920	33.7	42.2	23.3	68.0	51.0	71.0	63.3	W.	W.	W.	12	14	10	C.	C.	C.	—	—
Tuesday,.. 9	30.135	40.8	54.8	33.2	73.0	55.0	83.0	70.3	W.	W.	N.E.	12	3	7	C.	C.	C.	—	—
Wednes., .10	30.577	36.3	39.5	31.7	100.0	89.0	95.0	94.7	N.E.	N.E.	N.E.	8	14	16	T.	O.	R.	—	—
Thursday, 11	30.629	34.9	36.3	33.1	91.0	100.0	100.0	97.0	N.E.	N.E.	E.	20	25	19	O.	R.	R.	—	—
Friday, ...12	30.077	40.8	45.2	34.5	100.0	100.0	100.0	100.0	N.E.	N.W.	W.	12	5	5	R.	R.	R.	—	—
Saturday, .13	29 538	50.7	57.3	43.7	100.0	92.0	84.0	92.0	S.	S.W.	W.	16	8	19	R.	O.	O.	50.5	5.62
Mean, the Week.	30.144	37.2	43.4	30.5				83.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — There will be a meeting of the Section at 19 Boylston Place, on Wednesday evening, March 3d, at 8 o'clock. Communications: Dr. G. H. Monks, "Rupture of the Biceps, with Cases." Dr. J. E. Kelly, "An Apparatus for the Treatment of 'Colle's Fracture,' and one for Fracture of the Clavicle." Dr. E. O. Otis will exhibit Dr. F. N. Otis' Improved Evacuator.

S. J. MIXTER, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, March 1, 1886, at 8 P.M. Readers: Dr. J. W. Elliot, "A Case of Salpingitis, with Severe Symptoms: Removal of Tubes and Ovaries: Recovery." Dr. J. Orne Green, "Some of the Less Common Forms of Mastoid Disease."

H. L. BURRELL, *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-Seventh Annual Session held at Baltimore, Md., May, 1885.

Local Anæsthesia in General Medicine and Surgery. Being the Practical Application of the Author's Recent Discoveries. By J. Leonard Corning, M.D. New York: D. Appleton & Co. 1886.

The Diagnosis and Treatment of Diseases of the Ear. By Oren D. Pomeroy, M.D., etc. With one hundred illustrations. Second Edition revised with Additions. New York: D. Appleton & Co. 1886.

Prevention of Yellow Fever. Commercial Relations with Brazil as affected by Quarantine Regulations. Brazil and New Orleans.

The Sanitary Protection of New Orleans, Municipal and Maritime. By Joseph Holt, M.D., President of the Board of Health of the State of Louisiana. Read before the American Public Health Association, Washington, D.C., December 10, 1885. (Reprint from the Sanitarian, January, 1886.)

Editorial Reprints from the Journal of Inebriety. I. D. Crothers, Editor, Hartford, Conn., Hallucinations in Inebriety.

A Treatise on Bright's Disease of the Kidneys, its Pathology, Diagnosis and Treatment. With Chapters on the Anatomy of the Kidney, Albuminuria and the Urinary Secretion. By Henry B. Millard, M.D., A.M. Second Edition, Revised and Enlarged. New York: Wm. Wood & Co. 1886.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume the 68th. London: Longmans, Green & Co. 1885.

Catalogue of the Pathological Museum of the Western Infirmary, Glasgow. Compiled by Joseph Coats, M.D., Glasgow. 1885.

Washington Obstetrical and Gynæcological Society. Third Annual Address of the President, Samuel C. Busey, M.D. The Hygiene of Pregnancy. (Reprinted from American Journal of Obstetrics, January, 1886.) New York: Wm. Wood & Co. 1886.

Constitution and By-Laws of the State Board of Health, and Vital Statistics of the Commonwealth of Pennsylvania. Harrisburg. 1885.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs. Compiled from the Work of Various Authors with Original Ideas and Observations. By R. C. M. Page, M.D. New York. For sale by J. H. Vail and Co., New York.

Mind Your Eyes! Good Advice from a Near-Sighted Man to His Fellow Sufferers. Translated from the French of Francisque Sarcey, by Henry Dickson Burns, M.D. New Orleans. 1886.

Hydrocele of the Hernial Sac. By Thomas E. McArdle, A.M., M.D., Professor of Surgery, National University, and Louis Kolipinski, M.D., Resident Physician, Children's Hospital, Washington, D.C. From the Medical News, January 9, 1886.

Etudes Cliniques sur les Maladies des Femmes par le Dr. Henri Schafier, Ancien interne de l'Hôpital Rothschild. Paris. G. Steinheil, Editeur. 1885.

National Eclectic Medical Association. Announcement of the Sixteenth Annual Meeting to be held at Atlanta, Ga., June 16–18, 1886.

Personal Observations on the Value of Cocaine in Nose and Throat Surgery. By Frank Donaldson, M.D., Clinical Professor Throat and Chest Diseases, University of Maryland, Baltimore. (Reprinted from Transactions of the Medical and Chirurgical Faculty of Maryland, 1885.)

Eleventh Report of the Salem Hospital, Salem, Mass., 1886.

Original Articles.

ADENOID VEGETATIONS IN THE NASO-PHARYNGEAL CAVITY.[1]

BY FRANKLIN H. HOOPER, M.D., BOSTON.

Among the many benefits to be ascribed to the introduction of the rhinoscopic mirror as an instrument of diagnosis, the discovery of the disease which forms the subject of this paper deserves the first place. Although a recently recognized affection, it has been thoroughly described in all its details, notably by Meyer (Copenhagen), Loewenberg (Paris), and B. Fraenkel (Berlin), besides receiving exhaustive treatment in standard text-books on diseases of the throat and nose, especially in those by Cohen and Morell Mackenzie. Little or no mention, however, is made of it in works on general medicine and surgery, yet it is a disease of general interest, leading oftentimes to grave constitutional disturbances, the true origin of which may for a long time escape detection. Being a disease essentially of early life, it is encountered for the first time oftener by the family practitioner than by the specialist, and the fact that it has this general bearing is my excuse this evening for "threshing straw already thrice beaten by the flails of other laborers in the same field."

The seat of the exuberant overgrowth of glandular tissue to which Wilhelm Meyer, in 1868 gave the name of *adenoid vegetations*, is the naso-pharyngeal cavity — a cavity not always looked into in the dissecting-room or on the autopsy table, and one of the last of the body to have light thrown upon the pathology of the diseases peculiar to it.

Situated behind and above the soft palate, the naso-pharyngeal cavity extends from the posterior openings of the nasal chambers to the free border of the palatal curtain. Its shape is constantly changing during life, owing to the movements of the soft palate. A cast of it taken after death, however, like the one I have here in fusible metal from Dr. Mixter's collection, shows that it is an irregular cube, but, on account of certain anatomical structures found in its different regions, it is convenient to describe it as dome-shaped, consisting of a vault or roof, with lateral and posterior walls.

In the vault we find the "third tonsil," an accumulation of adenoid tissue almost identical in structure with the faucial tonsils, and called more frequently the pharyngeal or Luschka's tonsil. On the lateral wall the same adenoid tissue is found around the Eustachian orifices, especially on the Eustachian prominence and in the fossa of Rosenmüller — the recessus pharyngeus — immediately behind it. This lymphatic tissue is distinctly traceable downward along the posterior edge of the soft palate, around the posterior pillars of the fauces to the faucial tonsil, then directly across the base of the tongue and back in a similar manner to the vault, so that the cavity is encircled by glandular tissue — Waldeyer's lymphatic ring of the pharynx — certain portions of which, as the roof, the Eustachian prominence. and the fossa of Rosenmüller being much more richly supplied with follicles than others.

In Dr. Whitney's abstract[2] of Bickel's paper "On the Extent and Connection of the Lymphatic Tissue in the Pharynx," it is stated that only the tonsils of the pharynx deserve the name in addition to those of the fauces, while the follicular glands of the other regions are transitional forms from a simple infiltration of adenoid tissue. But these follicles when hypertrophied, as in pronounced cases of adenoid vegetations, may be found in any part of the naso-pharyngeal cavity, their structure as revealed by the microscope differing very little except in the abundance of the connective tissue between the follicles, and in the character of their epithelial covering. These differences also distinguish them chiefly from the faucial tonsils.

The specimens under the microscopes show these features very distinctly. The sections of the faucial tonsil closely resemble the appearances described and pictured by Stöhr.[3] Its covering of flat epithelium will be seen to be permeated by leucocytes, which, according to Stöhr, are constantly wandering out from the centre of the tonsil through the cement between the epithelial cells, and appearing in the cavity of the mouth as mucous and salivary corpuscles. The epithelial covering of the pharyngeal tonsil will be seen to be of the ciliated variety; otherwise all the specimens are identical in consisting of the adenoid tissue of His plentifully supplied with blood vessels. The difference in the consistence of this glandular tissue in the different regions depends upon the amount of connective tissue it contains.

The presence of this adenoid tissue in the naso-pharynx is subject to the same variation as it is lower down in the pharynx. The vault is often seen to be as smooth as is here represented in this diagram, or, we may meet with the pharyngeal tonsil as large or even larger than is shown in this longitudinal section of a child's head, kindly lent me by Dr. Dwight. The follicles in any part of the lymphatic ring or on the posterior pharyngeal wall may become hypertrophied; even those at the base of the tongue have been of such size as to depress the epiglottis, and interfere with the movements of the larynx. Adenoid vegetations, then, are abnormal developments of normally existing elements.

The growths vary in shape, size, consistence, and color. They may be pendent and hang down into the cavity, as Voltolini expressed it, like stalactites, or they may be cylindrical, with a broad attachment. When limited to the vault, the pharyngeal tonsils may assume many shapes, from being single, with a smooth covering, to being bi-lobed, rough, or made up of many layers of tissue, separated by deep fissures. The color depends upon their vascularity, and varies from a pale to a deep red. There is often seen a small increase of the adenoid tissue at the vault of the pharynx which probably gives rise to no injurious effects, but my present remarks refer to those cases in which the vegetations are sufficiently abundant to fill the naso-pharyngeal cavity, thereby "causing the voice to be dull and nasal in tone, the respiration to be buccal, frequently inducing deafness by setting up inflammation of the middle ear, and in the case of children often giving rise to the constitutional phenomena which follow prolonged nasal obstruction." (Mackenzie).

We owe our knowledge of this disease to European writers. First discovered on the continent of Europe, it is there that it is most frequently seen, certainly much oftener than in this country. Czermak, to whom we are indebted for the rhinoscope, was the first to see these vegetations in the living subject. This was in 1860. Türck, Loewenberg, Voltolini, and Semeleder soon followed with reports of other cases. Sir Andrew Clark wrote briefly upon this affection under the name of Naso-Palatine Gland Disease in the first volume of the London Hospital Reports, published in 1864, but it was not until 1868 that a complete description of adenoid vegetations was given by Meyer, of Copenhagen.

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[1] Read before the Boston Society for Medical Improvement, February 22, 1886.

[2] Boston Medical and Surgical Journal, November 27, 1884.

[3] Virchow's Archiv., Bd. 97.

Lymphoid tissue in the naso-pharynx, as in other parts of the body, tends to disappear after puberty, and the majority of patients having adenoid growths are under fifteen years of age. The youngest case I have seen reported was one by Woakes of an infant aged nine months, and the oldest, a man aged fifty-three, mentioned by Loewenberg. My own cases have ranged between the ages of four and twenty. Sex is without influence, as well as social position, the rich and the poor suffering alike. Heredity and family disposition play an important part, as many instances have been recorded where one of the parents and several of the children have been afflicted. Loewenberg believes that the lymphatic temperament predisposes to it, while others hold that it is entirely independent of any lymphatic or scrofulous diathesis. We certainly find adenoid vegetations in children who are otherwise perfectly healthy and without any of the manifestations of scrofula.

The affection is congenital, although it rarely leads to any marked disturbance before the age of four, and is probably, as B. Fraenkel suggests, special of its kind. A cold, damp climate is said to be favorable to the growth and development of this follicular tissue, as well as chronic catarrhal inflammation of the naso-pharyngeal mucous membrane. These conditions are certainly found in abundance on our own coast, where the climate does not seem to have undergone much change since the author of " Elsie Venner " wrote that "it gives people their choice of dysentery or fever every autumn, with a season ticket for consumption good all the year round," and with regard to catarrhal affections of the naso-pharynx, a specialist of such wide experience as Morell Mackenzie was so impressed while on a visit to this country, by certain subjective noises which he heard during his travels, and which unmistakably pointed to some irritation of the naso-pharyngeal region, that immediately on his return to London, he delivered a lecture on our national affection — post-nasal catarrh. Notwithstanding these supposed favorable conditions, I am led to judge from my own experience and from conversation with others that adenoid vegetations are by no means so common in this country as in Northern Europe.

Several years ago, Meyer, of Copenhagen, had private records of about two hundred cases, and in examining the school-children of his own city and of Stockholm, he found the growths present in one per cent. In Leyden, Professor Doyer states that five per cent. of the children have characteristic faces and pronunciation. Lange, of Copenhagen, has had about four hundred cases requiring operation. Schmiegelow, of the same city, finds that in his clinic, of all patients with diseases of the pharynx, 37.9 per cent. have adenoid vegetations. Hopmann, of Cologne, has operated on two hundred and thirty-four cases. Trautmann, of Berlin, reports one hundred and fifty. Out of the last wo thousand patients that have come under my own observation in the throat clinics at the Boston City and Massachusetts General Hospitals, and in private practice, twenty-eight have had these growths.

Gleitsmann, of New York, in his report of the Throat Department of the German Dispensary for 1885, notes eighteen cases in a total of 2,042 patients, or about one in every one hundred and thirteen. Tauber, of Cincinnati, has found the vegetations in six tenths per cent. of his cases. Beverley Robinson, of New York, speaks of the rarity of this affection. Swinburne, on the other hand, met with adenoid growths in one out of every ten of his patients, at the Harlem Eye, Ear and Throat Infirmary. The difference in these observations arises, as Robinson explains, from our not all having the same idea of what should be called an *abnormal* growth of adenoid tissue. My own figures refer solely to those cases in which the pharyngeal tonsil was sufficiently large, or the vegetations sufficiently abundant to destroy the functions of the naso-pharygeal cavity, and where their removal was imperative. The symptoms vary in intensity, according to the size and situation of the growths. Loewenberg estimates that deafness is present in three-fourths of all cases. Oftentimes, it is the defect in the child's hearing that first alarms the parents, and leads them to seek advice.

Impairment of the hearing may be produced in many different ways. The vegetations may be so situated that they hang down over the Eustachian orifice, thus mechanically preventing the proper ventilation of the middle ear; or the inflammation of the surrounding tissues, which is always present, may extend into the Eustachian tube, causing swelling of its walls and its partial or complete closure. Again, catarrhal or suppurative processes may be excited in the tympanic cavity itself, accompanied by all the sequences of chronic otorrhœa. Middle-ear disease, furthermore, may be produced in a manner to which our attention has been directed by Mackenzie, of Baltimore, namely, through the reflex agency of the vaso-motor and trophic nerves, the circulation and nutrition of the aural chambers being affected reflexly from the inflammation in the posterior portions of the nose.

Finally, these growths may cause paresis of the palato-tubal muscles, and, therefore, be one factor in the production of the so-called "paretic deafness." The deafness in these cases, is always worse with each succeeding attack of coryza. Meyer mentions two symptoms frequently accompanying the use of the ear catheter, which he considers almost pathognomonic, namely:

"(1) The stream of air, after having passed freely into the tympanic cavity — as found by auscultation — will suddenly stop, and after a little while, flow on without any obvious reason, as freely as before.

"(2) A gurgling or bubbling sound of thick mucus behind the nasal cavity is heard during insufflation, and sometimes, bubbles of the same viscid mucus will appear at the nostril through which the catheter has been introduced."

He also lays down the general rule that a deaf patient who breathes through the mouth and has a thin, compressed nose, is affected with adenoid vegetations in the naso-pharyngeal cavity.

The prognosis of this form of deafness is very favorable, when the vegetations are discovered and removed in good season; consequently, a careful exploration of the naso-pharynx in such cases, should never be omitted. Mouth-breathing — one of the worst of bad habits — is constant in this affection, and unavoidable. A glance at this frozen section of a child's buccal cavity (also from Dr. Dwight's collection), will show how completely it is filled by the tongue and soft parts, making of it, when the lips are closed, a practical vacuum; yet in the infant, the tongue is larger in proportion to the cavity of the mouth, than in the adult, and we have Kussmaul's authority for the statement that even though a suckling may be sleeping with its mouth open, it is breathing, nevertheless, exclusively through the nose. New-born animals on whom the experiment has been tried, soon die from asphyxiation if their nostrils be plugged with cotton-wool, and we may say that the younger the mammal, the more important it is that the nasal passages should be free, since the nursling cannot otherwise properly procure its nourishment, for in infancy, we know, the mouth is little else than a suction-pump, the tongue being the piston, and that the successful working of the apparatus depends upon an unobstructed passage of air to the lungs through the nose.

But the effects of nasal obstruction are direful enough when they are due alone to the derangement of the air-supply. The facial expression of the mouth-breather is one of stupidity. The buccal cavity, as we have seen, being practically a vacuum, the lower jaw is held against the upper, not by any conscious muscular effort, but by atmospheric pressure. When, however, the nose is impervious to the passage of air, or partially so, the lower jaw falls from its own weight. The face being constantly acted on by gravity, becomes elongated, the lines at the angles of the mouth and nose, and in aggravated cases, at the corners of the eyes, being especially deepened and stretched. These furrows reflect the light in such a manner as to make the face look dull,[4] which, added to the open mouth, sunken cheeks, and pinched nose, convey an impression in pronounced instances, almost of idiocy. Yet this facial expression, sometimes mistaken as indicating mental deficiency, is produced in as purely a mechanical manner as in the circus clowns, on whose face paint is daubed in exactly the same regions, in order to give to his countenance a look of vacancy and imbecility.

One author has attributed the fact of his having more females than males among his patients with adenoid vegetations, to this external effect of mouth-breathing upon the personal appearance. But the remote effects of this destructive habit are more to be dreaded, and more important to avoid. Air which enters the lungs of the mouth-breather is not only less in quantity than if it passed through its natural channels, the nasal-chambers, but its quality is altered and vitiated, being charged with impurities which would have been arrested and ejected by the cilia lining the nasal passages, being colder than if it had been warmed by the extensive blood-supply of the tissues covering the turbinated bones and other portions of the nasal cavities, and being dryer than if it had taken up moisture, as it should, from the mucous glands in the respiratory tract in the nose. The mouth-breather, accordingly, is undergoing a sure, but fortunately, a slow process of asphyxiation. He is not getting a sufficient quantity of air to expand the lungs and oxygenate the blood, and what he does get is impure. Deformities of the chest-walls, malnutrition, deafness, loss of appetite and sleep, may supervene before the obstructive cause in the nose is discovered, which, when removed, enables the individual, for the first time in his life, to experience what it means "to take a full breath."

Major,[5] of Montreal, has noticed the damage done to the teeth by mouth-breathing, and considers it the "result of dryness, caused by the passage of air between and around them, facilitating the decomposition of any food present, and favoring the formation of acids capable of reacting vigorously." He speaks of the changes as confined to the upper incisiors, the lower teeth escaping injury, as they are protected by the lips and tongue, and moistened by the saliva. In one of my own cases, a lad, aged fifteen, who had been a confirmed mouth-breather for eight years, the teeth in both jaws presented a peculiarly notched and carious appearance. They were very brittle, and more than one had broken off while he was eating.

The teeth of the first dentition were healthy. As the permanent set came through the gums in their present wretched condition, and as there was no evidence of any syphilitic taint, the deficient calcification was probably due to the general low tone of the boy's system, brought about by buccal respiration. Adenoid vegetations have a marked effect upon the speech and tone of the voice, because their presence destroys the virtue of the naso-pharyngeal cavity as a resonator. The voice, instead of being clear, is muffled and stuffy, readily explained by the sound-waves impinging on these soft, irregularly-shaped, glandular masses, instead of on the normal, smooth walls of this dome-shaped resonating chamber. Certain words are enunciated with difficulty and imperfectly, and the nasal consonants, "m" and "n," and "ng," cannot be pronounced at all. The word common is pronounced "cobbod;" nose as "doze" or "loze;" and song, "sogg," etc.

Snoring always accompanies this form of nasal obstruction, and is so loud as to disturb not only the sleep of the child, but even that of persons in neighboring rooms.

Children, then, in whom the glandular tissue in the naso-pharnyx is in excess, are exposed to a long train of sad sequelæ, and I think the following statements, which I translate from B. Fraenkel's paper on this subject, will not be considered exaggerated by any one who has had experience with this affection in the young. He says:

"I have already pointed out that their facial expression is one of stupidity, that in consequence of loss of sleep, they present a tired and sad appearance; also, that their speech is affected. Adding now, to these, deafness, the children sometimes convey the impression of being idiots, and, indeed, this is not merely an impression, but it is a fact that their intelligence may become weakened, and their characters changed. They do not progress in their studies at school, are generally at the bottom of the class, and remain in it longer than the prescribed time. . . . That the impairment of intellect and want of energy manifested by these children is real, and not merely in the expression of the countenance, is made evident by watching these same children after the growths have been removed. To the gratification and astonishment of the parents and teachers, the children hitherto sluggish and dull of comprehension, now make rapid progress, and their comrades soon cease to make a laughing-stock of them. It seems, in fact, as if, through the removal of the obstructing vegetations in the naso-pharynx, they had become different beings."

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[4] Warner's "Physical Expression," International Scientific Series, Vol. 12, 1886.

[5] New York Medical Record, November 22d, 1884.

Again, speaking of the nervous symptoms sometimes associated with this disease, such as abnormal sensations in the head, a feeling of weight and pressure in the upper and back part of the cranial cavity, melancholia, headache, etc., Professor Fraenkel continues: "The children come from school complaining of pain in the head, with a desire to lie down, and occasionally vomit, yet on the next day, they have sufficiently recovered to go again to school. Slight fever sometimes accompanies these attacks. In many cases, the parents and physician content themselves with the diagnosis of 'migraine,' in explanation of these oft-recurring attacks. The children pass their holidays in the country or at some health resort, where they are comparatively free from such attacks, yet they return home, bringing their old trouble with them. Then it is said, 'the child cannot bear the air of the schoolroom.' Finally, the adenoid vegetations are detected and removed, and the child is restored to perfect health."

However strongly we may suspect the presence of these growths, the diagnosis cannot be established with absolute certainty without exploring the naso-pharyngeal cavity. This may be accomplished either by posterior rhinoscopy, or by means of the index finger, introduced behind the soft palate. Unless there is some anatomical obstacle to the use of the rhinoscopic mirror, I believe it is the exception, even in young children, that we cannot, with a small expenditure of time and patience, succeed in employing this method. The posterior nares can then be examined leisurely on the part of the operator, and with no discomfort to the patient. In my judgment, it is much more satisfactory in the end, to train the patient to bear a rhinoscopic examination, than to rely upon the finger for information regarding the condition of this cavity. The latter procedure is not merely disagreeable for the patient, but the operator, with the aid of a post-nasal probe, can acquire a more vivid and accurate picture of the number, size, shape, and situation of these vegetations through the sense of sight, than by the sense of touch. Digital exploration I never resort to, unless it is impossible to use the mirror. In such cases, the sensation communicated to the finger by these glandular masses is very characteristic; they feel, as Meyer describes it, like a bunch of earth-worms.

The treatment of the growths, when sufficiently large and numerous to obstruct nasal respiration, consists in their removal. To effect this, many methods have been recommended, some requiring the use of the rhinoscope, and others not; and many different instruments are successfully employed by different operators, such as the curette, the ring-knife, the sharp spoon, the cautery or cold snare, the finger-nail, or a scraper carried on the end of the finger, and the post-nasal cutting forceps. It makes, of course, but little eventual difference to the patient, provided he is relieved of the growths, whether they have been scraped off, pulled off, snared off, or cut off; or whether the surgeon operates with or without the rhinoscopic mirror.

But as the advance that has been made in our knowledge of the diseases of the various cavities of the body, is directly attributable to the fact that certain instruments, have, from time to time, been added to our armamentarium, which permit us to illuminate these cavities, it seems to me, that in performing operations in them, we should avail ourselves of such instruments, when possible, in order to be able to see exactly what we are about. There is, however, a great difference in the size, and some variation in the shape of different naso-pharyngeal cavities, to say nothing of the excessive nervous irritability of some patients, or of the intractability of others. The difference in the consistence of the growths, their size, mode of attachment and situation, must also be taken into account. No one operative procedure, therefore, if we regard the patient's or surgeon's comfort, is applicable to all cases.

After having tried most of the methods recommended, the following has yielded the best results in my own hands, and can be employed in the majority of instances. The patient is easily taught to hold the tongue well depressed in the floor of the mouth, by means of one of the ordinary spatulas — preferably, Türck's. The operator now has both hands free, one for the rhinoscopic mirror, and the other for the post-nasal cutting forceps, either Cohen's or Loewenberg's. It is necessary to have these forceps of different sizes and curves, to suit individual cases. A strong light being reflected into the cavity, the instrument, guided by the image in the mirror, grasps the vegetation, and if it be soft or pendulous, it is torn off, care being taken not to use force; or if it be hard, and of the flat variety, it is cut off. Occasionally, too large a quantity of the mass becomes engaged between the blades of the forceps, and, not coming away with easy traction, the blades should be released and re-applied to a smaller portion of it.

In conjunction with this method, one of the forms of nasal snares, or écraseurs, armed with No. 5 piano-wire, is very useful to remove growths which are too tough to be brought away with the forceps. The snare being introduced anteriorly through the previously cocainized nostril, the loop can be watched in the rhinoscopic mirror, and directed to the desired vegetation or pharyngeal tonsil. When the naso-pharyngeal cavity is very long, and the remaining portions of the growths are high up and on the sides, the snare used as described is a convenient way to get rid of them. If one operates in this manner, every movement of the forceps or the snare can be watched, and a few pieces can be removed at each sitting until the cavity is completely freed of the growths. The patient's visits are renewed sometimes daily, or at intervals of two or three days, without apprehension or dread of the operation, as the pain is usually slight if healthy parts are not nipped, as they ought not to be if the rhinoscope is used. The hæmorrhage, more or less, according to the individual, has always been insignificant in my own cases. Once thoroughly eradicated, I have never seen a recurrence of the growths. But we may meet with these adenoid vegetations in children whose naso-pharyngeal cavities are too small to admit of the procedures just mentioned, or who obstinately refuse all co-operation.

When they are very refractory or nervous, it is advisable to administer ether, and, with the post-nasal forceps, remove the entire mass at one sitting. The specimens I show you give an idea of the quantity contained in the naso-pharyngeal cavities of four children from six to eight years of age, who were recently relieved of their exuberant tissue in this manner. Rhinoscopy being out of the question in these cases, the practised hand can feel when the end of the forceps is embedded in the tissue. It is well to hold the soft palate forward by means of a palate-hook, or, if space permits, the forceps may be guided by the index finger of the opposite hand. The hæmorrhage may be considerable, but ceases immediately. Other children, ranging from the ages of four to fifteen, I have found most tractable, and when old enough to comprehend the nature of their trouble and the object of the operation, only too willing to lend their aid.

For the after-treatment of the seat of the vegetations, a mild astringent and detergent wash is all that is required, while the treatment of the complications in the nose or other parts, must be conducted on general principles. There is an unfortunate belief prevailing among the laity, that that bugbear "catarrh" is some incurable disease, and one we must submit to with resignation. Little cognizance is taken of the different varieties of nasal affections, or of the advance that has been made in recent years in the surgical treatment of the catarrhal diseases of this important organ. In typical cases of adenoid vegetations, the symptoms of "catarrh" of the most aggravated form may be present, yet the good effects of treatment are noticeable, even before it is completed; and I think it may be safely said that there is no other disease in the domain of him who confines himself to the upper respiratory tract, the treatment of which is attended with more satisfaction to the operator, or with more permanent relief to the patient.

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SEVERE HÆMORRHAGE FROM ANTE-PARTUM SEPARATION OF THE PLACENTA, WITH THE INFUSION OF SIXTY-SIX OUNCES OF SALT SOLUTION.

BY F. B. HARRINGTON, M.D.

Mrs. H. is twenty-three years of age. She first came under treatment in January, 1885, suffering with a slight endometritis. She became pregnant for the first time in June. There were no unusual signs during pregnancy until February 6th, about a month before the expected time of delivery. At five P. M., on that date, after lifting some small article, she felt a severe pain in the back. This continued for over a half hour, when there was a sudden rush of blood, wetting the clothing. The flow continued until nearly a pint of blood was collected in a basin. She became faint and was put to bed. When first seen at 6.30 P. M., a large surface of blood was found upon the bed and the night-dress was soaked up to the waist. The pulse was 78 and of good strength. The pains were strong and nearly constant. The uterus was low down in the pelvis, the cervix was hard and unchanged by the pains and the os was wholly undilated. After much effort the tip of the finger was inserted into the os. For an hour and a half the finger was thus held, and, although little progress toward dilatation was made, the escape of any large quantity of blood from the uterus was prevented.

It was impossible at this time to push a single finger into the internal os. There was no perceptible change in the condition of the cervix. No fœtal movements were felt and the unceasing pains prevented the hearing of the fœtal heart. This condition of the patient continued until 9.45 P.M., when there was a sudden profuse hæmorrhage which weakened her at once. She became blanched and the pulse quickly rose to 120. Immediate emptying of the uterus became absolutely necessary. The finger was again pushed into the os, and the escape of blood from the uterus was prevented.

Dr. Strong, who was sent for, arrived soon after 10 P.M. The patient was etherized at once. The dilatation of the cervix was most difficult. It resembled the virgin cervix rather than that of a woman pregnant for eight months. During the efforts at dilatation the loss of blood was excessive. The sheets having become soaked in blood, three pints by measure were caught in basins. At length a single finger could be made to reach the internal os. A head was felt fixed against this. The pains were incessant. The uterus seemed tonicly contracted, and because of this, and for fear of delay in turning, the membranes were not ruptured. Slowly a second and third finger were introduced by the use of the utmost force. When it became possible to sweep the finger about the lower segment of the uterus, a perfectly smooth wall was met on all sides, showing that the placenta was high up. The rush of blood continued and stood in pools on the carpet. The patient was greatly collapsed; she was colorless, covered with cold sweat and breathing rapidly. All the force that could be used was brought to bear upon the cervix, and just as an incision was about to be made the tissues yielded, and a large rent allowed the hand to be pushed into the uterus. The membranes were ruptured. There was a small rush of waters. The feet were easily found and the child was quickly turned and delivered, but was dead. When the feet were drawn into sight, the placenta appeared preceding the body of the child. The uterus contracted quickly and well. A subcutaneous injection of whiskey and one of ergot were given at once. Hot water with vinegar was injected into the uterus. A steady flow of blood continued although the body of the uterus was well contracted. A Sims' speculum was inserted but no bleeding point could be found in the torn cervix.

A swab covered with powdered persulphate of iron was inserted several times into the cavity of the uterus, and applied to the cervix. This controlled the hæmorrhage.

The condition of the patient was extremely alarming. Only the flutter of a pulse could be felt in the wrist. The patient was inverted and the legs were bandaged from toes to hips. Subcutaneous injections of ether and whiskey were repeatedly given, but the patient, perfectly blanched and almost pulseless, began to gasp and to toss for breath. It was now forty-five minutes since the birth of the child and the patient was sinking. It was decided to try infusion. The right median cephalic vein was exposed and raised upon a director and a ligature was passed beneath it. A funnel and a connecting rubber tube and needle were filled with a solution of salt and water. The needle was tied into the vein. Thirty-six ounces of the salt solution were poured into the vein in about twenty-five minutes. The first few ounces brought the pulse back to the wrist, and the tossing and gasping ceased. Within twenty minutes a slight flush could be seen in the cheeks and the lips took on a little color. The pulse fell to 120 and was of fair strength. The patient was perfectly conscious and took stimulants by the mouth.

There was still no loss of blood and the uterus remained hard and small. The color in the cheeks did

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[1] Read, by invitation, before the Obstetrical Society of Boston, February 13, 1886.

not remain long, but the patient was quiet and seemed to be resting easily. It was now an hour and a half since the birth of the child and the uterus had remained well contracted. All seemed to be going well, when suddenly the uterus was found to be enlarging. At the same time blood appeared trickling from the vagina. The uterus did not become larger than a cocoa-nut, but the hæmorrhage was profuse. Fresh pledgets of cotton with persulphate were crowded into the cervix. The vagina was very tightly packed. This was not done however until the uterus had returned to its small size below the symphisis pubis.

It perfectly controlled the hæmorrhage. The sighing and alarm of the patient had returned. She was tossing from side to side. Enemas and subcutaneous injections were given. The heaters were renewed and placed about the patient. The pulse at the wrist was rapid in the extreme, and at times could not be felt. For three-quarters of an hour every effort was made to improve the patient's condition, but she grew steadily weaker. The skin was cold and clammy. The pupils were widely dilated. The patient's mind wandered. Death was imminent. As a last resort it was decided to attempt a second infusion. The left median cephalic vein was this time opened. Thirty ounces of the salt solution were added to the circulation in forty minutes. Slowly the pulse appeared at the wrist. It then became constant, though rapid and feeble. The patient soon became quiet but was utterly exhausted. The pulse ranged between 150 and 160 and could only be accurately counted at the chest. Six hours later the pulse had fallen to 148, and was somewhat stronger In twelve hours it dropped to 140. Here it remained, for thirty-six hours, when it fell to 130. On the three following days it ranged between 120 and 130.

February 12. Nearly a week has elapsed, and the patient is doing well. The prognosis is favorable.

February 13. The patient had a chill and the temperature rose to 105°. She was seen by Dr. W. L. Richardson in consultation. He gave a favorable prognosis.

REMARKS.

The cause of the first hæmorrhage was an ante-partum separation of the placenta, brought about perhaps by lifting or by old endometritis or by a combination of the two causes.

The cause of the second hæmorrhage was a relaxation of the uterus occurring an hour and a half after the birth of the child.

The labor may be divided as follows:

February 6th.	5. P.M.	First pains.
	5.30 "	A flow of blood.
	9.45 "	A second large loss of blood.
	10.10 "	Ether.
	11.00 "	Child born.
	11.45 "	First infusion begun.
February 7th.	12.10 A.M.	First infusion finished.
	12.45 "	Post-partum hæmorrhage.
	1.30 "	Second infusion begun.
	2.10 "	Second infusion finished.

Since the labor the stomach has acted well. There has been excessive thirst but no appetite. She has been given liquid foods and stimulants in small quantities at short intervals.

No urine was drawn for eighteen hours after the birth of the child. Then two ounces were removed by the catheter. The amount secreted soon increased.

An analysis of the urine by Dr. Charles Harrington gave the following result, February 8.

Color=sl. pale.
React.=acid.
Urophæin=N.
Indican=M+.
Urea=Normal.
Albumen=trace.
Sp. Gr.=1,016.5.
Amount of Sediment=slt.
Chlorides=M—.
Sulphates=N.
E. Phosphates=M—.
Alk. Phosph=+.
Sediment=Free blood and a few hyaline casts.
Amount of NA. CL.=0.04 per cent. or 0.400 gm. per litre.

Instead of an increase of the chloride of sodium, we find it almost absent, the normal amount being from seven to eleven grms. per litre.

Four days later the amount of salt in the urine had more than doubled. The packing was removed from the vagina without much difficulty on February 9th. No hæmorrhage followed. The respiration has remained at a low rate, ranging from ten to twelve for four days.

The stitches were removed from the arms on the fifth day. There had been union by first intention in both.

A specimen of the patient's blood examined in regard to its richness in red corpuscles showed that there had been a diminution from 4,500,000 to 1,838,000 per c. m. m. On the 12th there was a farther decrease to 1,824,000, and on the 13th to 1,658,000. This apparent decrease may have been due to the absorption of water by the blood, at a more rapid rate than new corpuscles could be formed. The number of white corpuscles was largely increased.

The breasts have remained perfectly soft and no milk could be pressed from them.

The subject of the infusion of salt solution was first brought to the notice of the writer, by a paper "On the Value of Transfusion of Blood and Infusion of Salt Solution in Acute Anæmia," which was read by Dr. O. K. Newell on April 1st, 1885, before the Surgical Section of the Suffolk District Society, and which unfortunately has never been published. The paper was a translation of an article by Professor Mikulicz (Ueber die Bedeutung der Bluttransfusion und Kochsalzinfusion bei akuter Anämie. Weiner Klinik, Juli 1884.

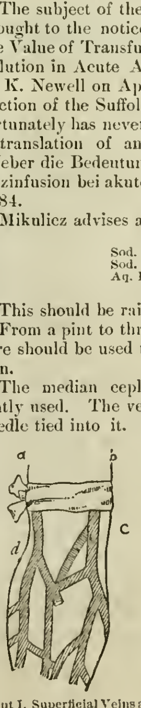
Mikulicz advises a solution made as follows:

Sod. Chloride	6 0	=℥ iss
Sod. Bicarb	1 0	=grs. xv
Aq. Distillat	1000 0	=oii+

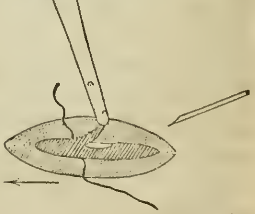
This should be raised to about 100° Fah.

From a pint to three pints can be used. The utmost care should be used that no air shall enter the circulation.

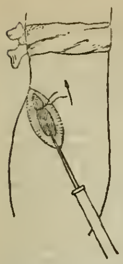
The median cephalic vein can be most conveniently used. The vein should be dissected out and the needle tied into it.



Cut I. Superficial Veins at Bend of Elbow: *a*, outside; *b*, inside: *c*, basilic vein; *d*, cephalic vein.



Cut II. Method of inserting needle.



Cut III. The needle in position. The arrow indicates the direction of the current.

The amount of pressure can be regulated by raising or depressing the reservoir. The solution enters the current quickly at an elevation of three feet.

The apparatus used on this occasion was such as could be hastily adapted from the ordinary office instruments: a large needle from an aspirating set, with a piece of drainage tube and a small glass funnel.

As to the benefit of the salt infusion in this case there cannot be a shadow of doubt. The relief given was as apparent as from tracheotomy in diphtheria.

The salt infusion was not tried until all other means had failed. Should the patient die it has given a week of life and hope.

February 28th. The patient is doing well. The prognosis is favorable.

There was progressive anæmia until Feb. 18th when the red corpuscles had diminished to 1,180,000. After this time they began to increase, and on Feb. 28th reached 2,040,000 per c. m. m.

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REPORT ON RECENT PROGRESS IN THORACIC DISEASE.

BY F. C. SHATTUCK, M.D.

CONSEQUENCES OF NARROWING OF THE MITRAL VALVE WHEN OCCURRING IN CHILDHOOD.

The following is a portion of a short article by Dr. Wilks.[1]

"In various ways the effects of heart disease are different as occurring in the growing child and adult. After a marked endocarditis in the child, resulting in thickening and narrowing of the mitral valve, there may be observed great enlargement of the left auricle, with hypertrophy of the right side, becoming sometimes so great as to cause bulging of the chest. In these cases the pulmonary artery partakes of the hypertrophy of the ventricle, and is often found thicker than the aorta. Many years ago, when demonstrating this condition, I used to teach that in all probability the second sound of the heart was produced more by the pulmonary than by the aortic sigmoid valves, and this was before I became aware of the clinical fact pointed out by Skoda that the second sound was more accentuated over the pulmonary orifice in mitral disease. But in cases where there has been no history of endocarditis, although it might probably at one time have been present, where the valves have become contracted without much thickening, and therefore retained their efficiency, these secondary effects do not and need not occur. It is evident that the whole of the blood of the body coming back to the lungs and then passing again to the left side, is measured by the size of the mitral orifice. If this be small, the blood passing through it is diminished in quantity and it becomes a guage of the reduced circulation. The left ventricle is therefore small, and the whole heart correspondingly diminished in size. The lungs are small as well as the chest, and the respiratory process correspondingly lowered, and with this, probably the whole body is impoverished; at all events, the organism is working with a diminished amount of blood. I admit that these simple cases of narrowing are exceptional, for most frequently with the contraction there is some thickening which in course of years manifests itself by symptoms denoting an imperfection of the valve.

"It is, however, the exceptional cases to which I wish to draw attention, those in which the mitral orifice, when narrowed, acts first by producing a diminished stream of blood, the amount in the system being measured by the small mitral orifice, and then, as before said, by a shrinking of the other parts of the circulatory system. During the present year I have seen two such cases on the *post-mortem* table. One was that of a woman of middle age who had died of some longstanding disease of the brain. In her body was found a very small mitral aperture, admitting only the point of the finger, but having its edges pliable and in every way efficient as a valve. The ventricle was very small and the whole heart was diminished in size, proving that no obstruction or regurgitation had occurred in the mitral orifice. The lungs were not indurated, nor did they show in any way the congestive conditions so well known in heart disease when the blood has been impeded in its course, nor did the other organs display any indication whatever of analogous congestive processes. A very intelligent student expressed his surprise at the absence of the well recognized conditions usually met with in obstructive mitral and other valvular diseases, and that there was not the slightest appearance in the body suggestive of stenosis of the valves of the heart. My answer to him was that there was no disease; the mitral orifice was smaller than natural, but an effective valve. The contraction had no doubt occurred at an early period of life, and so reduced the amount of blood, of which it was the guage; that the whole heart became in consequence reduced in size, and an entirely new state of things set up. This condition is very different from what occurs when a person is full grown and becomes the subject of a stenosed mitral valve, but even then the prolongation of life is due probably in some measure to the reduced amount of blood in the system."

DROPSY IN MITRAL STENOSIS.[2]

Dr. Broadbent in the course of an admirable article on mitral stenosis remarks on and explains the relative infrequency of dropsy in the above condition. He says: "Another fact which has been impressed upon me, in the course of my observation of the various forms of heart disease, is the late stage at which general dropsy supervenes in uncomplicated mitral stenosis. Not unfrequently the subjects of it are free from œdema at the moment of death, and very commonly it is absent when the symptoms arising from the condition of the heart are most urgent; it may set in suddenly after these have lasted for some time. Ascites, again, may occasionally be present independently of œdema, or it may persist after œdema has subsided, occurrences which are altogether exceptional, if not unknown in other forms of heart disease. When dropsy comes on comparatively early, regurgitation will usually be found as well as obstruction, and the incompetence of the valve may not improbably play a greater part in the production of the symptoms than narrowing of the orifice."

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[1] Lancet, 1886, 1, 6.

[2] American Journal of the Medical Sciences, 1886, 1. p. 57.

I have met with an extreme degree of dropsy only when there has been tricuspid stenosis, as a complication by the initial stenosis, and have come, in the diagnosis of this complication, which in most cases does not reveal itself by separate physical signs, to rely upon blueness and lividity of the countenance, and to waterlogging of the tissues and cavities.

The seeming capriciousness of dropsy in heart disease long ago forcibly struck Walshe and led him to the conclusion that there is some active cause beyond and independent of the heart, something beyond and in addition to any one or any group of cardiac lesions which is required for the production of the dropsy. What this active cause is, Walshe does not state; but he dwells upon changes in the blood, in the vessel walls, and in the tissues themselves, as factors in the production of dropsy. Broadbent, on the other hand, believes it unnecessary to seek for any active cause outside of the heart, and thinks that Walshe and others who share his views, have fallen into error by allowing to simple venous stasis and consequent slowing of the circulation through the capillaries too prominent a rôle. He says: "But it is not a question merely of obstruction in the veins, but of pressure in the capillaries, and if *vis a tergo* in the arteries is wanting, the condition under which the exudation takes place does not arise. Of course, whenever the resistance to the return of blood to the heart is such that the pressure in the arteries is unable to overcome it, actual arrest of the onward movement of blood in the capillaries occurs, and life ceases at once; but, short of this, and subject to the production of the degree of intravascular pressure needed to keep up the nutricent overflow into the intertextural space, the movement of blood in the capillaries may be very languid. Given a retarded circulation through the capillaries produced by venous obstruction, the occurrence of dropsy will depend on the pressure of blood in the arteries, and in mitral stenosis the conditions are such as to forbid any augmentation of it. Followed to its source, the pressure in the circulation depends, ultimately, on the left ventricle. Increased resistance in the capillaries is met by the increase of strength and vigor given by hypertrophy, and when disease affects its outlet, compensation is obtained by hypertrophy with or without dilatation.

"Under certain conditions the left is reinforced by the right ventricle, under all conditions, in fact, in which the pressure in the pulmonary circulation is increased and the right ventricle is hypertrophied, except when such augmented pressure is intercepted by a narrowed mitral orifice. But in mitral stenosis the left ventricle is not hypertrophied, and, in consequence of the narrowing of the orifice, can get no help from the right, beyond such as is afforded by the more efficient filling of its cavity. The amount of blood entering it is, in advanced cases, probably less than normal, notwithstanding the increased pressure in the pulmonary circulation, and can scarcely at any time exceed the normal. It is not, however, propelled into the arteries with increased force. Although the veins there may be full, and there may be every appearance of backward pressure in the capillaries, the real source of pressure in the capillaries is wanting."

A NEW PHYSICAL SIGN OF TRICUSPID REGURGITATION.

"This sign consists in a distension, with or without pulsation, of the superficial veins of the neck, occurring when firm pressure is exerted over the liver in the direction of the spinal column, and independent of the movements of respiration. A little consideration of the anatomical relation of the parts concerned will suggest the facility with which an impediment may be created to the flow of blood, in either direction, through the vena cava inferior by such a manœuvre, especially when the liver is obviously enlarged. It seems to me that the state thus produced is virtually that which obtains as a chronic condition in long-standing and severe cases of tricuspid incompetence as far as regards the tension in the systemic venous system in the immediate vicinity of the heart. Assuming the existence of tricuspid regurgitation and of a source of compression of the vena cava inferior, it is obvious that with each systole an excessive reflex of blood must take place into the vena cava superior and its tributary veins. It may be noted that the question of pulsation as compared with pulsation or undulation, is merely one of degree of morbid venous tension. Although the number of cases in which I have observed this phenomenon is certainly limited, I have never failed to elicit it when there was indubitable evidence of tricuspid icnompetence; on the other hand, I have hitherto invariably failed to obtain it in other forms of cardiac valvular disease, and in various cases of hepatic enlargement from causes other than passive congestions."

NEW HEART TONICS.

Spareine sulphate has been used with good effect by Sée,[3] who thinks its influence is more prompt and more enduring than that of digitalis. The base of the salt is derived from a variety of broom tops and, in combination with sulphuric acid, is quite soluble in water. The dose is ten centigrammes. "When the pulse is irregular, intermittent, and arythmic, sulphate of sparеine rapidly re-establishes the normal type. When the circulation is slackened the drug seems promptly to oppose this functional trouble, while maintaining or even increasing the acquired force of the cardiac muscle."

[The drug can be had in this country but must come down in price before it can be much used. The present price to physicians is one dollar a gramme. The reporter has used it in two cases and knows of several others; in these the results were inconclusive.]

Strophanthin receives especial attention from Prof. Fraser in an article on the digitalis group.[4] Strophanthus is an African arrow poison, and Fraser has extracted from the seeds of the plant a crystalline body readily soluble in water and in rectified spirit; this he calls strophanthin. However introduced into the body this substance increases the contractile power of all striped muscles, and renders their contractions more complete and prolonged. The heart is early and powerfully affected, and by regulating the dose a distinct influence may be produced on the heart, while the other muscles are apparently unaffected. At the same time the blood pressure rises and in certain conditions the urine is increased and the temperature lowered. These facts led to the use of the drug in a large number of cases in which digitalis or its equivalent was indicated, and with most encouraging results. Further experiments on animals, digitalin and strophanthin being compared, lead Fraser to think that the latter exerts a much more powerful action on the heart and a less powerful action on the blood-vessels than the former. While he is not prepared to say what the exact significance to therapeutics of this difference may be, the advantage seems to lie with strophanthin in the treatment of cardiac disease. "In difficulties and embarrassments of the circulation depending on a central cause, it seems preferable to act upon the heart alone, rather than also to increase its difficulties by closing the blood-vessel into which it must empty itself."

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[3] Gazette Médicale de Paris, Nov. 28, 1885. Boston Medical and Surgical Journal, 1885, II, p. 599.

[4] British Medical Journal, 1885, II, p. 904.

Speaking of the digitalis group generally, Prof. Fraser says: "I regard, in common with many others, the characterizing action of the members of the group to be the action on the heart. They may be used with advantage in all weak states of this organ, whatever the cause of weakness, and their most satisfactory results are, I think, produced in mitral disease.

"They do little, if any, good when the cardiac muscle has undergone much degeneration; they sometimes fail, even while degeneration is absent, when lesions of the orifices throw too great a burden on the heart, and they are injurious when sufficient compensatory changes have been produced." In most of the cases the strophanthus was used in the form of a tincture prepared with the quantities prescribed in the British Pharmacopœia for tincture of digitalis. The dose is not definitely stated. Of the strophanthin the hypodermic dose seems to be grain 1-60. It should be added that Prof. Fraser's studies of this remedy have been going on now for fifteen years.

The drug is not yet to be had in this city, but a small quantity is on its way to T. Metcalf & Co.

THE ORIGIN AND DIAGNOSTIC IMPORT OF DILATED CUTANEOUS VESSELS NEAR THE LOWER BORDER OF THE LUNGS.

Sahli[5] has noticed this change especially in sufferers from chronic cough, and has often seen combined with it a line of minute ectatic vessels coinciding with the limits of the cardiac dulness. The explanation lies in the increased intrathoracic pressure resulting from the cough; the internal mammary and intercostal veins are compressed by the lungs and thus stasis is caused in the superficial cutaneous veins in the above situation. The cough persisting, gradually the vessels become permanently dilated.

Although the course of the line of dilated veins does not correspond exactly with the lower border of the lungs an unusually low situation of the line indicates a lowered position of the pulmonary border. This point enabled Sahli to diagnosticate emphysema in a case where the condition was quite masked by dropsical effusion. He thinks the presence of this line of dilated vessels may be taken as a safe indication of long standing cough.

TRAUMATIC PHTHISIS.

Mendelsohn[6] calls attention to a class of cases which seems to have escaped the attention of most writers on thoracic diseases with the exception of Lebert,[7] who says: "Traumatism is far from being rare as a cause of phthisis and one is justly surprised that the connection has attracted so feebly the attention of physicians." A few cases have been reported here and there in the journals; these Mendelsohn has collected, and adds to them nine cases from his own experience, in eight of which no hereditary tendency to the disease could be traced. The injuries were of different kinds and degrees of severity; in some there was no positive evidence of anything more than a severe shaking up or compression of the lungs; in others there was hæmoptysis, but this symptom may be absent although the lung tissue is more or less lacerated and the amount of blood expectorated is no reliable indication of the amount poured out into the fine structure of the organ. The tearing of the tissue, the bleeding, and inflammation with its accompanying hyperæmia, all favor the lodgment and growth of the tubercular bacillus. In ordinary phthisis the apex is the favorite seat for the commencement of the process because it is that portion of the lung which is ventilated with the greatest difficulty, and it seems highly probable that in these traumatic cases the limitation of movement dependent on the pain acts in a similar manner.

SÉE ON THE TREATMENT OF ASTHMA BY PYRIDINE.[8]

This colorless and strong-scented fluid is obtained from many organic substances by dry distillation. It has been detected in nicotine and other alkaloids and in the fumes of tobacco. It is probably the active principle of the various cigarettes and papers which have been recommended against asthma. Recent experiments by MM. Sée and Bochefontaine have shown (Bull. Géner. de Thérap., June 30) that it produces in frogs and guinea pigs a diminution of the irritability of the respiratory centre. Pyridine has been tried in asthma with marked success; four or five grammes of this fluid are poured on a plate and placed in a small room in which the patient remains for from twenty to thirty minutes, three times a day. The respiration becomes easy, and after a few sittings the disease disappears more or less completely. The inhalations have no bad effect on the heart or general health. In spite of these good results, M. Sée still considers iodine the best curative remedy in asthma; pyridine is chiefly useful against the attacks of dyspnœa.

TEREBENE IN CHRONIC BRONCHITIS.[9]

During the last five years Dr. Murrell has used this remedy with excellent results in cases of winter cough, having notes of 114 cases. The drug is prepared by the action of sulphuric acid on oil of turpentine and is not to be confounded with a patent medicine sold under the name "Tereblene." It is pleasant to take, being a clear colorless liquid with an odor like that of fresh-sawn pine wood; it will not mix with water but can be taken on sugar. The dose is m. x–xxx every four hours, but it can also be atomized and inhaled. Larger doses are well tolerated, and the only disadvantage noticed from its employment is the peculiar odor it imparts to the urine, a circumstance patients never fail to mention. A case is reported which is said to be fairly typical of all, and certainly speaks well for the efficacy of the remedy.

— The *Union Pharmaceutique* states that, in a perfectly serious advertisement, a French oyster dealer offers for sale both ferruginous oysters and tar oysters.

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[5] Fortschritte der Medicin, 1885 p. 509.
[6] Zeitschrift fur Klin. Med. 1885, X, p. 108.
[7] Traité Clinique et Pratique de la Phthisie Pulmonaire, etc. Paris, 1879.
[8] London Medical Record, 1885, p. 343.
[9] British Medical Journal, 1885, II, p. 1103.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

February 22, 1886, the President, Dr. F. W. Draper, in the Chair.

POLYPUS RESEMBLING INVERTED UTERUS.

Dr. Minot reported the case, and showed the specimen, the chief interest of which lay in the diagnosis. The patient, a widow thirty-four years old, applied at the out patient department of the Massachusetts General Hospital, under the care of Dr. F. B. Harrington, stating that she had had a miscarriage four years ago, and no pregnancy since. During a year past she had had much pain in the back and pelvis, with frequent hæmorrhage. In September last she noticed a lump in the vagina, which afterward increased in size and then "went back." Three weeks ago, while lifting a heavy kettle, she felt something give way in the pelvis, was immediately seized with hæmorrhage, which had continued more or less profusely afterward, and found that the tumor had again descended into the vagina. As the diagnosis was uncertain, Dr. Harrington asked Dr. Minot to examine the patient with him. There was a firm fleshy mass in the vagina, of about the size and shape of the uterus. Its surface was uneven, of a dark color, and covered with blood, which flowed freely during the examination. The tumor seemed to be connected with the interior of the uterus, but the sound could not be made to pass between it and the uterine walls into the cavity. A sound in the bladder could be felt by the finger in the rectum.

On account of the restlessness of the patient from pain, the examination was not satisfactory; and it was decided that she should enter the hospital for a more careful one and for treatment. On the following day, the patient being etherized, it was found that the pedicle of the tumor was attached to the interior of the cervix, almost completely around, so that the finger could not pass beside it into the cavity of the uterus. After some search a passage was found into which the sound easily entered to a distance of two and a half inches in the downward and backward direction. The openings of the fallopian tubes were sought for, but could not be found. To make sure, a small portion of the mass was excised, which showed the appearance of the ordinary fibroid growth. The mass was then drawn down and cut off with scissors. There was no hæmorrhage of consequence, either at the time of the operation or since, and the woman has done well. The retroflexion explained the facility with which the catheter in the bladder could be felt in the rectum, as it passed directly over the uterus, thus adding to the embarrassment in the diagnosis.

It might be said that uterine inversion was impossible with the history of the case; but it was not thought justifiable to base a diagnosis, which might cost the woman her life if incorrect, upon her statements, since she might have some motive for concealing the real facts of the case.

Dr. Franklin H. Hooper read a paper on

ADENOID VEGETATIONS IN THE NASO-PHARYNGEAL CAVITY.[1]

Dr. Knight, who, unfortunately, was unable to be present, sent the following notes to be read by the secretary:

"I regret exceedingly to miss the reading of Dr. Hooper's paper, and not being able to open the discussion as you very kindly asked me to do.

"I well remember bringing up the subject of adenoid hypertrophy at the pharyngeal vault many years ago, when it first began to attract attention, in our old quarters in Temple Place. Some of the gentlemen present may remember the excited manner in which the late professor of pathological anatomy denied that there was any adenoid tissue at the vault of the pharynx, and how, having a good dissection on hand, I convinced him of its existence.

"A little later I was asked by a distinguished surgeon to examine with the posterior rhinoscope a young lady on whom he, a few days before, had performed tracheotomy, preliminary to the bloody operation of resection of the superior maxilla for naso-pharyngeal polypus. The gentleman confided to me with some anxiety that the tumor was not nearly so prominent as it had been. I found a moderate adenoid hypertrophy, which had probably been acutely swollen, and led to the erroneous diagnosis of naso-pharyngeal fibroid. The patient was discharged 'much relieved'!

"As we know it at the present day, this adenoid is capable of enormous hypertrophy, so that nasal respiration is completely occluded.

"In regard to its treatment, there is, I imagine, little difference of opinion about the necessity of removal, when it is sufficiently large to seriously obstruct nasal respiration, to seriously impair the voice, or threaten the hearing. To accomplish this, I have used the cutting forceps more than any other instrument, though I have occasionally removed large pendulous masses by means of the wire snare passed through the nose.

"I have shared the prejudice against the sharp spoons of various kinds which have been recommended for this operation, but the perusal of Trautmann's recent monograph, including detailed accounts of one hundred and fifty cases, makes me think that the operation may be done much more expeditiously with such a spoon as he recommends. He uses a large very sharp spoon, which is passed under the soft palate up towards the septum, and then made to cut across towards the posterior wall of the pharynx, getting out much larger masses than with the forceps. I attach some importance also to the fact that Trautmann was familiar with and used the cutting forceps before adopting the spoon.

"Shall the operation with forceps be done under the guidance of the rhinoscopic mirror? Certainly, if that is possible, but I can but think that the dictum in a recent treatise that forceps should never be introduced into the post-nasal region except under guidance of the rhinoscopic mirror is unnecessary. In many cases, on account of the age of the patient or irritability of the fauces, the mirror cannot be used at all. In using the forceps or any instrument in the posterior nares by the sense of touch alone, I think our efforts should be directed to clearing away the central mass which blocks nasal respirations and avoiding the lateral regions of the Eustachian orifices.

"In the cases of unmanageable children, it seems to me most satisfactory to resort to etherization at once. For an operation under an anæsthetic, the forceps is the best instrument, as, tearing off bits at a time, the hæmorrhage is usually trifling, and can be regulated, whereas, with an instrument making a large cut surface, the bleeding is sometimes profuse, and it might be hard to keep the blood out of the larynx."

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[1] See page 193 of this Journal.

Dr. Langmaid said that almost nothing could be added to the very interesting and complete paper which Dr. Hooper had read. He could not agree with the theory that the disease was congenital. He believed that it was generally the result of scarlet fever or measles. The physiognomy of the mouth-breathing child had been so graphically described that it might be well to refer to another characteristic which had not been mentioned, namely, the inhibitory effect upon respiration, which is almost always produced in severe cases. When the child is sleeping, the respiratory act is so interrupted that an interval of twenty seconds or more will elapse after an expiration before the delayed inspiration takes place. This is accompanied by, or rather, consists in a loud snort. This laborious and interrupted breathing is not unfrequently the cause of great anxiety to the child's attendants, who are in constant dread lest the breathing cease forever. In more than one instance the mother's health has been seriously impaired by long-continued night vigilence. No one need ever be in doubt as to the cause of such interrupted respiration in a young person.

Dr. Langmaid considered the method of making a diagnosis by means of the finger extremely fallacious. A rhinoscopic examination was not only desirable for diagnosis, but also for proper treatment. The time had long passed when the knowledge to be obtained by thrusting the finger into the naso-pharynx could be considered in any way equivalent to the exact information which the rhinoscopic mirror affords.

Dr. J. O. Green said that when this adenoid growth closes the orifices of the Eustachian tube it prevents the ventilation of the tympanic cavity and in this way may produce various forms of inflammation; or inflammation may, also, by a mere process of extension from the original growths, reach into the Eustachian tube. A third ear complication may in his opinion be a small celled infiltration of the sub-mucous tissue, which infiltration becoming organized causes permanent thickening. Here the question of heredity comes up, and it is true that in some of the worst cases no such results follow. Nevertheless he is certain that he has seen cases in which it did follow.

The readiness with which the Eustachian tube when closed by these growths may sometimes be opened is sometimes striking, and it may then stay open. On the other hand even small growths may close it so that it closes again after inflation.

Dr. C. J. Blake said that depression of the membrana tympani, with congestion of the mucous membrane and deafness are sometimes found in connection with these growths. He mentioned the case of a deaf patient, a mouth-breather with an adenoid growth in the naso-pharynx; inflation was not successful, but on removal of the growths, hearing became five times as good in one ear and more than twice as good in the other, and then after a few inflations soon became normal.

Dr. Farlow said that the expression of the mouth-breather is something very marked, as described by the reader. Patients so afflicted are often brought to the Dispensary rather for relief to the expression than on account of the breathing.

Dr. J. O. Green said that emphasis ought to be laid on the tendency of these growths to shrivel after puberty. He mentioned a family in which all the sons were mouth-breathers in boyhood and all gradually recovered.

APPOINTMENT OF MEDICAL EXAMINERS BY THE STATE.

Dr. Chas. D. Homans, Chairman, stated that the committee appointed Nov. 23d to consider the above subject was ready with its report. The report, which follows, was read by Dr. Fitz, and was unanimously accepted.

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REPORT OF THE COMMITTEE OF THE MEDICAL IMPROVEMENT SOCIETY ON MEDICAL EXAMINERS IN MASSACHUSETTS.

To the Boston Society of Medical Improvement:

The undersigned, your committee appointed Nov. 23, 1885, to consider the subject of medical examiners in Massachusetts, respectfully report as follows:

The law concerning medical examiners was passed in 1877, and under its provisions there are at present seventy-two incumbents. These must be "able and discreet men, learned in the science of medicine." Seven years later Dr. F. H. Brown states (Medical Register for New England) that "since its introduction in 1877, about 9,000 cases of violent, sudden and suspicious death have been investigated in a satisfactory manner in Massachusetts, without any complaint from any one as to the abolition of the coroner and his jury."

A year ago the Governor of the Commonwealth found it necessary to make, in his inaugural address, the first public criticism of the working of the law. Admitting that on the whole it was satisfactory, he called attention to the possibility of its abuse in cases of railroad accident by permitting unnecessary autopsies with a correspondingly increased charge to the county or State. He gave an instance of such abuse, and recommended that a report of all autopsies should be made to the district attorneys, and that the examiners should "make oath in each case that in their judgment the cause and manner of death could not be ascertained by view and inquiry, and that an autopsy was fairly necessary for that purpose." Fees for autopsies were not to be paid except with the approval of the district attorney who was to examine the report and certify whether the autopsy was required. The governor also suggested the probable necessity of other amendments which should define certain words and clauses, fix the rate of fees, and otherwise make clear the intent of the statute.

The making of unnecessary autopsies with or without increased cost to the State, may be regarded as an indiscreet act at least, though not necessarily dishonest, and the medical examiner must be discreet. Your committee have been informed that the officer above referred to was removed.

It is to be regretted that the attention of his excellency was not at the same time directed to the apparently unnecessary extravagance of double inquests in fatal railroad accidents. The statutes not only require that the railroad commissioners shall investigate the causes of such occurrences, but that it shall be the duty of the medical examiner also to initiate a judicial inquest. The necessary legislation would thus have prevented a recognized abuse of official power and at the same time have caused an additional saving of the public funds.

The second public criticism comes from a medical source in the paper read before your body by Dr. W. C. B. Fifield. The question is raised by him "whether or not the time has come when the present system of medical examiners as appointed by the State ought to perish and give place to something better."

The main objections to the existing law as stated by the reader, relate to the method of appointment, and to the insufficiency of the payments for the services rendered. The former is claimed to be faulty since it results in the selection of incompetent officials and the use of unworthy means in obtaining the position. No facts are given as evidence of the insufficiency of the fees but it is obvious that incompetent incumbents easily earn their wages, and competent examiners, as represented by the Medico-Legal Society, have lately obtained a desired increase of fees.

Although a single instance is given of the payment of an agent for assistance in securing an appointment it is presumable that the appointee had other qualifications than those of a pecuniary nature. This fact does not strengthen the argument against the appointing power, as it is hardly probable that the sum was spent in bribery. As the instance referred to was published in the courts, the attention of the governor and council could readily have been directed to the transaction.

The value of an agent's services must be so limited that no action is recommended which shall guard against the possibility of his employment.

Your committee recognize the merits of the reader's definition of competency in medical examiners, and desire with him that "they should be in every instance well-bred and well instructed gentlemen, competent from education and professional training to fill this very responsible post, not to be entered into carelessly and thoughtlessly, but soberly and seriously, well weighing its many obligations; able to make an exhaustive *post-mortem*, with full knowledge of what will be demanded by the law; possessed of sufficient knowledge of chemistry and toxicology to recognize the *post-mortem* appearances produced by ordinary poisons and to determine their presence by chemical analysis."

They agree that the medical examiners in general have not attained, this standard but they cannot admit that a rigid practical examination of each candidate would secure such officers. On the contrary, if the examination could be made sufficiently severe to guarantee the desired result, it might well be questioned whether enough appointees could be obtained to serve the interests of the State.

As the medical examiners have now for the first time been publicly charged with incompetency, your committee have thought it of the highest importance to ascertain to what extent this accusation was justified. To form an opinion on this point they have considered *seriatim* the instances mentioned by the reader, have consulted the manuscript reports collected by the Medico-Legal Society, and have sought for information from the several district attorneys.

Six instances are mentioned in the paper presented to your Society.

First. The experience of the district attorney who refused, in the latter years of his practice, to present to the grand jury a case seen by the medical examiner unless it had first been submitted to an expert's guidance, with the view of securing at a *post-mortem* examination valuable evidence which might otherwise have been overlooked.

Your committee are of the opinion that the law does not require that the medical examiner should necessarily be an expert anatomist, and the above instance shows that the district attorney recognized this fact.

Second. An examiner neglected to obtain the negative evidence necessary to control the argument for the defence.

An error of omission which might have been obviated had the government secured the early assistance of an expert. The error of location in the indictment does not suggest medical incompetency, and the plain statement of the fact does not permit its author to be recognized.

Third. A medical examiner failed to secure suitable evidence of the manner of death. The examiner first called contented himself with a view, presumably unaware that the suspicion of murder was to arise. His diagnosis of death from disease of the heart was in accordance with a customary formula, the use of which is objectionable but likely to be retained while it is the policy of the State to discourage apparently unnecessary *post-mortem* examinations. The second examiner falsified a fact in stating the existence of what proved to be absent, and was incompetent as not showing a familiarity with an important branch of the science of medicine.

Fourth. A medical examiner was satisfied with the view of a dead body in the absence of information suggesting death from violence. This information would have been obtained had the law required an autopsy in all such cases, but Section 8 of the law reads as follows: "Whenever a medical examiner has notice that there has been found, or is lying within his county, the dead body of a person who is supposed to have come to his death by violence, he shall forthwith repair to the place where such body lies and take charge of the same; and if on view thereof and personal inquiry into the cause and manner of the death, he deems a further examination necessary, he shall . . . make an autopsy, etc."

Your committee cannot recognize the above as an instance of incompetency, even if it be admitted as one of negligence. The supposition of death from violence appears not to have arisen till some days after the view of the body, and the law is incomplete in not clearly defining what is meant by a view.

Fifth. A doubtful diagnosis. The anatomical evidences of typhoid fever and cerebro-spinal meningitis being usually sufficiently characteristic, the examiner must be deemed incompetent who makes a diagnosis of the latter affection from the inspection of the dura mater after a simple removal of a part of the lumbar vertebræ.

Sixth. Dissatisfaction of the jury with the medical evidence. That a jury finds death to have been caused by some unknown means, despite the medical evidence, is no proof of incompetency on the part of the examiner. If a district attorney and the examiner assisted by four experts, cannot convince twelve average men that five mortal wounds are fatal, your committee find no occasion to charge the medical examiner with incompetency.

The above detailed consideration of the instances cited by the reader leads to the conclusion that the errors of medical examiners are rather those of omission than commission, and in two instances are more the fault of the law than of the examiner. Two examples of actual incompetency are presented.

The medical examiner cannot be deemed incompetent if innocent persons are arrested and imprisoned. If he suspects a death to result from homicidal violence he is not called upon to direct his suspicions towards individuals. The judicial officer, not the medical examiner, causes arrests and the former, not the latter, is to blame for unjust imprisonment.

The Massachusetts Medico-Legal Society includes in its membership a majority of the medical examiners in the State. During the first five years of its existence, beginning in 1877, an attempt was made by its secretary, Dr. F. Winsor, to collect and preserve full and detailed reports of the medico-legal work of its members. Eleven volumes of these manuscripts are deposited with the Boston Medical Library Association. Your committee have examined a sufficient number of these records to enable them to form a satisfactory opinion of the nature of the work done by the members of the Society in the years represented. The contributions were voluntary and obviously come from those members most interested in their work and obligations. It appears from the inspection of the reports of autopsies that there was no agreement as to the form and fulness of these records. Some are well-proportioned, clear and objective statements of facts, arranged in proper sequence and logically justifying the final opinion of the cause and manner of death. Others are unsatisfactory as failing to present all the evidence necessary to justify the conclusion. In a few, faults of omission are conspicuous and methods of statement are inaccurate.

The importance of obtaining the opinion of the prosecuting officers as to the competency of medical examiners is apparent. As your committee were appointed in somewhat indefinite though very comprehensive terms, to report upon the whole subject, they addressed a circular letter to each of the eight district attorneys of the State. Information was sought as to the competency of the examiner, the satisfactory nature of his work, the feasibility of reducing the number, and the least number necessary for the timely performance of the duties. A reply to this circular was received from each of the officials addressed, and your committee take this opportunity of expressing their obligation for the willing, comprehensive and suggestive answers.

One medical examiner was found incompetent, and it is not unlikely that he was one of the two referred to in Dr. Fifield's paper. The errors of certain examiners were as often due to defects of the system as to those in the examiner. Two were regarded as unduly zealous in making autopsies. In no instance, however, was there any delay or failure of justice in consequence of unsatisfactory work on the part of the medical examiner.

The evidence thus attained from various sources goes to show that among the seventy-two medical examiners two, at the most three, had been recognized as incompetent, yet their incompetency has not caused a delay or failure of justice. A considerable difference in the ability, discretion and learning of the several examiners undoubtedly exists and is likely to continue, whatever change might be made in the method of appointment. Errors of omission and obscurity of statement occur, but these are faults which can be very considerably diminished.

The existing law offers a simple and rapid method of disposing of incompetent examiners. Section 4 provides that they "Shall be liable to removal from office at any time by the governor and council for cause shown." All the prosecuting officers of the commonwealth, the mayors of cities, the selectmen of towns, the commissioners and treasurers of counties, are immediately interested in the accuracy, thoroughness and honesty of the work of the medical examiners. Any or all of these officials would be compelled to show an existing cause for removal, if for no other reason than to relieve themselves from a possible urgent public criticism.

With the recognition of the desirability of more nearly approaching the ideal standard of the medical examiners as raised by the reader of the paper, the question arises as to the means to be employed which may bring about this result.

Dr. Fifield suggests that the law be amended by the appointment of an examining committee to nominate candidates, or that the latter present certificates of proficiency from teachers of medical jurisprudence. How shall the examining committee be appointed and of whom shall it be composed? The evils of the existing law must be extreme before so radical an amendment could be adopted, and then the possibility of even worse evils is manifest. A board representing the several medical interests of the State, especially with members selected through political influences, would be in danger of recommending candidates whose action might prove criminal as well as ignorant. The Utopian nature of this proposition is admitted by its advocate.

If all the medical schools of the country were of the same high character, and in each a thoroughly qualified teacher of medical jurisprudence gave instruction with abundant opportunities for illustration, certificates from the latter might possess a certain practical value. The relative merits of candidates, however, cannot be determined by means of certificates of proficiency from different sources. Furthermore, the appointing power should demand evidence of other qualifications in a candidate than his ability to answer certain questions in a becoming manner.

Your committee are therefore of the opinion that any feasible change in the method of appointing medical examiners is not sure to improve their quality.

It seems, however, that the public welfare, so far as it depends upon the work of the medical examiner, might be decidedly promoted were a smaller number of more highly qualified persons selected for this office. A suitable salary as well as the dignity of the position would enable the services of the most desirable to be secured, and these would become all the more competent from the more frequent opportunities of investigation furnished each. A recommendation tending to bring about such a change is not made since the work of the examiners, almost without exception, is at present satisfactory to the prosecuting officers and causes no delay or failure of justice. Although certain of the district attorneys admit the possibility of more efficient work from a smaller number of examiners, the expediency of the change is questioned. Should the time arrive when the expediency is generally admitted, your committee are strongly of the opinion that the suggested modification would be productive of the greatest possible benefit.

Your committee are unwilling to conclude their labors without very decidedly urging the adoption of a system of making returns which shall tend to relieve the medical examiner from the deserved charges of errors of omission and inaccuracy of statement.

Each examiner should be provided with printed directions of procedure in all cases likely to require his services. The method of making a *post-mortem* examination should be so ordered as to demand a systematic, clear and objective statement of the physical condition of the various organs of the body and the appearance of its surface. The inquiry should be strictly limited to the cause and manner of death, and printed blanks might be prepared for general use. These should comprehend not only all the data necessary to prove the assumed cause of death, but also the evidence which might be needed to control the assumption of other theoretical possibilities of death.

In cases of suspected homicide another medical examiner might be called as the medical witness allowed by law. Certain of the district attorneys authorize a medical expert to be employed at the outset in these cases at the discretion of the medical examiner, and such practice would undoubtedly become general if requested. If the suspicion of homicidal violence is urgent the police or constabulary as well as the district attorney and justice should be immediately notified, that the surroundings of the dead person may be investigated by the authorized agents of the law with as little delay and as little alteration as possible.

The statute now provides that duplicate copies of the records of an autopsy shall be deposited with the district attorney and a justice. If one of these copies were periodically filed with some duly appointed board or official of the State, the appointing power would be provided with easily available evidence concerning the qualifications of incumbents.

The valuable suggestion from the reader of the paper that a central commission be appointed to sift the returns from the medical examiners, for the sake of furnishing the legal officials with the results of this analysis, might be embodied in the necessary recommendation. In his inaugural address previously referred to, the governor advised that the medical examiners be required to report the cases investigated by them to the State Board of Health, Lunacy and Charity. If a State Board of Health is established by the present Legislature it is possible that the responsibilities of the desired commission might be advantageously placed in its hands.

In conclusion your committee recommend that a committee be appointed to bring before the next Legislature the desirability of such action as shall refer to an appropriate State Board or official, the establishment of definite and detailed rules of procedure for medical examiners, and the collection and preservation of their records.

C. D. Homans, M.D.
R. H. Fitz, M.D.
George B. Shattuck, M.D.

Boston, Feb. 22, 1886.

CAMBRIDGE SOCIETY FOR MEDICAL IMPROVEMENT.

COMPLIMENTARY DINNER TO DR. MORRILL WYMAN, FEBRUARY 17, 1886.

A complimentary dinner to Dr. Morrill Wyman was given February 17th, at the Parker House, by the Cambridge Medical Improvement Society. Between thirty and forty physicians of Cambridge and vicinity, members of the Society, were present. The present year is the forty-ninth of Dr. Wyman's practice. After this long service he has thought best to retire from the duties of family physician, continuing simply those of consultant.

After the dinner which occupied the time from 6.30 to 8.30, Dr. S. W. Driver, the president of the Society, opened the speaking, referring to the pleasent relations which had always existed between Dr. Wyman and himself, to Dr. Wyman's progressiveness, to his wise conservatism, and to the healthful conception of what is to be expected from medical treatment with which he had imbued his patients. Dr. Driver also spoke of his valuable services as a member of the Board of Overseers of Harvard University.

Dr. Wyman then acknowledged the honor paid him by the Society in desiring to meet him socially. He thought that the physicians of Cambridge are remarkable for their urbanity and good will to one another. Among the various influences which maintain a high standard in the medical profession of this City, Harvard College in its varied relations to the people of Cambridge, is not the least. Dr. Wyman then spoke of the Cambridge Hospital, and expressed the hope that the physicians would willingly assume the duties incident to the complete success of such an institution. In closing, he proposed the following sentiment: "The physician, consecrated to humanity; may he ever be true to his sacred office!"

Dr. W. W. Wellington, who began practice one year later than Dr. Wyman, recalled early reminiscences of medical education and practice.

Dr. J. T. G. Nichols responded to "The Cambridge Medical School." He read one of the early circulars which declared the purposes of the school, and outlined the course of study. The school was organized as a department of the Lawrence Scientific School. Its list of instructors contained the following names: Jeffreys Wyman, Morrill Wyman, Louis Agassiz, Asa Gray, Joseph Lovering, and Josiah P. Cooke, Jr., Morrill Wyman holding the position of adjunct professor of Theory and Practice. In commenting on the various instructors, Dr. Nichols spoke in warm praise of the faithfulness, kindness, and lofty character of Jeffreys Wyman.

"Courtesy of the senior and loyalty of the junior" called up Dr. J. L. Hildreth, who spoke of the kind reception which Dr. Wyman gave him when he came to Cambridge, and of the conviction of Dr. Wyman's sincerity and professional honor which he received at his first interview.

Dr. L. R. Stone, of Newton, gave a brief history of paracentesis thoracis, referred to the first case in which Dr. Wyman performed it, and spoke in high terms of his valuable service in demonstrating the benefits of the operation, and in bringing it into general practice.

Dr. A. P. Clarke proved himself the poet of the evening, and entertained the company by sounding the guest's praises in verse.

"A sore back never helped a poor brain" brought Dr. E. R. Cogswell to his feet, who said that although a number of years have now passed since Dr. Wyman was a member of the School Board, the effect of his wise counsel is still evident in the improved methods of school discipline, corporal punishment having been practically abolished, and the present methods of school government inaugurated through Dr. Wyman's efforts.

Dr. R. L. Hodgdon, of Arlington, in speaking of "the physician in consultation," said that he had called Dr. Wyman in consultation oftener than he had any other one physician, oftener, perhaps, than all others; that he had received from him valuable assistance; that he had found him a man who would not assert more than he had good reasons for asserting, and who, in puzzling cases which admitted of no solution was not afraid to say, "I don't know."

Surgeon-General A. F. Holt represented the State, and expressed his high regard for Dr. Wyman's public spirit in all the relations of true citizenship.

Dr. J. B. Taylor responded to "The Cambridge Hospital." He briefly sketched the history of the movement for its establishment, referred to the care exercised in planning and constructing the building, and ascribed the success of the enterprise as far as it has been carried, the thoroughness of construction, and the excellent adaptation of the building to its requirements, to Dr. Wyman's careful investigation and foresight, and to his watchful oversight of the work of contractors and employés.

Dr. H. P. Walcott's subject was Dr. Wyman's literary work. He spoke in particular of his Thesis on Ventilation, afterwards enlarged and published in book form; of his essay on Autumnal Catarrh, and of his essay read before the Massachusetts Medical Society in 1863, on the Reality and Certainty of Medicine.

The various speakers enlivened their remarks by personal reminiscences, and paid high tributes to Dr. Wyman's character and ability.

Dr. J. W. Bemis sent a letter expressing regret at his enforced absence, and his high appreciation of Dr. Wyman's attainments, and of his services to the profession.

Soon after ten o'clock the company sang "Auld Lang Syne," and dispersed.

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NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated meeting February 15, 1886.

Dr. Frederic S. Dennis read a paper on

LAPAROTOMY IN THE TREATMENT OF PENETRATING AND VISCERAL INJURIES OF THE ABDOMEN.

Having referred to the importance of the subject, he said that this was an operation which, limited to penetrating wounds of the abdomen, no surgeon had ever performed until within a few months past. It was therefore natural that great interest should be felt in it; and there was still much diversity of opinion in regard to it. The present was, then, a fitting time to discuss the propriety of the procedure. He felt obliged, he said, to differ from the late Dr. James R. Wood in regard to this; and, in the light of the recent advances in antiseptic surgery, he did not doubt that that distinguished authority would have modified his views upon the subject. The methods which now render laparotomy possible in such a large proportion of cases were inadequately understood a few years ago. Experimental research has now rendered it possible to perform operations which were formerly impossible, and without the pale of legitimate surgery. The crucial test of experiment had demonstrated that, under proper conditions, the opening of the peritoneal cavity was not attended with any great danger.

Having remarked that shock was not to be considered by the surgeon in performing laparotomy, he went on to speak, first, of

PENETRATING STAB-WOUNDS.

He related in full the case of a young man of twenty-two, who was admitted to his wards at St. Vincent's Hospital in November, 1885, suffering from two abdominal wounds inflicted with a knife. The intestines which were perforated protruded, and there was fæcal exudation, but not into the peritoneal cavity. The wounded intestine was sewed up with catgut sutures, and, after a thorough examination had been made for other wounds in it, returned to the cavity, and the external wound closed. The patient made a perfect recovery, and was presented to the members of the association for inspection of the cicatrix. Dr. Dennis remarked in connection with the case, that the operation of exploratory laparotomy was not called for in this instance, because the intestines protruded, and could be drawn out and sufficiently examined without such an operation, and that a concealed wound would have been much more dangerous.

A second case recently under his care was that of a negro, fifty-seven years of age, who was admitted to St. Vincent's Hospital December 20, 1885. He had been stabbed in the umbilical region, to the left of the median line; and from the wound, which was one and a half inches in length, protruded a finger-shaped piece of omentum, the latter being tightly constricted by the wound. Antiseptic gauze was immediately placed over the parts; and three hours after the accident, laparotomy was performed under the strictest antiseptic precautions. A vertical incision was first made in the median line, and then a second one diagonally, joining the wound to this. The viscera were thoroughly examined, from the stomach to the sigmoid flexure of the colon. The small intestines were turned completely out of the body, and the omentum and mesentery carefully inspected; but no injuries were found. This patient also had made a complete recovery, and, like the other, was presented. The piece of omentum which had protruded from the wound was also shown. Dr. Dennis said that it might be objected that laparotomy was not necessary in this case, but he would remark that this fact was not known at the time. If the intestines *had* been wounded, and laparotomy had not been performed, the patient would undoubtedly have died. The laparotomy was necessary, therefore, in order to find out what the actual condition of affairs was. This, he believed, was the first exploratory laparotomy which had ever been made in the case of a stab-wound, where it was not known that the intestines were wounded. Stab-wounds however, were not so dangerous as gun-shot wounds.

In another case of this kind, he would recommend that the wound itself should be enlarged sufficiently to make an examination of the intestines before performing laparotomy proper, this procedure being a little more conservative. The operation in this instance had not been sudden and unpremeditated, but was the result of much study and experience in connection with other similar cases. He then related four cases in which death had resulted under the old methods of treatment. In the fourth of these, a volvulus was found at the autopsy, and he had no doubt that laparotomy would have saved the life of the patient, although there was no wound of the intestine. He was of the opinion that this condition was the cause of many deaths, and said that it offered a new indication for laparotomy.

DR. DENNIS then gave reports of a number of other cases, accompanying many of them with "the presentation of specimens." The first of this series was also an instance of volvulus, resulting from the spasmodic condition of the intestines. In this case, although laparotomy was performed, the patient died, not from the operation, but from fæcal exudation. A resection of the injured intestine was made in this case. In the second, death also occurred from fæcal exudation. There were seven perforations of the intestines, but the sutures with which the injuries were repaired held so firmly that no leakage occurred when a strong stream of water was turned into the gut. There were three cases in which the patients recovered after laparotomy, the stomach being perforated in one of these. Dr. Dennis gave a list of the various cases of laparotomy in stab-wounds reported by various surgeons. Of six cases of his own, four recovered and two died.

He next went on to speak of laparotomy in pistol-shot wounds of the abdomen, and, in the first place, referred to Dr. W. T. Bull's remarkable case, which, he said, was a new application of laparotomy. He then mentioned two cases of his own.

The first was that of a young man twenty-three years of age, who was admitted to the 99th Street Reception Hospital January 2d, 1886, suffering from a penetrating wound of the abdomen, caused by a 32-calibre ball. Severe shock was present, but laparotomy was performed, when he found that there was the most profuse hæmorrhage in the cavity. The examination showed that the principal source of this was the veins in the transverse fissure of the liver. There was no wound of the intestines. On account of the extreme exhaustion of the patient, transfusion was resorted to, twelve ounces of a saline solution being injected into the radial artery. This was followed by marked benefit, and the same thing was, therefore, repeated every four hours, the canula in the meanwhile being retained in the artery. At the end of forty-eight hours, however, the patient died, and at the autopsy, the bullet was found imbedded in the right lobe of the liver, the wound being necessarily a mortal one on account of the irreparable injury to large blood-vessels. (Specimen exhibited.)

Another patient, aged twenty-two, was admitted to the same hospital January 10th, 1886, also suffering from a penetrating abdominal wound inflicted by a 32-calibre pistol. He had marked shock, and laparotomy was resorted to by Dr. Dennis. There was fæcal exudation, and seven openings in the intestine, with one in the mesentery, were found. The hæmorrhage was so enormous that, on account of the alarming condition of the patient, the operation had to be abandoned before its completion, and death ensued in forty-eight hours after the injury. At the autopsy the cavity of the abdomen was found completely filled with blood, but the sutures which had been made in the intestines rendered them perfectly water-tight.

Dr. Dennis remarked in connection with the frightful and uncontrollable hæmorrhage met with in these two cases, that at present the great desideratum in laparotomy for penetrating wounds was some means of arresting hæmorrhage from such large vessels as the vena cava, the iliac veins, and the portal veins, and it had occurred to him that this might possibly be accomplished by constriction of the thighs and the waist for a sufficient time to enable the surgeon to secure the bleeding trunks. When this point was accomplished, he believed that laparotomy as an operation would meet with the most brilliant success.

He then referred to some cases in which laparotomy was not performed. In one instance, ten perforations of the intestines were found at the autopsy, and the failure to perform the operation therefore deprived the patient of the only chance of recovery that he had. In this case, the existence of perforations was not suspected by the surgeon in charge until shortly before death, so that it forcibly illustrated the advisability of exploratory laparotomy even in comparatively favorable cases. Where there was perforation of the intestines, the injury was necessarily fatal unless laparotomy was resorted to. He thought it highly desirable that surgeons should report all their cases of laparotomy, whether successful or not.

The third indication mentioned was rupture of the intestine. A number of cases, illustrated with specimens, were related. In two the patients were run over, and in the others, injuries of various sorts were received. Dr. Dennis said that so far as he had been able to find, only two cases had been reported of laparotomy for rupture of the intestine due to traumatism. One of these had been reported by Mr. Owens, of London, in the *Lancet.* The patient was struck in the abdomen by a heavy plank, and an exploratory laparotomy was performed, but a fatal result ensued. He then referred to cases reported by various surgeons, which showed the necessity of laparotomy, although it was not performed.

In speaking of this class of cases he referred to emphysema of the tissues and loss of hepatic flatness on percussion as indication of perforation, and to several other points. Collapse was the only constant symptom, but it was not pathognomonic. In cases of rupture, the rupture was always in the small intestine. The contraction of the muscular fibres usually prevented fæcal extravasation. The performance of laparotomy in these cases enlarged the domain of abdominal surgery, although as yet no successful result had been reported.

He then referred in detail to the various signs of visceral perforation in general, among which are mentioned: (1) Fæcal extravasation. This was a positive one. (2) Emphysema of the tissues. This was also a positive one, and was of very great importance. (3) Shock. The persistency of the shock was of more significance than its severity, and when it was persistent, it afforded a strong link in the chain of evidence. The shock, he went on to say, was more apparent than real, being due rather to the sympathetic than to the cerebro-spinal system, as was also the case in strangulated hernia. He thought its presence should not deter the surgeon from performing laparotomy, and in his own cases, he had found that the collapse improved after the opening of the abdomen. Shock, however, offered no direct evidence of perforation, and a number of cases are on record in which, although there actually was perforation, there was little or no shock present, and death occurred almost without warning. (4) Tympanic resonance over the liver. This was an important sign, and Professor Flint had found that wherever there was persistent flatness over the liver, no perforation was present.

Having briefly mentioned sudden meteorism, subnormal temperature, fixed localized pain, vomiting and bloody stools, and other signs which were sometimes met with, he stated that, in consequence of the length of the paper, he would be obliged to omit the part of it devoted to the technique of the operation, and would proceed to give the conclusions at which he had arrived, which were as follows:

First. That penetrating stab-wounds of the abdomen are less fatal than penetrating gun-shot wounds, but that the former are fatal in too great numbers to justify reliance on the older methods of treatment.

Second. That if the stab-wound has injured the intestine or any abdominal organ, laparotomy is indicated. That it may be indicated also in cases where the gut is not perforated, but where the gut may become twisted, as a result of the stab-wound.

Third. That in a penetrating stab-wound in which doubt exists, the diagnosis should be made certain at once, in order to pursue a proper line of treatment.

Fourth. That laparotomy offers no additional danger to the patient, if properly performed with the strictest antiseptic precautions.

Fifth. That while the number of cases in which there was an exploratory laparotomy made in stab-wounds of the abdomen affords insufficient data upon which to establish any fixed rule of practice, the same principle which is recognized in the performance of laparotomy for gun-shot wounds of the abdomen, is one applicable to penetrating stab-wounds.

Sixth. That the enlargement of the original wound for an examination of the peritoneal cavity will not enable the surgeon to exclude, in all cases, fæcal extravasation, perforation, volvulus, and hæmorrhage. These may all exist, and yet no evidences of their presence be manifested upon inspection through a small opening.

Seventh. Neither the size, shape, character, and velocity of the bullet, the attitude of the patient at the time, nor the kind of weapon used to produce a stab-wound, seem to him to influence the question of laparotomy.

Eighth. It is possible to have a fatal hæmorrhage from the large venous trunks in the abdomen, and this hæmorrhage not be discovered until the cavity is about to be closed.

Ninth. That the sutures, if properly applied, will close the perforation in every case, no matter how lacerated the wounds are, or the sutures will close the wound in case of resection of the gut, so that no leakage will occur if water is forced through the sutured intestines.

Tenth. The success of laparotomy is to be attained when every arrangement is complete and perfect.

DISCUSSION.

Dr. Joseph D. Bryant said that it was unnecessary for him to state that he was heartily in favor of laparotomy, but the two distinct forms of the operation should always be considered separately, namely: exploratory laparotomy, and laparotomy in its entirety. The exploratory operation he said he would employ far more frequently than is at present the case, believing, as he did, that when performed under proper conditions, it exposed the patient to no unusual danger. It was a perfectly simple matter to open the abdomen; but when called upon to make a thorough examination of all the viscera, to arrest hæmorrhage at all bleeding points, to suture the intestines, and to perform the toilet of the peritoneum, it was a very different matter, and a procedure which was likely to employ from one to three hours. He said he called attention to this point in order that the gravity of the operation of laparotomy in its entirety might be fully understood.

Whether shock was present or not, it was perfectly justifiable to perform exploratory laparotomy, and the incision might be in the median line or in the seat of the wound, according to circumstances. In regard to shock, he said it was a principle pretty well established, that penetrating gun-shot wounds of the abdomen, provided they do not cause hæmorrhage or the injury of nerve-trunks, are not followed by much shock. When there was severe shock and subnormal temperature, it generally indicated hæmorrhage, and, therefore, as Dr. Dennis had remarked, severe shock was no contra-indication for laparotomy. He would not consider a case of laparotomy in its entirety, one in which there were found no injuries of the intestines or other viscera. If this was the case, it was merely an exploratory laparotomy. Hæmorrhage was a very important symptom, and it was absolutely necessary that any bleeding point should be satisfactorily secured. Not infrequently, very slight oozing became changed to profuse hæmorrhage when the abdominal contents were returned to their places, and the cavity was closed up. Experiments which he had made on dogs (shooting them in the abdomen, and then performing laparotomy), had further convinced him of the extreme importance of hæmorrhage in gun-shot wounds of the abdominal cavity.

Dr. E. G. Janeway said that the absence of hepatic dulness was a good general guide as to the existence of perforation, but there were a certain number of instances which simulated this condition. Thus, in a case of typhoid fever under his observation, in which on account of the loss of liver dulness, perforation was supposed to have taken place, it was found at the autopsy, that the resonance over the hepatic region was, in reality, due to the tilting of the liver. In regard to the operation, one possibility had occurred to him. Eberth, in his experiments on dogs, had found that by immersing the abdomen in a serum bath 98°, thrombosis and peritonitis could be prevented. Possibly, therefore, it might be advisable to operate on human subjects in the same way. It would hardly be safe to use bichloride of mercury as the antiseptic under the circumstances, but a warm saline solution might be employed for the bath.

Dr. J. W. S. Gouley said that he believed that the views expressed this evening were sound. The operation of laparotomy was justifiable when we had reason to believe that the hollow viscera had been injured. He then related two cases which had come under his own observation. The first was that of a young soldier twenty-two years ago, who suffered from a bayonet wound which passed completely through his body. It was not clear what organs had been injured in its course; but nothing was done, and the patient got well without a bad symptom.

The second case was one in which there was a pistol shot wound which also passed completely through the body. It injured the right lobe of the liver and the lower lobe of the right lung; and bile flowed freely out at both openings, mingled with the pus. In this case also recovery took place under the expectant plan of treatment. During the war he had in fact seen several cases which resulted successfully in a similar manner. At the same time, if he were to meet with such cases to-day, he did not hesitate to say that he should prepare himself to open the abdomen.

Dr. H. M. Biggs said that in regard to the loss of liver dulness, he had met with a case which showed that this could not be relied upon as an infallible sign of perforation. The patient was suffering from peritonitis, and when the absence of hepatic dulness was detected, it was supposed that perforation had occurred. There was no operation, and the patient died: when it was found at the autopsy that the cause of the resonance in the hepatic region was that the intestines had become forced between the liver and the abdominal walls, and that no perforation had taken place.

The President, Dr. C. A. Leale, then related an interesting case of penetrating wound of the abdomen, with recovery, which had been under his care during the late war.

Recent Literature.

Facts and Mysteries of Spiritism Learned by a Seven Years' Experience and Investigation. By Joseph Hartman. Philadelphia: T. W. Hartley & Co. pp. 380.

If seven years of ardent investigation does not qualify a man to tell much about the wonders of "spiritism," it would seem as though he were spending his time to little purpose.

This book seems to be the candid and honest statement of one who is thoroughly convinced of the fundamental assumption of modern spiritists. Mr. Hartman claims personally to have had evidence which places beyond doubt the reality of all that Swedenborg experienced or Swedenborg's modern successors claim; spirits have conversed with him and made him their instrument, looking through his eyes, as one looks through a window (page 234), hearing with his ears, and making use of the perceptions in his mind to acquaint themselves with what was going on in the world (see Sequel); he for a while surrendered himself willingly to their influence till he found himself mocked and betrayed by his celestial visitants. In fact, the author eventually discovered to his horror that the "spirits" are all vain, lying spirits, deceiving and leading astray "demons," "whose mission is to destroy men's souls," and though they often personate the great and good, yet "they are always and without exception evil."

The book is evidently written with a good intent, and it is very probable that there is in this land a large class of readers to whom such an "exposure" may be beneficial and salutary, calling them back from unprofitable ultra-mundane speculations and frivolities to the practical realities and duties before them.

To medical readers this work will have an interest of a different kind. How, in accordance with known laws of the nervous system, to explain the curious psychological problems which are presented in every page of Mr. Hartman's volume; this is a subject which cerebral physiologists and especially alienists would do well to grapple. E. P. H.

—M. Paul Bert, the eminent French physiologist, has accepted the political appointment of governor of Tonquin.

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DIABETES AND PERFORATING ULCER OF THE FOOT.

Any person who has met with even a few cases of perforating ulcer of the foot must have found difficulty in classifying them as to their origin and therefore in placing their treatment on an appropriate basis. Certain ulcers of the plantar surface are evidently coincident with, and apparently the result of nervous lesions; others are as evidently not at all connected with nervous lesions. In an interesting article in the *Revue de Chirurgie*, Dr. M. Jeannel, Professor of Clinical Surgery in the School of Medicine of Toulouse, makes certain suggestions in connection with the *mal perforant.* In the first place he makes two distinct classes of the disease, a distinction not unrecognized by others; the false, which consists of inflammation and suppuration of the callosities or of the subjacent bursæ of the foot, and which are purely of local and traumatic origin: the true, the seat of which is variable and in no necessary relation with the callosities and bursæ of the plantar surface; whose gravity is great as compared with the benignity of the first form; which recur with discouraging perseverance and are often accompanied by anæsthesia more or less extended and which are in a word veritable trophic troubles. It is in these last that degenerative lesions of the nerves have been demonstrated, while in the first nothing of the sort can be found.

Arnozan[1] showed the frequency of perforating ulcers in toes previously frozen and where in consequence a primitive neuritis exists; following traumatic sections of the sciatic nerve; wounds or simple contusions of the spine; accompanying locomotor ataxia and more rarely with progressive muscular atrophy; and he concluded that the perforating ulcer of the foot had in a great number of cases a nervous origin either central or peripheric. (Nicaise claims that while "the occurrence of a perforating ulcer is singularly favored by the previous existence of trophic disturbances of nervous origin, this affection is not met with unless a local compression intervenes.")

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[1] Des Lésions trophiques consécutives aux maladies du système nerveux. Paris, 1880.

In the same way are explained the phenomena which sometimes precede the plantar ulceration, such as the shooting pains, the motor troubles, the lesions of the nails, and the erythemas, as well as the frequent recurrence of the disease which presents itself either in the cicatrix, at some other part of the foot or upon the stump, if amputation has been practised. It is also true that a number of cases of *mal perforant* occur with shooting pains, motor and sensitive troubles, lesions of the nails and erythemas, without antecedent frost bites or section of the sciatic, without wound or disease of the spine of any sort. Something further remains then to be done in fixing upon the cause of these apparently spontaneous cases.

Dr. Jeannel has had an opportunity of treating two cases of perforating ulcer in individuals in whom none of the above named nervous troubles were present but who were the subjects of well-marked saccharine diabetes. He has also watched a third case in the practice of one of his colleagues in which were five ulcers on the left foot with a spontaneous amputation of the toes; in which case there was no spontaneous or traumatic lesion of the medulla, but sugar was present in the urine. Dr. Jeannel naturally inquires if the relationship of cause and effect is possible between diabetes and perforating ulcer.

As to the possibility of such a relation of cause and effect he thinks it incontestable, admitting on the one hand that true *mal perforant* is a trophic trouble recognizing as cause a series of known or unknown central (or peripheric) nervous affections, which seems to be absolutely demonstrated; and admitting on the other hand that diabetes is itself a nervous affection. The last factor of the problem is to-day only a strong presumption, since the encephalic anatomo-pathologic lesion is only rarely demonstrable, but one must take account of the fact that in physiological experiments it is possible by the lesion of a determined point of the nervous centre to produce glycosuria, and on the other hand nervous accidents occur in diabetes. As a central nervous lesion diabetes may engender trophic lesions and it does give rise to many. What in effect are carbuncles, furunculous and ecthymatous outbreaks, gangrene, diabetic ulcers, cataract and the spontaneous amputation of the toes already referred to, if not veritable trophic troubles. These same lesions are so characterized when they are observed in connection with known medullary lesions: why refuse them the same quality when they are observed in connection with diabetes.

En résumé, Dr. Jeannel thus states his case: On the one side *mal perforans* is a trophic trouble observed in many central nervous affections sometimes alone, more often accompanied by other lesions of the same group: on the other side it is very probable that diabetes is a central nervous affection, it is certainly a general dystrophy; and lastly, one observes in diabetics cases of *mal perforans* alone or accompanied by well characterized trophic lesions. Observation must finally settle the relationship and resolve at least in part the double question, the etiology of *mal perforans* and the nature of diabetes.

Dr. Jeannel quotes four cases beside his own, and mentions some references to the same possible connection by other writers. It is evident that the connection is by no means established; if it exists and is at all common it must often have been overlooked; but the article in question will stimulate others to watch more carefully for the possible constitutional condition behind the local lesion of *mal perforant*.

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ANNUAL REPORTS OF THE PRESIDENT AND TREASURER OF HARVARD COLLEGE.

The reports of the President and Treasurer of Harvard College for the year 1884–85 contain the usual information in regard to the condition of the various schools and departments of the University and the changes which have taken place in the twelve months.

The report of the Dean of the Medical School is of more particular interest for our readers. The year in this school was one without especial changes, marked rather by the appreciation and utilization on the part of both teachers and students of the ample accommodations afforded by the new building. Some modifications in lighting, heating and ventilation were found necessary and have been made. Some valuable additions have been made to the Warren Museum by the Anatomical Department, and in each of the laboratories for physiology, for chemistry, hygiene, pathology, histology and embryology, some original work has been carried on, and much of it has found publication.

The whole number of students in attendance during the year was 257; during the first term 254; during the second term 235. Of these 133 had literary or scientific degrees; 47+ per cent. of the whole number in attendance having the degree of A.B., whilst 76+ per cent. of the students at the Law School and 80+ per cent. of those at the Divinity School had this degree. There were 67 applicants for the degree of doctor of medicine in the three years' course, of whom eleven were rejected; there were six applicants for the degree in the four years' course, of whom three were rejected, and of the three who received this degree two received it *cum laude* and with it the degree of A.M.; of the 16 students, however, composing the fourth class ten postponed graduation.

The important question before the school at present is that of prolonging the course required for the degree to four years. The present voluntary fourth year was established in 1878 as a compromise between the old three years' course and a compulsory four years' course. It was regarded as tentative and experimental. During the eight years since the course was established the following have been the number of students taking it in each successive year: one, two, nine, nine, ten, twelve, sixteen, eighteen. These figures would certainly seem to indicate an increasing demand for the course, but, when informed by the Dean that in 1884–85 ten of sixteen postponed graduation and three of six who applied for the degree were rejected, we cannot be sure how far the increase in number may not be due to the survival of the *un*fittest, or how far membership in the fourth-year class may not be evidence of torpidity rather than of zeal. In Germany the recurrent student, after a certain time, acquires the title of "moss-head."

The school will have to decide a double question — whether a four years' course is in the abstract desirable, and whether it can afford to furnish such a course. There can be no doubt that a higher standard of medical education would enure to the welfare of the profession and of the public; we query however, how far the average American student will profit by a further development of laboratory, at the expense of clinical teaching. The present tendency is to supplement the work of the degree-giving schools by courses in the Post-Graduate Organizations and in the Polyclinics, and this is a tendency which, with the practical instincts of the country as well as the specialization of branches of medicine and surgery, is likely to increase rather than diminish. We believe we may venture on the statement that the usefulness of the present voluntary fourth year has not proved itself to be proportioned to the inconveniences which it entails.

In regard to the feasibility of a compulsory four years' course, the Dean, apparently guided by the figures, considers that the course having steadily gained in popularity since it was first established, it is not too much to hope if it were made compulsory, that the additional fees thus obtained would more than compensate for the loss of those students who would seek elsewhere a diploma which could be more easily gained. On the other hand, the President of the University seems more inclined to doubt the present feasibility of taking such a step. In his comments on the Professional Schools he says:

> "The Medical Faculty has given abundant proof that it wishes to do the best work, rather than to attract a large number of students; but it feels obliged to measure carefully the risks to which the prolongation of the course might expose the present excellent School. During the past four years nine per cent. of the graduates of the School have taken the four-years' degree. To maintain the present salaries and establishment the School has, and must have, an income of $64,000. At present about $53,000, or more than four-fifths of the School's income, are derived from student's fees, and the tuition fee is higher than in any other department of the University. How great the reduction in the number of students would be, if four years' study were required for the degree, no one can tell; but a reduction of twenty per cent. seems a low estimate. Such a reduction from the school of the current year (1885–86) would give 211 students in attendance instead of 264. To provide against even this moderate reduction in the amount of student's fees an additional endowment of $210,000 would be needed."

Last year the school had a surplus of $2039.10, according to the treasurer's report. There has been a considerable increase in the expenditure for salaries, and a large reduction in other expenses incident to the occupancy of a new building. For the information of possible benefactors of the Harvard Medical School we may repeat a suggestion that a sum of $10,000 could be acceptably bestowed as a scholarship; a sum of $100,000 as the endowment of a professorship, and a sum of $500,000 for the establishment of a hospital connected with the school.

The Dental School is still struggling against many difficulties, and is still greatly hampered for want of funds. In spite of this it has bravely established an entrance examination, which, though of the simplest character, has had the effect of reducing the first class (1885–86) to a third of the average number in previous years. The debt of the School has been reduced, its equipment improved, and its instruction rendered more complete; but these results have only been attained at the expense of continued sacrifices on the part of the teachers.

The Veterinary School has largely increased both its receipts and expenditures. There is a small deficit in its current account which added to the cost of enlarging its hospital (over $7,000) makes its present debt about $7,500. The school urgently needs an endowment of $50,000. The Secretary reports that:

> "As a teaching institution it may now perhaps be said, that with the addition of two or three veterinarians to its staff which it is hoped that its own graduates will supply the coming year, the School is at once ready to take and hold a leading place among institutions of the sort. But before it can be expected to fill the entire field of its usefulness — in the way of biological research, and in the discovery of means to prevent the extension of communicable and preventable diseases among animals, and from animals to mankind — some of its officers must be freed from the necessity of maintaining themselves by private practice."

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THE MEDICAL EXAMINER SYSTEM.

WE beg to call our readers' attention to the report published on another page of this issue, of the Committee appointed by the Boston Society for Medical Improvement, to consider the operation of the medical examiner system in Massachusetts. In an editorial (December 17, 1885), commenting on the circumstances which gave rise to the appointment of this Committee, we reserved any extended discussion of the subject until the appearance of its report. The report speaks for itself, and should be read by those interested in the extension of the system to other States.

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MEDICAL NOTES.

— Dr. Daniel G. Brinton, of Philadelphia, has been announced as laureate of the Société Américaine de France for 1885, and has been awarded the medal of the Society for his works on the aboriginal tongues of America.

— It appearing that Oliver Dean Root, M.D., 1854, died at New Orleans in 1863, in the discharge of his duties as an assistant-surgeon of the United States, it has been recently voted by the corporation of Harvard University, that his name be placed on the tablets in Memorial Hall.

— *L' Union Medicale,* January 9, 1886, contains the following recipe of Professor Bouchut for painful dentition in infancy.

℞.—Cocaine Muriate	1 part.
Sodium borate	1 part.
Syrup of marshmallows	20 parts.
Syrup of poppies	10 parts.—M

S. Gently rub the gums with the syrup four times daily.

— A correspondent of *Science* writing from St. Petersburg says that a movement is under way for establishing a female medical school in that city. A few years ago, ladies received instruction at one of the military hospitals, and some of the graduates are practising with honor. Later this instruction ceased, as the minister of war would not continue the subsidy given before, nor allow the use of the buildings. Now the matter is under discussion in the duma (city assembly) of St. Petersburg. There are also private subscriptions for this end, and lately the great importance of female physicians is especially insisted upon for central Asia and eastern Transcaucasia, that is, provinces where the great mass of the people are Mohammedans.

— A correspondent of the *Therapeutic Gazette,* writing from Berlin, says: "In the children's department at the University Hospital of Berlin, there is a collection of some three hundred nursing-bottles of various sizes and shapes, all provided with a long rubber tube, which encloses a piece of litmus-paper colored red. No commentary is needed. It is quite clear that the presence of lactic acid in the tube suffices to explain many obscure disorders of the alimentary tract for which the physicians are often at a loss to find a satisfactory explanation. The writer has repeatedly witnessed that mothers returned to the Polyclinic and testified to the rapid recovery of their children after withdrawal of the patent nursing-bottles. In one instance, the tube was found to be made of lead, and to have given rise to serious constitutional symptoms in addition to the gastric irritation. In view of these facts, the attending physicians of the Polyclinic make it an invariable rule to inquire as to the nature of the nursing-bottle in every child presented for treatment on account of digestive disorders.

BOSTON.

— Some ten days ago a schooner-load of Maine lobsters were inspected at a Boston wharf. As they were barely within the required length — ten and a half inches — they were allowed to be disposed of. As three other schooners were on the way to, or about sailing for this city at the time, similarly loaded, and as neither of them arrived, the Deputy Fish Commissioner had reason to believe that their skippers had got telegraphic notice of the rigid measures taken here to prevent the disposal of short lobsters. His surmises proved correct, for last week a despatch from Portland announced several seizures — one of more than three thousand of the immature shell-fish — the dealers paying hundreds of dollars in fines. The commissioners of Maine and Massachusetts are working together in the matter. It is said that one year's growth beyond the law's limit nearly doubles the size of the lobster. The penalty in Maine is the fine of $1 for each specimen seized; in Massachusetts it is $5.

— At the request of the President of Harvard University, Prof. R. T. Edes delivered an address last Tuesday evening before the Cambridge students on the subject of medicine as a profession. Rev. Philip Brooks and Judge Oliver Wendell Holmes, Jr., had previously spoken about the ministry and the law.

NEW YORK.

— The commencement exercises of the Buffalo Medical College were held February 23, when diplomas were conferred upon a class of forty-three. The address to the graduates was made by the President of Cornell University, Mr. C. K. Adams.

— At a meeting of the Medico-Legal Society held February 18, the Hon. Erastus Brooks, of the State Board of Health, read a paper on "What the State Owes to the People, and What the People Owe to the State," in the course of which he said that the health of the people was the first duty of the State, and, although commerce and quarantine were perpetual enemies, that the State should protect the people from such diseases as cholera, at whatever cost to commerce. The expenditure of money for sanitary purposes was undoubtedly an actual pecuniary benefit to the country, as each life saved by precautionary measures was computed to be worth a certain sum of money, in Great Britain, each life being computed to be worth $795. The people, on the other hand, owed sympathy and co-operation to the State in return for protection. Health at home means health everywhere.

— A coroner's inquest was held February 26th, in the case of Thomas E. Roche, who died in the German Hospital on the 17th ult., from the effects of chloroform administered for anæsthetic purposes during a surgical operation. A number of physicians were present as spectators, and considerable medical testimony was taken in regard to the action of chloroform on the human system under different circumstances, and in varying conditions of health. The question at issue was, whether the hospital surgeons had acted properly in administering chloroform to the patient when death had been caused by it. The jury, which consisted of physicians, brought in a verdict declaring that Roche came to his death by paralysis of the heart while under the influence of chloroform, the patient being in a depressed state of health from malignant disease of the cervical glands. Their report further said: "Inasmuch as the chloroform was of good quality, and administered by a competent physician, in a competent manner, and with the consent of the patient, no blame can be attached to the hospital authorities or the physicians in charge."

— At a meeting of the New York County Medical Society, held February 22d, Dr. John C. Peters read a paper on "The Present and Future Water-Supply of the City," in the course of which he gave a description of the proposed Quaker Bridge dam. The Committee on Hygiene, of which Dr. Peters is Chairman, are unanimously in favor of this great work, because of the immensely increased supply which it will afford. The following are the conclusions at which the Committee have arrived: "That the Quaker Bridge dam is unobjectionable from a hygienic point of view; that the Sodom dam should be constructed at once, in order to furnish a quick water-supply; that means should be taken to improve the quality of the water, including the construction of a system of sewers to receive the sewage of the Croton water-shed; and that a safety strip of land, a quarter of a mile wide, to preserve the purity of the Croton River, should be purchased." Dr. Peters said that there was no doubt that the Croton supply at its source, is the purest furnished to any city, and he thought that by proper protection against sewerage, the water-supply of New York might be endorsed the best in the world.

— The third annual report of the New York Skin and Cancer Hospital shows that marked and satisfactory progress has been made in the development of the institution during the past year. Besides the City Hospital in East 34th Street, where, since its establishment three years ago, more than three thousand cases have been treated in the different departments, a country branch of cottage pavilions is now conducted at Fordham Heights, near High Bridge, and within the city limits. The latter property contains about sixteen acres of land on high ground, commanding a view both of the Hudson River and Long Island Sound, and is to be made the leading pattern of the hospital system. There are at present two cottages, the first of a series which, as the work develops, it is to erect on the property. The pavilions may be built by individual donors and named by them, and they will all be administered from a central building, which is already prepared for the purpose. About 140 of the 1,064 cases treated at the City Hospital during the last year, were of cancer. The cost of maintaining the Hospital for the year was $11,471, of which amount $3,612 was contributed from the Ladies' Charity Fund for the payment of the board, in whole or in part, of in-patients in indigent circumstances.

Miscellany.

AN ASSOCIATION OF PHYSICIANS AND PATHOLOGISTS.

A limited number of copies of the following circular have been sent out:

Philadelphia, February 15, 1886.

Dear Doctor: — In view of the undoubted advances which have everywhere followed in the different departments of medicine the formation of special societies devoted to their interests, and in view of the fact that each one of the natural divisions of medicine, except those of general medicine and pathology, is represented in this country by a special society, it has occurred to some members of the profession that a similar Association of Physicians and Pathologists is desirable.

Accordingly, two preliminary meetings were held in New York City on October 10th and December 29th, respectively, at which the matter was thoroughly discussed, and, after a general expression of opinion, it was finally decided: —

1. To form an Association of Physicians and Pathologists, of which the number of members shall be limited to one hundred (100).

2. To hold an annual meeting in the month of June, in the city of Washington.

3. To hold the first meeting on Thursday and Friday, the 16th and 17th of June, 1886.

The undersigned were appointed a Committee to notify those who were selected as original members, and we accordingly have the honor to cordially invite you to join this Association, and to take part in the proceedings of the first meeting in Washington, as above stated.

Francis Minot, Boston (Chairman of the Committee).
William H. Draper, New York City.
William Pepper, Philadelphia.
R. Palmer Howard, Montreal, Canada.
Alfred L. Loomis, New York City.
William H. Welch, Baltimore, Md.
Francis Delafield, New York City.
James Tyson, 1506 Spruce St., Phila., Sec'y of the Com.

DIFFERENT PHYSIOLOGICAL SENSES FOR HEAT AND COLD.

In connection with the researches of Prof. Hall and Dr. Donaldson of Johns Hopkins University, recently given in *Mind*, *Science* (Feb. 12) summarizes some interesting observations made by Mr. A. Herzen and published in the *Archiv für physiologie*[1] showing that the physiological sense of cold is different from that of heat. His attention was first directed to the subject by a simple incident, the verification of which may be readily made by any observer. Awakening one night he found one of his arms lying without the bed-clothes, "asleep." In touching it with the other hand, he perceived a distinct sensibility to warmth, while that of touch was gone. Bringing his arm, however, in contact with cold substances, he was surprised to find no sensation.

Pursuing the subject further, he produced artificially this condition of semi-paralysis by the compression of nerve-trunks, and by experimentation discovered that the sensibility to cold remained a short time after tactile impressions had disappeared, and that the sensibility to warmth remained much longer, but not quite as long as the power of detecting pain; also that the impressions of warmth require more time for transmission to the brain than those of cold, bearing, in fact, the same relations to each other as the sense of pain does to that of cold. These results were further supplemented by observations on a person with complete and permanent tactile anæsthesia of the legs, but in whom the sense of pain remained normal. The subject was able to distinguish quite well the differences in temperature between 150° F. and 81° F., which was the normal temperature of the surface of the leg. Below the latter temperature, however, no sensation was produced, not even by the contact of ice on the inner side of the thigh. Other cases showed the same peculiarities, in which, with the disappearance of tactile sensibility, the susceptibility to cold was also lost, while that to warmth yet remained.

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[1] Ueber die spaltung des temperatursinnes in zwei gesonderte sinne, xxxviii. p. 93, December, 1885.

Vivisection experiments upon cats and dogs lead the author to the following conclusions: 1. The so-called sense of heat and cold is composed in reality of two senses quite independent both anatomically and physiologically; 2. Observations on healthy and diseased subjects show that the sensations of heat and cold are transmitted through different nerves, by different routes, and to different brain-centres; 3. The gyrus sigmoideus contains the centre (or the centripetal branches leading thereto) of touch and cold perceptions; 4. These sense-perceptions are transmitted through the posterior columns of the spinal cord, while those of the senses of pain and warmth are conveyed through the gray substance.

Although the senses of cold and touch on the one hand, and heat and pain on the other, seem to be more nearly related, yet one cannot unite them, or consider the different perceptibilities of heat and cold mere modifications of those of touch and heat. The researches of Blix and others have demonstrated the existence of separated, isolated, irregularly distributed points upon the body, of which one may be only sensible to cold, another to warmth, and a third to touch. Doubtless most persons have noticed the different degrees of susceptibility of different parts of the body to heat and cold: the author points out striking examples of such.

AN INTERNATIONAL COMMITTEE ON A UNIFORM CLASSIFICATION OF MENTAL DISEASES.

The *Société de Médecine Mentale*, of Belgium, in a paper by Professor Lefebvre, laid before the International Congress of Psychiatry and Neurology, which met at Antwerp in September, 1885, an address, inviting their attention to the subjects of the prevalence, causes, duration, and termination of insanity. Dr. Ramaer spoke at length on the classification of mental diseases. Both essays gave rise to free discussion, and an international committee was appointed to report at a future meeting on the classification of mental diseases, each member of the committee being expected to confer with the scientific society of his own country. There were eleven gentlemen appointed representing England, Germany, Austria, France, the Scandinavian countries, Russia, Holland, South America, North America, Switzerland, and Italy. The intention seemed to be to make the uniform classification of mental diseases a basis for further international statistics on insanity.

The New York Medico-Legal Society has appointed to assist the North American member of the international committee, Mr. Clark Bell, two committees, one of three, consisting of Dr. Pliny Earle, Dr. Alice Bennett, and Dr. Charles H. Hughes, and another of seven, composed of Dr. A. E. McDonald, Mr. Clark Bell, Dr. Jennie McCowen, Dr. Ira Russell, Dr. Stephen Smith, Dr. W. R. Birdsall, and Dr. T. H. Kellogg.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 20, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	674	236	16.20	14.85	.15	8.55	1.20
Philadelphia	927,995	401	142	11.28	11.28	2.64	6.24	.96
Brooklyn	644,526	283	110	16.45	15.75	1.35	7.35	3.85
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	51	11.21	18.29	—	6.49	1.77
Baltimore	408,520	161	57	9.30	14.88	.62	4.34	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	147	31	8.16	13.60	.68	4.08	.68
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia .	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	52,286	17	6	5.88	29.40	—	—	—
Charleston	54,400	29	7	3.45	3.45	—	—	—
Worcester	68,383	19	6	5.26	22.04	—	5.26	—
Lowell	64,051	15	1	20.00	13.33	20.00	—	—
Cambridge	59,660	24	8	12.48	33.28	—	12.48	—
Fall River	56,863	18	11	11.11	16.66	—	—	—
Lynn	45,861	13	—	7.69	24.07	—	7.69	—
Lawrence	38,825	14	3	7.14	14.28	7.14	—	—
Springfield	37,577	12	4	25.00	25.00	—	16.66	—
New Bedford	33,393	14	5	7.14	14.28	7.14	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	4	18.18	27.27	—	18.18	—
Holyoke	27,894	13	6	15.38	7.69	—	7.69	7.69
Chelsea	25,709	9	6	11.11	27.27	—	—	—
Taunton	23,674	6	—	33.33	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	—	—	18.56	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	3	—	—	—	—	—
Malden	16,407	5	1	—	20.00	—	—	—
Fitchburg	15,375	4	1	—	—	—	—	—
Waltham	14,609	2	—	50.00	—	—	—	—
Newburyport	13,716	5	1	40.00	20.00	20.00	—	—
Northampton	12,896	6	1	—	—	—	—	—
92 Massachusetts Towns	—	37	6	10.80	24.30	2.70	5.40	2.70

Deaths reported 2,117: under five years of age 707; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 280, consumption 389, lung diseases 336, diphtheria and croup 142, typhoid fever 23, scarlet fever 28, whooping-cough 26, erysipelas 14, malarial fever 13, diarrhœal diseases 12, cerebro-spinal meningitis, nine, puerperal fever seven, measles six. From whooping-cough, New York 18, Brooklyn five, Philadelphia, Baltimore, and Chelsea one each. From erysipelas, New York four, Philadelphia and Boston three each, Brooklyn and Taunton two each. From malarial fever, New York seven, Brooklyn three, Baltimore, Charleston and Springfield one each. From diarrhœal diseases, New York six, New Orleans three, Boston two, Brooklyn one. From cerebro-spinal meningitis, New York four, Fall River two, Philadelphia, Baltimore and New Orleans one each. From New York two, Brooklyn, Baltimore, Charleston, Waltham and Newburyport one each. From measles Baltimore three, New York, Philadelphia and Holyoke one each.

In 109 cities and towns of Massachusetts, with a population of 1,250,326 (population of the State 1,941,465), the total death-rate for the week was 16.14 against 14.25 and 16.59 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 6th the death-rate was 22.2. Deaths reported 3,872: infants under one year of age 846; acute diseases of the respiratory organs (London) 479, whooping-cough 175, measles 76, scarlet fever 35, diarrhœa 35, fever 30, diphtheria 23, small-pox (Birkenhead and Liverpool one each) two.

The death-rates ranged from 13.4 in Brighton to 27.9 in Portsmouth; Birkenhead 20.8; Birmingham 19.9; Bradford 18.8; Hull 18.3; Leeds 21.9; Leicester 19.1; Liverpool 24.7; London 22.4; Manchester 27.1; Nottingham 24.9; Sheffield 21.3; Sunderland 24.6.

In Edinburgh 18.0; Dublin 33.7; Glasgow 26.2.

For the week ending February 6th in the Swiss towns, there were 34 deaths from consumption, lung diseases 30, diarrhœal diseases 10, diphtheria and croup seven, small-pox two, whooping-cough two, measles, scarlet fever and typhus each one.

The death-rates were: at Zurich 11.5: Geneva 20.2; Basle 26.6; Berne 15.0.

The meteorological record for week ending February 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Feb. 20, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...14	29.811	44.6	52.1	38.4	82.0	93.0	81.0	85.3	W.	S.W.	S.W.	20	12	15	C.	O.	C.	—	—
Monday, ..15	29.867	48.5	53.0	40.4	82.0	90.0	72.0	81.3	W.	S.	W.	2	12	24	O.	F.	C.	—	—
Tuesday, ..16	30.140	30.8	52.4	23.0	72.0	48.0	46.0	56.3	W.	W.	N.W.	12	20	24	C.	F.	C.	—	—
Wednes., .17	30.283	24.2	30.1	17.0	62.0	42.0	72.0	58.7	W.	S.W.	S.W.	6	11	16	C.	F.	C.	—	—
Thursday, 18	30.114	34.4	43.0	23.2	68.0	33.0	53.0	51.3	W.	W.	N.W.	12	17	1	C.	O.	O.	—	—
Friday, ...19	29.758	40.6	50.1	29.5	73.0	52.0	100.0	75.0	S.W.	S.	S.E.	10	23	1	C.	O.	R.	—	—
Saturday, .20	29.388	27.3	41.5	15.9	81.0	61.0	67.0	69.7	W.	N.W.	N.W.	14	28	30	C.	O.	C.	11.0	0.52
Mean, the Week.	29.909	35.8	43.2	26.8				68.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING FEBRUARY 27, 1886.

Clark, J. H., surgeon. Detached from the "Hartford," on the reporting of his relief, Medical Inspector Bradley.

Bradley, Michael, medical inspector. Ordered by steamer of March 10th, from New York to Aspinwall, thence to Panama and to the "Hartford," as the relief of Surgeon J. H. Clark.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING FEBRUARY 20, 1886.

Austin, H. W., surgeon. To proceed to Richford, Vt., on special duty, February 8, 1886.

Urquhart, F. M., passed assistant surgeon. To proceed to Richmond, Va., for temporary duty, February 16, 1886.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, March 10th, at 7.45 o'clock. Papers: Dr. H. O. Marcy, "Photo-Micrographs of Bacteria; Projected upon the Screen." Dr. W. N. Bullard, "Chronic Tea-Poisoning."

F. I. Knight, M.D., *Chairman.*
Albert N. Blodgett, *Secretary*, 138 Boylston St.

Providence Medical Association. — The Annual Meeting of the Providence Medical Association was held in the Medical Library, on Monday evening, March 1st, and officers for the ensuing year elected as follows: President, J. W. Mitchell; Vice-President, C. H. Leonard; Secretary, Herbert Terry; Treasurer, G. T. Swarts; Standing Committee, H. G. Miller, G. D. Hersey, G. W. Porter, R. H. Carver, W. R. White; Committee on the Reading Room, G. D. Hersey, G. W. Porter, Eugene Kingman.

DEATH.

Died in Lowell, Mass., February 25, 1886, Joseph Haven Smith, M.D., M.M.S.S., aged eighty years.

BOOKS AND PAMPHLETS RECEIVED.

The Methods of Bacteriological Investigations. By Dr. Ferdinand Hueppe. Translated by Hermann M. Biggs, M.D. Illustrated by Thirty-one Wood-cuts. New York: D. Appleton & Co. 1886.

Transactions of the State Medical Society of Wisconsin, 1885.

Thirty-Eighth Annual Report of the Trustees of the Massachusetts School for the Feeble Minded at South Boston. For the Year ending September 30, 1885. (Public Document, No. 28.)

Eleventh Annual Report of the Boston Womans' Christian Temperance Union. For the Year ending October, 1885. Boston, 1886.

Mutual Protection against Blackmail. By E. J. Doering, M.D., of Chicago. (Reprinted from Journal of American Medical Association, January 30, 1886.)

The Climate of South Central Florida, Especially for the Pulmonary Diseases for Women and Children. By J. M. Keating, M.D., of Philadelphia. (Reprinted from the New York Medical Journal for January 23, 1886.)

Priced and Illustrated Catalogue of Ophthalmological Instruments, Spectacles and Eye Glasses. By James W. Queen & Co. Philadelphia.

Clinical Cases from Dr. Sée's Wards. By Oswald Browne M.B., and D'Arcy Power, M.B. A Case of Locomotor Ataxy, Associated with Perforating Ulcer of the Foot. (Reprint from St. Bartholomew's Hospital Reports, Vol. xviii.)

Three Specimens of Encysted Hernia, etc. By D'Arcy Power. (Reprint from Transactions of the Pathological Society of London for 1885.)

A New Operation for the Alleviation of Persistent Deafness. By Wm. H. Bates, M.D. New York. (Reprinted from Medical Record, January 23, 1886.)

Puerperal Pyrexia. By George P. Andrews, M.D. (Reprint from American Lancet, January, 1886.)

The Treatment of Vomiting with Large Doses of Oxalate of Cerium. By W. R. Chittick, M.D. (Reprint from Detroit Lancet, September, 1885.)

Practical Human Anatomy. A Working Guide for Students of Medicine and a Ready Reference for Surgeons and Physicians. By Faneuil D. Weisse, M.D. Illustrated hy 222 lettered plates containing 321 figures. New York: Wm. Wood & Co. 1886.

Original Articles.

TWO CASES OF CEREBRAL TUMOR WITH AUTOPSY.[1]

BY E. B. LANE, M.D., OF BOSTON.

James M., thirty-seven years old, was admitted to the Lunatic Hospital August 3, 1885. Married. Policeman. Was born in Ireland. Very little is known of his family, since none of his relatives are in this country. Used alcohol daily, would occasionally drink more than he ought, but never incapacitated himself for duty on the Boston police force.

Is not known to have had rheumatism nor any severe illness previous to last January. No specific history could be obtained.

In January, 1885, fell on the street, becoming unconscious and remaining so for half an hour. Became conscious soon after reaching home, but for more than a week his speech was thick and he swallowed with difficulty. No other paralysis was known. Went on duty a month later. Then his speech was much improved, but not quite clear. Continued to perform his duties as usual until May, when he had a second attack, this time in the house. Fell but did not become unconscious. He got up unassisted and sat down. It was found that his right side was affected, the hand and leg of that side being weak but not completely paralyzed. He was able to walk. His speech was not affected nor his ability to swallow impaired. No facial paralysis was noticed. He had no headache either before nor after this attack. Slept well and ate well. Regained the use of his limbs to a certain extent but could not light a match with his right hand, could write, but his hand was tremulous. Returned to patrol duty in two weeks and remained on duty until the middle of July, when he had an attack of vertigo while on the street. Was sent home in a horse-car. Felt ill and stayed at home until admitted to the hospital a fortnight later. After the second attack (in May) became irritable, and memory failed somewhat. Became suspicious that men talked with his wife, and that she had had visitors.

During the last two weeks at home his mental condition degenerated rapidly. Memory grew weaker. He was anxious to go to the Station-house and would become angry, though not violent, when restrained. Delusions of suspicion developed. Thought there were men concealed in the house and he procured a pistol and billy to defend his wife.

On admission, was seen to be a well-developed man of medium size. Too dull to respond to questions. Was able to get about and uses his hands fairly well. Right eyelid drooped. Pupils were equal, tongue protruded to right (probably accidental, as it afterward came out straight) not retracted. Eats when fed but will not feed himself. Will not stay in bed and soils the floor. Pulse 60. Patellæ reflex present. No enlarged glands. Denied syphilis. Eyes examined. Nothing unusual seen beyond a fulness of the veins of the fundus.

During the first week at the hospital, condition did not change much. Would answer simple questions. Had considerable difficulty in swallowing. About this time he became comatose with a temperature of 102.6 and respirations 44. Left pupil dilated. He rallied to his former condition in the house. He then gradually improved mentally[2] until at the end of the second week he knew his wife and conversed with her and signed some documents. But at no time did he realize where he was nor avoid wetting his bed. When asked to put out his tongue would do so after waiting nearly a minute. Memory was very weak, would not know his room but would wander about, upsetting furniture, etc. After being in hospital a month was able to be dressed, saw an old acquaintance and chatted with him. Told him that he had been on his beat that day. Difficulty in swallowing almost entirely disappeared and he ate heartily. At this time patellar reflex was found to be excessive and ankle clonus present. Said he was "first-rate." About the middle of September (six weeks after admission) rapidly grew dull, swallowed liquid with difficulty. In a few days febrile reaction appeared. Was very obstinate, resisting everything done for him, fumbled the bed clothes and handled his genitals constantly. Temperature varied from 99 to 103. Respiration persisted rapid, gradually rising from 30 to 50. Was very helpless, could scarcely swallow and was so dull he would not speak, and in eighteen days from the onset of the stuporous condition died.

Autopsy twenty hours after death by Dr. Gannett.

Ratio of head to body and cranium to face normal.

Calvaria thin. The dura everywhere translucent and the sinuses contained dark fluid blood. The pia slightly opaque about the convexities. Its meshes contained a small amount of clear fluid. The brain filled the cavity of the skull and weighed 1,402 grms. The vessels at the base and in the fissure of Sylvius showed nothing remarkable. The pia anterior to the optic commissure showed a slight snuff-colored appearance and on section showed several opaque grayish-yellow globular nodules varying from one to three mm. in diameter and each surrounded by a grayish-red translucent tissue for a distance of three to four mm. These were directly continuous with the pia. On the under surface of the right frontal lobe, adjacent to the pia was a nodule the size and shape of an almond, except not quite so long, having an opaque grayish-yellow centre, the size of a large pea and surrounded by a reddish-gray translucent material like that already described.

In the lowest portion of the left temporal lobe at anterior extremity were several yellowish nodules about 2 mm. in diameter, surrounded by a reddish-gray translucent tissue. At the junction of the anterior and middle thirds of corpus callosum and on the adjoining convolution in the anterior fissure were a series of yellow nodules of two or three mm. in diameter arranged antero-posteriorly forming a line about four cm. in length. These were in turn surrounded by a similar reddish-gray translucent material.

The lateral and fourth ventricles showed in the ependyma numerous fine granules presenting a warty appearance. The floor of the left lateral ventricle over the basal ganglia showed two depressions about twenty mm. in diameter.

On section in the left *nucleus caudatus* and in the left *thalamus opticus* were cavities the size of small filberts, formed by a meshwork of fine lines and containing a snuff-brown fluid. In the posterior portion of the right *thalamus opticus* were two cavities each about the size of filbert meats and presenting the same characteristics as those described.

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

[2] His mental condition was that of contentment. Speech was that of a general paralytic. No delusions of grandeur expressed.

The section of the hemispheres, pons, medulla and cerebellum showed no appearances worthy of special note. The pia everywhere readily separated from the brain substance. Heart and pericardium showed nothing worthy of note. Examination of the other organs showed little of interest beyond diffuse bronchitis and tracheitis, chronic pleurisy and a nodule in the mesentry. There was a scar on the penis.

Diagnosis of lesions found in the brain. Chronic lepto-meningitis and œdema of the pia, each to a slight degree only. Multiple gummata. So-called "apoplectic cysts" of the basal ganglia. Chronic ependymitis.

Mary J., sixty-four years old, of American parentage, a cloak-room attendant, was admitted to the Boston Lunatic Hospital, September 3, 1885. With her was sent the statement that she had been hemiplegic for nine days, that she was at times incoherent and confused, was helpless and needed hospital care. After her death the following history was obtained.

Family history unknown. Seventeen months ago her husband died and his loss caused the patient much grief and worriment. Since death of husband she has been in very straitened circumstances.

For the past six months has complained of severe headache and loss of memory, and when alone in her room would continually talk aloud to herself. Appetite was good. When not mindful of her loss was as cheerful as ever. Continued to attend to her duties in a cloak room, and to her household duties until eight or nine days before admission. No serious sickness was suspected until she was found one morning to have right sided hemiplegia, to be almost speechless as well as perfectly helpless, having been apparently as well as usual the day before.

On admission to the hospital was seen to be a very large well nourished woman. She was helpless, having right sided hemiplegia. Was very dull, but would answer a few simple questions.

For four days after admission was dull and gave unintelligible answers. Took a small amount of liquid food when it was placed in her mouth. Could not eat, and swallowed liquids with difficulty. Was noticed to call things by wrong names.

At the end of this time she became brighter, was not quite as helpless, could swallow a little better and could speak more distinctly. It was now seen that she was partially amnesic, more accurately speaking, she was almost totally unable to recall names. It was usually impossible for her to name objects. She could not even recall her husband's name. Was aware of her defect and seemed much annoyed by it. When asked to name a bunch of keys she said "I cannot," then made an effort and pronounced "boots" and laughed at her failure. Was then told to say "keys." She made another effort and said "that is right, skewers," and laughed again. But on being prompted a second time she pronounced "keys" properly.

Physical examination showed the right sided hemiplegia to persist, mouth was drawn to the left, tongue was protruded straight, however. Left eye was turned in, showing probable paralysis of the sixth nerve on that side from pressure. Pupils were even. Plantar reflex present. Ophthalmoscopic examination was impossible. Remained in this condition, conscious, but dull and listless for two days. Did not ask where she was nor seem disturbed by her new surroundings. She continually complained of thirst. She became more dull on the ninth day, and on the morning of the tenth was found comatose. Had been vomiting. Made automatic movement with left hand only. Pupils were much contracted and pulse was 96, temperature 101.5 (P.M.) Coma lasted only twenty-four hours and during the following day she gradually grew brighter and was as well as before the attack. Condition of side, however, did not improve.

She gradually grew more intelligent and for a short time knew where she was, but probably did not realize the significance of it. Remarked that she must be a difficult patient to care for she was so heavy and helpless. She became more restless and would kick the bedclothes off with left leg. Could use both hands a little. Required to be watched or she would lie uncovered. Gave no reason for it. Was at this time asked if she were hungry and she replied "yes," was asked if she were thirsty and she said "yes," and to test the truth of her statement was given bread and milk. Declined it saying she wanted something "brighter." She seemed aware she had not said what she meant. When asked if she would prefer water seemed pleased and assented. At another time asked for "fire," and then shook her head. When asked if she meant water said "yes, fire," and laughed at her blunder. When "water" was slowly pronounced she repeated "w-water."

Memory was much impaired, she could not remember whether she had eaten two hours after doing so.

On the seventeenth day, and a week after the brief period of coma, the patient grew more dull and helpless. Would not swallow liquids and gradually became comatose, sweating profusely and occasionally vomiting a greenish watery fluid. Pulse was strong, but uneven and rapid. Respiration was labored and noisy, tracheal râles persisting until death. She continued in this coma five days, death being hourly expected. Died on twenty-third day.

Autopsy was made twenty-two hours after death by Dr. Gannett.

Nothing unusual was observed about the calvaria or dura. Sinuses contained soft coagula. The convolutions of the brain flattened and sulci obliterated: surface of pia dry.

The brain completely filled the cavity of the skull and weighed 1,550 grms. At a point in the left fissure of Sylvius where the middle cerebral gives off its numerous branches, was a dilatation the size of a pea.

At a corresponding position in the right side was a parietal dilatation the size of a pin's head.

In the basilar artery was an opaque yellow patch in the intima about three mm. in diameter. The right lateral and fourth ventricles showed nothing remarkable.

The floor of the posterior portion of the left lateral ventricle was elevated, rounded and quite tense to the finger. On section of the hemispheres there was found in the white matter of the left hemisphere posteriorly a rather firm opaque grayish yellow nodule, the size and shape of a medium sized peach, showing on section here and there spaces filled with a thin cream-like fluid. The brain substance on the periphery of the nodule for a distance outward of about four mm., showed to a very slight degree a punctate appearance. The white matter lying just beneath the nodule was of soft consistency and grayish-white color. The white matter in general was rather pale, surface of usual degree of moisture, the cortex not remarkable.

Section of the basal ganglia, pons, medulla, and cerebellum showed no appearances worthy of special note. . . .

Examination of the other organs revealed nothing of interest beyond a large cyst occupying the upper third of the right kidney, pelvic calculi, and two firm gray nodules the size of a pea in the wall of the uterus. A pedunculated polypoid tumor in the cavity of uterus.

Microscopic examination of the tumor has been begun by Dr. Gannett, but owing to the hardening not being yet completed he is unable to give a definite opinion. He has kindly consented to offer the *probable* diagnosis of *vascular glio-sarcoma*.

Summary. In the first case, we have a young man with cerebral syphilis resulting in paretic dementia. From the onset of mental derangement the course of the disease was unusually rapid. The hemiplegia and the mental condition of hebetude and delusions cannot be said to follow the presence of the gummatous tumors as the hæmorrhage in the caudate nucleus and the lepto meningitis are the lesions more commonly associated with such symptoms. No especial set of symptoms can be referred to any of the tumors.

The second case was remarkable in the fact that a large tumor must have been gradually developing in the mass of the cerebrum causing for a long time only minor symptoms and finally causing such severe and fatal symptoms. A woman able to do her daily work, neither general nor mental health being sufficiently impaired to attract attention, suddenly becomes comatose and hemiplegic. She recovers consciousness and suffers two more relapses of coma and dies. During the intervals of consciousness she is seen to be suffering from a partial amnesia. Amnesia (oftener partial than complete) has been found to be associated in cases reported by Werwicks and others, with lesions in the occipital lobe. The question might arise as to the possibility of there being an aneurismed dilatation causing the symptoms. This is hardly tenable when we consider the great extent of the pressure required to cause both hemiplegia and amnesia. The vascular changes in the tumor must explain the suddenness of symptoms.

Ferrier, Pitres, Ross, Gull, Rodocalat, March, Lester, et al., report tumors or abscesses of occipital lobe. Werwicks, Dreschfeld, Hisschberg "aphasia" following tumor in occipital lobe.

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ENLARGED CERVICAL GLANDS.[1]

BY HERMAN F. VICKERY, M. D., OF BOSTON.

The object of this paper is to arrive at definite and well-grounded opinions as to the treatment of what is sometimes called "scrofulous neck." These cases present enlarged lymphatic glands in the neck, causing little inflammatory disturbance or pain as a rule, but very chronic and tending to break down into cheesy pus. Exceptionally, complete resolution takes place; more often, fibrosis or calcification; but, in the great majority of cases, sooner or later, arises an abscess which discharges through a sinus, the sinus emitting pus more or less constantly until the entire gland has been thus expelled. Although there is not much suffering, yet the tediousness of these cases, which may persist for years, the unsightly appearances occasioned both by the glands and sinuses and by the scars they leave behind, and above all certain dangers hereafter to be more fully discussed, render it desirable that the best possible treatment should be employed for them.

We find the disease prone to attack children much rather than adults, although even old age is not absolutely exempt. All debilitating, hereditary, or hygienic conditions predispose to it: its chief victims therefore, are the children of the poor and ignorant, or of consumptive or syphilitic parents. Overcrowding, lack of sunlight, insufficient and improper food, exposure to cold and wet, all promote its occurrence. Out of one hundred and seventy-two children who entered a workhouse in Kent, England, healthy, all but three came to have enlarged glands. The exciting causes are very numerous, comprising such lesions of the mucous membranes as ozæna, stomatitis, tonsillitis, pharyngitis, laryngitis, otitis, and conjunctivitis. It may follow chronic eczematous processes in the scalp or face. It frequently arises after scarlet fever and measles, and may be excited by dentition or by trauma. It is characteristic of this form of adenitis that, although supposed to be invariably secondary, its extent and persistence frequently far exceed those of the primary lesion. It is often impossible to determine what did give rise to the glandular disorder.

In early stages, the enlarged glands are freely movable upon the underlying tissues and underneath the skin. They are smooth in surface, of uniform density, and more or less spherical. It is seldom that a solitary gland is swollen: usually two or more are affected. The affection is not essentially symmetrical: it may be bilateral. After continuing a variable length of time with but little change, the gland may, as has been said, be absorbed. Such a result is especially likely at puberty. The rule, however, is that the tissues undergo what is called a "cheesy" degeneration. This can usually be recognized during life by the nodular surface of the gland, its presenting spots of softening or fluctuation, and its adherence to the skin as well as to neighboring glands, if they also are enlarged. A rare termination for this cheesy transformation is spontaneous desiccation and calcification. Almost always there is gradually increasing suppuration, abscess formation, and external discharge through the adherent skin. About the histological changes, I wish merely to state what seems essential to forming a just view of the dangers and treatment of the disease. Schüppel of Tübingen published in 1871 a book on "Tuberculosis of the Lymph-Glands," in which he shows that a large proportion of what are called "scrofulous" glands — although not all — present the microscopic characteristics of tubercle, that is, one or more giant cells surrounded by epithelioid cells and lymph corpuscles, the whole supported by a fine recticulum. Klebs produced, by the inoculation of tuberculous matter, a disease of the lymph glands exactly like scrofulous infiltration. Koch reported, in 1884, that he had examined twenty-one cases of tuberculous glands (meaning such glands as presented epithelioid cells, grouped in foci, and accompanied by more or less numerous giant cells), and that he invariably found bacilli tuberculosis in them. There were indeed other enlarged glands, in part softened and dotted with minute abscesses, but with no epithelioid nor giant cells, in which he found no bacilli. From the submaxillary gland of a scrofulous boy, he obtained pure cultures of the specific tuberculous bacilli. Dr. Hippolyte Martin also produced a series of cases of general tuberculosis in guinea-pigs, starting from the inoculation of pus taken *post-mortem* from the "firmly encased submaxilary gland of a child, who had died of measles and broncho-pneumonia, without any trace of tubercular disease, but with well-marked clinical characteristics of scrofula." It may therefore be affirmed of enlarged cervical glands, such as are ordinarily called scrofulous, that certainly a large proportion, and probably a large majority, are really tuberculous.

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[1] Read before the section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

As already stated, the existence of scrofulous lymphatic glands usually implies that the general health has been impaired. The local disturbance is seldom very annoying. The condition is often discovered by accident. Occasionally there is some pain and tenderness, particularly if suppuration is taking place. By its mechanical pressure, a gland, or a collection of glands matted together, may give rise to compression of the carotid or jugular, the trachea or œsophagus, the recurrent laryngeal, symphathetic or vagus nerves. Epistaxis is sometimes caused by them, and even fatal suffocation.

It is seldom that diagnosis is difficult. Acquired syphilis may cause induration of the cervical glands, but the enlargement is less, the tendency to cheesy degeneration is slight, and we should find other venereal symptoms. A simple adenitis, such as might, for example, follow traumatism, is more acute. It exhibits more inflammation and either resolves or suppurates much sooner than a scrofulous gland. Pseudo-leukæmic glandular enlargements are more or less universal throughout the body, that is, in the axillæ and groins and at other joints, they grow more rapidly, do not break down, and are accompanied by marked anæmia and debility. Glanders and farcy could hardly be mistaken for mere scrofula if the physician exercised any care whatever; and the same might be said of bronchocele. Cystic and other tumors may occur in this region, but are comparatively rare, and their differential diagnosis can be learned in works on surgery.

"The scrofulous patient," says Allbutt, writing on the treatment of scrofulous neck, "runs three risks in the continuance of his local malady over and above his faulty inheritance, namely, first, a tedious local disease followed by a peculiarly unwelcome disfigurement; secondly the fear of deterioration of his general health thereby, such that his best years of adolescence are spoiled and his entrance into manhood thwarted and weakened; thirdly, an inoculation of the system with elements which favor the development of more general tuberculosis."

In the early stages it is quite possible that a gland may be absorbed if the general health be built up. Local applications may also promote the same result; but we shall revert to this point under treatment. When once nodulation, softening and adhesions have begun, the cheesy process is under way, and it seldom ceases before the gland is totally necrosed and discharged. A fibrous or calcareous transformation of the gland is, however, possible, as is also absorption even now. A further and more important consideration is the effect upon the general health, if the glands are tuberculous. Friedländer in his familiar lecture on "Local Tuberculosis" states that although the process is malignant it is not apt to become diffuse. Out of 332 cases of phthisis, Philips found, *post-mortem*, "scrofulous scars" in but seven. Again, out of 1,078 autopsies of consumptives less than one per cent. showed evidence of cervical gland disease. Says Treves, in his work on "Scrofula and its Gland Diseases," "while scrofula and phthisis are manifestations of the same morbid process, I am nevertheless convinced that phthisis is by no means common in the scrofulous, and that the bulk of such patients do not die of pulmonary consumption." And as to the danger of acute miliary tuberculosis, Treves does not think it very great, although he would not be utterly indifferent to it. On the other hand, Rindfleisch believes that "Tuberculosis hardly ever appears except in scrofulous persons." Lynch affirms that "The products of decay resulting from scrofulous processes may enter the circulation and directly produce the tuberculous dyscrasia." Further remarks about prognosis will be made incidentally under Treatment, which is the next and final topic.

The first indication to be met is of course to allay all causative disorders, such as eczema, rhinitis, pharyngitis, and the like. The general health next demands attention. In the first place it is usually depraved. Secondly, if the patient be in a state which offers the bacilli tuberculosis a favorable nidus so far as the lymph glands are concerned, why may we not justly fear that predisposition to tuberculosis pulmonum also exists? Either ground is sufficient basis for vigorous tonic treatment. Fresh air should be obtained for the patient, either at the seashore or in the mountains or in the country. For dwellers near the coast it would seem more natural to choose the interior. Sunlight, moderate exercise, simple but nutritious and abundant food, salt-water baths, and such analeptics as cod-liver oil, iron, arsenic or iodine, all these should be simultaneously brought to bear upon the case.

If glands are already cheesy we may be tolerably certain that a lingering, disagreeable and disfiguring process will go on for months and perhaps years, unless the necrotic tissues are removed by operation. Experience has proved only too clearly the inefficiency of external applications; while surgical removal has been found to be very satisfactory and comparatively easy. For example, Billroth, Treves, Fagan, of Belfast, and Teale, of Leeds, all express themselves as pleased with the results of extirpation.

About the treatment of cases still in the first stage there seems to be more room for difference of opinion. Let us make sure before we form our own, what we would like to obtain for a local result. Friedländer makes the following therapeutic deductions at the end of his lecture already referred to: it is desirable to remove tubercles where it can be done without danger, because (1) they are fated to destruction, and until they are removed recovery cannot be perfect. And (2) by such removal we destroy a source of at least local infection. On the other hand, he proceeds to say, we should only very exceptionally undertake any serious operations which cripple or deform the patient, just on account of local tuberculosis: because (1) constitutional infection is not inevitable, and (2) spontaneous recovery is possible. Schüppel quotes with warm approval the dictum of Virchow that "it is certainly justifiable to remove as early as possible such tuberculous organs as can be easily reached. "If operation seems impossible or undesirable then we should at least hasten suppuration and free discharge." Treves in discussing treatment declares, "Out of the enormous number of patients who present caseous deposits in their bodies the percentage of those who fall victims to diffused tubercular disease is so very small that the probability of that disease may be put out of the question. I think also," he continues, "that the argument advanced by Ruchle in favor of removing glands on the plea that such removal may prevent phthisis is unworthy of consideration in discussing this mode of treatment," that is, by excision. These opinions seem to differ considerably, but certain deductions can be made from them. There is an acknowledged possibility of constitutional infection from strumous glands. The virus, if it becomes thus generalized, can only do so by way of absorption. It is then pertinent to inquire, Why endeavor by external applications to promote resolution of enlarged cervical glands?

Very likely we all breathe daily into our lungs the bacilli of tubercle and yet do not become consumptive, because presumably our bodily condition is such as repels the invader. But the sufferer from tuberculosis of the cervical glands might as has been seen, naturally be supposed to exhibit a predisposition to tubercle. If by invigorating his system we get him into such a state that Nature of her own accord absorbs the disorganized tissues, we may be content; for she probably will do it with impunity. Experience shows that this is often the case. It does not, however, commend itself to my judgment to seek, even in the first stages of the malady, by local irritation, such as the application of various forms of iodine or by blisters or electricity, as some recommend, to excite an artificial resolution, if I may so express myself. It may be added that the attempt is often futile. If *general* stimulation fails, then we should resort to extirpation.

The only occasion which seems to me to call for local application is where there are pain, heat and swelling, and as yet no certainty that suppuration has taken place. Such glands should be treated with a cooling wash until they either abate or else present clear signs of pus.

By first improving the general health there will little time be lost. Possibly some or all of the glands may be absorbed. If not, operation will take place under much more favorable auspices.

Glands which are in the first stage and freely movable can be quite readily cut out. The incision should not be very long. Violent tearing of the surrounding tissues besides other things brings danger of troublesome periadenitis. The cheesy glands (which are nodulated or have perhaps suppurated and are fixed to the skin and to each other) are usually best extirpated with a spoon. Treves has found the thermo-cautery very serviceable. In cases where a subcutaneous abscess has formed it is often a much more ready than satisfactory method to make a simple incision. Pus should indeed be evacuated without delay; but a careful search will quite frequently discover a sinus leading from this superficial abscess to a cheesy gland deeper in, which itself must be eradicated. Teale praises Bigelow's sinus dilator for such operations. Antiseptic precautions are advisable, and iodoform makes a good dressing. Drainage is usually necessary. Healing is promoted by obtaining rest for the parts as by a leather or gutta-percha stock, outside the bandages.

The different manifestations of scrofula are said to be somewhat antagonistic to each other, so that "the particular scrofulous malady any given patient presents would appear to protect him from any other outcome of the disease for at least the time being." This need not, however, prevent operation, for there is practically no danger that the eradication of scrofulous glands will indirectly excite caries or tumor albus and the like elsewhere.

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SOME OBSERVATIONS ON HEALTH RESORTS.[1]

BY E. O. OTIS, M.D., OF BOSTON.

It is not with the expectation of presenting anything new upon the subject of health resorts that I write these few notes. But rather with the hope that possibly I may render some aid, by means of the following suggestions and record of personal observations, limited though they may be, to the family physician who is called upon, as he unfortunately so often is, in this climate, to recommend a proper resort to his patients suffering from pulmonary trouble, for they compose the majority of those who seek a new clime.

The whole subject of climatic cure is a many-sided one, and there are many and diverse opinions as to what constitutes a suitable resort for those with delicate or diseased lungs. I have only to refer to the excellent paper of Dr. Harold Williams, in a recent number of this Journal, to show the variety and conflict of opinions which exist upon this subject. The general fact, however, remains that thousands have had their lives prolonged or saved by a timely resort to some one of the many places in this country, more favored by nature as to climate than this bleak New England coast.

I am not a partisan of any special portion of the country or place, as a universal elysium for all those afflicted with lung trouble. On the contrary, I believe that each individual case should be carefully considered in all its aspects, and be sent to that place and climate which seems best to meet its own especial needs and requirements.

One person has little vitality and is always pinched with the cold; such a one obviously will do better in a moderately warm climate, like southern California or Florida. Another case will endure a certain degree of cold, and will thrive in a locality of lower temperature, like Colorado or Asheville. Again, the digestion may be at fault, and it is of primary importance that a place should be selected where a good table can be depended upon even if something has to be sacrificed as to the climate. Moreover, the mental condition and temperament must not be disregarded, and the kind of life the patient has been leading. One person requires much diversion, and would be wretched in a quiet, secluded place, but contented and happy in a more lively one, like St. Augustine, for instance.

Companionship is also an important element, and with pleasant, genial companions, one will often make greater gain in a less favored locality, than with the lack of them in one more nearly approaching the ideal climate. The opportunities which different resorts offer for varieties of exercise are not to be lost sight of, as well as the favorite form of exercise of the patient. Happy and fortunate is the consumptive, as well as any other man, who has a hobby which will give him exercise in the open air, be it fishing, gunning, rowing, or horse-back riding. I believe that the cause of many of the unfavorable results in cases which have been sent to health resorts of acknowledged worth, is the neglect of carefully considering all these factors.

Of course, it goes without saying, that due attention should be given to the hygienic condition of the locality determined upon, and also, that the fundamental principles of all health resorts are to be borne in mind, namely: pure air, dry soil, and abundant sunshine. Elevation, dryness, and equability, are often, I believe, of secondary importance, and are to be taken into account rather when the requirements of the individual case are being considered.

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

There should be at hand, also, in every health resort, a reliable physician, with whom, if necessary, the home physician can communicate concerning his patient, and who being familiar with all the conditions of the place and climate, can give such advice as one should have upon taking up his residence at the resort.

I am of the conviction, as I believe all are who have given much attention to the matter of climate, that the best results are obtained by as long a continuous residence as possible in the place and climate which has been found to suit the case. It takes a long time to become acclimated, if the change is at all radical, as from a cold to a warm climate, or from a low to a high elevation, and after that comes the benefit and improvement, and so long as that continues, the better it is to remain in the chosen resort.

Still there are many whose conditions and circumstances are such that the stay away must be limited, and the number of places from which to choose restricted. In order, then, that the most good may be accomplished from the time allowed, all the greater care must be given in the selection of the resort from among the ones possible to the case in question. Indeed, so many points have to be thought of in choosing a new home for the man of weak lungs, that I have almost come to the conclusion that no physician has any right to advise a patient to go to this place or that, unless he has first visited it himself and thoroughly investigated its advantages and defects. Recently, a young lawyer came to me and related his experience in being sent to a health resort. After it was determined, from the condition of his lungs, that he must go away, the advice as to a new climate was something in this wise: "Some say this place is good; others that; I know nothing of any of them. You may find the Tennessee Mountains of benefit, but I know nothing about them; have never been there; you can go and try them." So he went, and after numerous vicissitudes, he fell to living a complete out-door life, much of the time on horse-back, and came home apparently well, and has remained so for several years. Such hap-hazard advice, however, will not always have such fortunate results.

"Happy the patient," says Youmans,[2] in a recent article on "Thomasville as a Winter Resort," "advised to change his climate when the physician knows enough to give him intelligent instruction as to whither he shall proceed. Does he need a mild or a high temperature? a damp and relaxing, or a dry and bracing air? an inland location or the seaside? a valley or a mountain? Should he try Bermuda or Aiken, or Nassau or St. Augustine, or Asheville, or any of the score of resorts recommended for pulmonary invalids? If the doctor settles the point, it is well; if not, the patient must take his chances, and do the best he can to settle it for himself." Going on to relate his own experience, he says:—"With lungs badly out of order, everybody said I must escape the severities of a New York winter by going somewhere. I advised with several eminent pulmonary experts, who agreed that it might be a good thing to get away, but did not seem to think it made much difference where I went."

If specialists continue to multiply, perhaps in the future we shall have the specialist on climate. One who has visited the different health resorts and made careful observations, not only as to any particular climate, but of all the accessories of the place—food, sanitary condition, means of exercise and amusement, manner of reaching it, and so on; and who, moreover, will give an unbiased opinion, instead of the half truthful, exaggerated reports which local partisans give of the places they are personally interested in. In a pamphlet before me, just received from Thomasville, Ga., I quote the following as illustrative of this exaggeration: "The fact is well recognized that a damp atmosphere is what a sufferer from pulmonary trouble should avoid, and it follows, that to obtain the greatest amount of good effects from the presence of the fragrant pines, the breezes that waft the balsamic odors abroad must be dry, and themselves inodorous. In order that these conditions be fulfiled, it is essential that large quantities of water be absent, and the surface of the country be high and rolling. A fulfilment of these conditions is impossible in Florida, surrounded as the State is, on three sides by the ocean, with its land surface but a few feet above the level, a dreary waste of interminable swamp, intersected by sluggish streams and marshy lakes. Perched on her elevated position, Thomasville can lay claim to the advantages of a dry climate and thorough drainage, and her claims have secured the recognition of the most eminent physicians of the country who have made pulmonary troubles a study."

Again, in an article entitled "Marion County, Florida: An Ideal Winter Climate," by Dr. Maxwell, of Ocala, published in the *Medical News* of December 19, 1885, the author, among a number of very loose statements, makes this assertion: "It is capable of demonstration . . . that Florida possesses the essentials (of an ideal winter climate), in a higher degree than any country now known;" and as a part of this demonstration, he introduces a table of mean relative humidity, compiled by Dr. Kenworthy, from the inevitable Signal Service Reports, which shows, he says, "that Jacksonville, in the matter of dryness of air, compares favorably with the popular resorts in all parts of the world;" the table given, containing the names of thirteen places only, three being in Minnesota, three in Florida, two in France, and one each in Nassau, New Jersey, Georgia, Dakota, and Massachusetts. If the Doctor had included Denver, for instance, in his list, he would have found its relative humidity some seventeen points lower than that of Jacksonville.

I will now give some notes and bits of information upon a few health resorts I have visited in the South and elsewhere, and I trust I shall be pardoned if I seem to give some petty details, even to the noting of boarding-houses; for such information is often of much assistance in settling the perplexing question of a new home and climate.

The Southern resorts can roughly be divided into those of the coast, interior, and mountains, and with the exception of the latter regions, are generally regarded as winter homes for invalids; but the rule of continuous residence, before mentioned, will hold good, I believe, even of many of these Southern localities. The mountainous regions, embracing the Alleghany,

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[2] Popular Science Monthly, December, 1885, page 188.

Blue Ridge, and Cumberland Ranges, are considered more appropriate for the milder portions of the year, but here, again, I would advocate the above rule for, at least, portions as far south as Asheville, unless the idiosyncrasy and condition of the patient were such as to forbid a moderately cold climate.

Of the coast resorts, places on the East or West side of the Peninsula of Florida are, perhaps, more generally selected, and whether the Atlantic or Gulf of Mexico shore is the more favorable, seems to be a matter of opinion. As the prevailing winds are East, it is said that the Atlantic coast gets the purer air direct from the ocean, while it reaches the Gulf coast after blowing over the peninsula, and is, in consequence, more or less vitiated. Of course, the climate of all sea-coast resorts is a more or less moist one, which, in adapting a climate to the individual case, is a factor to be considered.

One fact I desire to emphasize, and I might as well mention it here, namely, that, in my experience, it is exceedingly difficult to obtain good food in the South. The meat and bread are poor, as a rule, and the coffee, with few exceptions, execrable, and from the fact that there is very little grazing, the milk is poor, if, indeed, it can be obtained at all. The houses where good board is obtained are generally kept by Northern people.

On the Atlantic coast, St. Augustine is the best-known resort, and it has much to recommend it. The soil is sandy, and the days, so far as my experience goes, are generally sunny and delightful. The mean temperature is 58° in the winter, and 68° in the spring. The number of clear days for the whole year is said to be 235, which I should very much doubt. Artesian wells have recently been sunk, and the city is now supplied with good water in place of the surface water formerly used. It is an attractive place on account of its picturesque, quaint architecture, the old fort, sea wall, and barracks, and the presence of a military band adds much to the pleasure and entertainment of the exile. There is also good sailing and pleasant water excursions.

If I may be allowed to give a couple of names, I will say that any one who can obtain accommodations at Miss Hasseltine's on St. George Street, and have for his medical adviser Dr. Adams, will be well cared for. As to malaria, I have not much doubt as to its existence pretty much all over the South, but I saw very little evidence of it in St. Augustine.

If one desires to go still farther south on the Atlantic coast, the little town of Daytona on the Halifax river, was highly extolled to me for its agreeable climate, by a resident of the place.

Going over to the Gulf side, I will speak of Tampa, reached by railroad direct from Sanford. In itself, it is not very attractive, the streets being very sandy, which renders locomotion uncomfortable. The bay, however, is delightful, and the excursions upon it, and up the Manatee River, and to Egmont Key are charming. So far as one's sensations go, the air seems delicious.

Bordentown, on the Manatee river seemed to be a quiet, pleasant retreat. I believe it is on the Gulf coast, a little way from Tampa that a location for a sanitarium has been recently selected. On the line of the railroad going from Sanford to Tampa are many attractive places in the Pines, Orlando, Winterpark, Longwood, Altamont, and Kissimmee, the latter prettily situated on a lake of the same name. Many find health and comfort on the St. John's River, but it seems to me that malaria must be more prevalent there than in places away from the river.

Anywhere in Florida one is pretty sure to find conditions under which he can lead an out-door life, which answers one of the primary requisites for a health resort. Still the low, and in many portions, swampy character of the soil is a serious objection to its choice as a health resort in many cases.

About twenty miles inland from Charleston, S. C., is a resort much in favor with the Charlestonians, called Summerville. It is far enough away from the coast to escape the frequent east winds, and has a mild, equable temperature. It is in the midst of the pines, and has a pure air and sandy soil. From my experience, however, one must have a good digestion if he would gain any benefit from a sojourn here. There is frequent daily communication with Charleston, and the diversion of a run to the city is an added attraction to the place.

Fortress Munroe or Old Point Comfort does not seem to me to be altogether favorable for a continuous residence, but rather for a limited stay in the spring or autumn. The soil is clayey, the weather uncertain, and fogs are frequent. This opinion is fortified by that of one of the military surgeons whom I met there. The exceedingly attractive and unique life which one finds there, however, and the many excursions by land and water mitigate very decidedly the unfavorable climatic conditions, and succeed in drawing the patient out of doors and out of himself. The peculiar Indian summer days, which are frequent there, are particularly soothing and restful. For those who cannot afford hotel prices, and who desire greater quiet and seclusion than can be obtained at a large hotel, I will give the name of a good boarding house, the only one in fact on the reservation. It is that of Mrs. Eaton's, near the water and opposite the Fort. On the Hampton River, opposite the beautiful grounds of General Armstrong's Normal Institute and the Soldier's Home, is the boarding house of Daniel Cock, of good report, where there are good opportunities for rowing. It is, however, too far away to allow one to enjoy the diversion which the Fort life offers.

To jump from the South to the North, I wish to say a few words in conclusion, upon the Adirondacks, where there are patients not only in summer, but also now quite a colony in winter. Dry it is not, judging from my experience the last summer, and the diurnal variations of temperature are quite great. But despite all this, so far as my observation has extended, consumptives do remarkably well there, provided there are no very acute symptoms. The air is bracing and pure, and the out-door attractions numberless. Everything conduces to keep one in the open air, and persuades to much exercise. The grazing is good, and consequently the milk is abundant and rich. The boarding houses are often poor, but good ones can be found, as all who have made trial of the Mirror Lake House at Lake Placid can testify. I do not know that it makes much difference where one goes in the Adirondacks in the summer; perhaps the portions of about two thousand feet elevation are the best. If one is strong enough, and the digestion is good, camping out probably gives one more pure air than can be obtained in any other way.

Saranac seems to be the winter home for consumptives in the Adirondacks, and has the sanction of Drs.

Loomis and Trudeau. It is better protected from the winds than other places, and commands a good physician. Near by the village of Saranac is the sanitarium recently established — a most admirable charity. It consists of a large main building and several cottages and tents, and, at a small price, one can obtain every needed comfort. The only objection, if it is one, is the bringing together, in such close proximity, a number of consumptives. This did not seem, at least, to have a depressing effect, judging from the cheerful appearance of those I saw there. The sanitarium is kept open all winter, and I have at hand a letter from a lady who has been an inmate of the institution all summer, who wrote me that she has gained so much she proposed to spend the winter there. It was quite noticeable how many began to gain in weight after coming to the Wilderness.

I do not want it understood that I ignore the numerous other health resorts I have not mentioned, or consider those I have the best; I have only spoken of the few I have happened to be personally acquainted with. I doubt not that there are many others far more ideal than any I have mentioned. All know of the remarkable results of the Colorado and New Mexico climatic cure, and of the influence of the climate in certain portions of California, and of the high pine lands of the South, as represented by Aiken; indeed, I think we have in this country a wealth of health resorts from which to choose. I desire, however, to emphasize the fact that there are many other considerations to be carefully weighed in selecting a resort for a consumptive beside the one of the best ideal climate; in fact, that is the best ideal climate for the individual patient which best meets his individual needs, mental and physical, and that in any place where the air is pure, the sunshine constant, and the temperature so adapted to his condition that he can live out of doors, he will improve if improvement is possible.

I will very hastily run over a single case which I think well illustrates the points I have been attempting to make clear in this paper.

In March of last year, I discovered, to my great surprise and alarm, that a member of my family had evidences of consolidation at both apices, accompanied with a moderate rise of temperature. Distrusting my own judgment when thus personally interested, I sought the opinion of Dr. Knight, who very kindly gave it, but corroborated my worst fears. In addition to the pulmonary trouble, the vitality was low, and there was much dyspepsia of many months' standing. The outlook indeed seemed dark, the prognosis grave. Many weeks of trying weather still remained, and I determined that an immediate change of climate was imperative, and that the harsh spring winds must be avoided. The first requisite was such a climate as would enable one to exist with the least exertion, and lead an out-door life. Moreover these conditions must be obtained with as little outlay of strength as possible on the part of the patient. I therefore went with my patient to St. Augustine, reached from Washington in about a day and a night. There I found delightful weather and sunny days, where a delicate person could live out of doors from morning to night, with perfect comfort. Damp no doubt it was and low, far from an ideal climate for a consumptive one might say, but it exactly fulfiled the conditions required for the patient in question, and before the month of April was over, she could walk about the old town, and take a lively interest in what was going on, whereas on her advent, she could hardly get across the street, and was indifferent to surrounding scenes. The lungs remained much in the same condition, to be sure, but the strength was returning, and the drooping spirits had revived.

At the beginning of May, we gradually retraced our steps North, following the strawberries. At Charleston it was the season of roses, and out-door life was delightful. Every day brought an excursion with it. There were also pleasant companions, and so we had again an ideal climate for the especial requirements of this especial case. Loitering along we finally reached Fortress Monroe in its pleasantest season, and here several weeks were spent with benefit to body and mind. Now it seemed to me that the general condition had so much improved that a more bracing climate might with safety and benefit be tried, so our next move was to Lake Placid in the Adirondacks, two thousand feet above the level of the sea. My hopes were realized. From one hundred and three pounds, the weight went up to one hundred and twenty; the dyspepsia almost entirely disappeared, and the consolidation began to clear up. So much had been gained at the end of October that it seemed to me still more might be ventured, and after an interim of two or three weeks, my patient went to Colorado, where she now is, and, I have the most encouraging reports of her well-being and steady improvement.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

THE PELVIS AND SACRUM IN ANTHROPOLOGY.

Although it is unlikely that the skull will ever lose the place of honor as the most important part of the skeleton in comparing races, it is very satisfactory to see other parts of the body brought into requisition. Apart from their probable inferiority to the head in anthropological significance they have the further disadvantage of being comparatively few in number, even in the best collections. None the less it is a great advance to have comparisons made between as many parts as possible. We noticed in these reports a few years ago the researches on the scapular index by the late Professor Broca, in Paris, and by Professor Flower and Dr. Garson in London. The idea of using the pelvis in anthropology is no new one, but in fact we are not aware of any great progress having been made in the last hundred years until comparatively recently.

An evident difficulty in the study was the want of some generally accepted plan of comparing the different parts of the same pelvis, to remove which Dr. Garson proposed in 1881 that the transverse diameter of the brim of the true pelvis should be 100, and that all other measurements should be compared with it. Thus if he were taking the distance between the anterior superior spines of the ilia, the depth of the pelvis or any other measurement, the latter should be multiplied by 100 and divided by the superior transverse diameter of the same pelvis. There are some who would prefer the antero-posterior diameter as the basis, but Professor Turner,[1] by adopting the transverse in his

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[1] Journal of Anatomy and Physiology, Vol. xx., October, 1885 and January, 1886.

"Report on the Bones of the Skeleton" in the "Challenger" collection has probably settled the matter. His first paper on the pelvic brim introduces some new terms which, however, are not quite unfamiliar. When the index (obtained by multiplying the antero-posterior diameter by 100 and dividing by the breadth) is above 95 the pelvis is long *dolichopellic*, when below 90 it is wide *platypellic*, and those from 90 to 95 both inclusive are *mesatipellic.* As to the measurements themselves there can be no question that in the case of many races the number of observations is too small to be of much value. Omitting some races which from this cause cannot be placed certainly, we find that Professor Turner gives as *dolichopellic*, Australians, Bushmen, Hottentots, Kaffirs, Malays and Andamans; as *mesatipellic*, Negroes, Tasmanians and New Calendonians; as *platypellic*, Europeans generally, Mongolians generally, and American Indians.

In his second paper he takes up the sacral index but does not compare the measurements to the transverse diameter of the brim of the pelvis, but has chosen to multiply the breadth of the sacrum by 100 and divide by the length. *Hieron* being the Greek equivalent of sacrum we have *dolichohieric* for one in which the length exceeds the breadth and *platyhieric* for one in which the breadth is the greater. Again, omitting races which Professor Turner classes as doubtful from the few observations that were possible, we find the sacral index is above one hundred, that is, that the sacrum is long in Australians, Bushmen, Hottentots, Kaffirs, Andamanese, Tasmanians, and Malays. It is broad in Europeans, Negroes, Melanesians, Hindoos and North and South American Indians. As would naturally be expected, it appears that the broad sacrum is often found in the broad pelvis and the long sacrum in the long one; the latter it is needless to say is the lower form.

THE EFFECT ON THE BLADDER OF DISTENDING THE RECTUM.[3]

Some years ago experiments were made by Braune and Garson and published in German, and a little later published by Garson in the *Edinburgh Medical Journal* of October, 1878, with some facts we believe not included in the former publication. We, therefore, refer to these experiments as Garson's. The rectum was more or less distended, the body frozen and median sections made. It was shown that the effect of distending the rectum was to push the bladder bodily upward, and that the prostatic part of the urethra was stretched and its direction changed. It was also shown that the fold of peritoneum in front of the bladder was carried away from the symphysis pubis. Somewhat later Petersen[4] made observations on the latter point by the method of opening the peritoneum by a cut in the median line, finding the lowest point of the peritoneal fold with his finger and observing its displacement when the rectum and bladder were filled.

The author of the present paper has made a series of similar experiments by means of frozen sections, which are of much interest in many respects. The paper is illustrated by four excellent colored plates. The first section was made to show the position of the parts with an empty rectum and a moderately filled bladder. The latter was filled with 300 ccm.[5] of fluid. The bladder takes up the greater part of the true pelvis. The beginning of the urethra is situated 1 cm. above the level of the lower border of the symphysis and 4 cm. behind it. The fold of the peritoneum leaves the wall of the abdomen only ½ cm. above the symphysis. The recto-vescical fold extends even below the tip of the coccyx.

The next step was to show how a bladder holding about this quantity would be displaced by a full rectum. Unfortunately, however, as it seems to us, the bladder either by accident or design contained only 200 ccm., and the rectum was distended with 480 ccm. The bladder appeared decidedly smaller than in the first plate. It is pushed upward and forward against the front wall of the body and its posterior surface is curved in by the rectum. The beginning of the urethra lies 4 cm. above the lower border of the symphysis and 1 cm. behind that bone. The peritoneum leaves the anterior wall 4 cm. above the pubes. The recto-vesical fold is nearly 5 cm. above the level of the lower border of the symphysis. The bladder is almost crowded out of the pelvis and the prostatic part of the urethra runs nearly straight downward. We have observed this last point in a section of a pelvis in which the rectum was tolerably full and the bladder almost empty.

The next plate shows a section of a body in which the rectum was empty and the bladder much distended, containing 630 ccm. The bladder is nearly round. It fills the true pelvis almost completely. The beginning of the urethra is on a level with the lower border of the symphysis and 4.5 cm. behind it. The peritoneum leaves the anterior wall about 2 cm. above the pubes and the recto-vesical fold comes down as low as the base of the coccyx. The course of the prostatic part of the urethra is very remarkable, it runs almost horizontally forward.

The next and last plate is intended to show the state of affairs when both bladder and rectum are strongly distended. The former was filled with 420 cm. and the latter with 500 cm. of fluid. The picture is a very striking one. We should say, on a rough estimate, that five-sixths of the bladder are above the pelvis. It is somewhat pear shaped, the long axis being vertical. The beginning of the urethra lies hardly 1 cm. behind the symphysis and some 2.5 above its lower border. The peritoneum leaves the abdominal wall 8.5 cm. above the pubes. The recto-vesical pouch is on a level with the top of the symphysis. The prostatic urethra again is nearly vertical. These plates show how movable is the lower part of the bladder and what changes in direction the first part of the urethra may present. They show also that the rectum being empty an over-full bladder tends to occupy the pelvis, at least as much as to expand into the abdomen. A comparison of the first and third plates will make this quite clear. In both the rectum is empty. In the first the bladder is moderately, in the latter excessively full, but we see in the latter that the progress of the bladder downward and backward is very remarkable. A comparison of the third and fourth figures shows further that though distention of the bladder alone carries the peritoneum away from the lower part of the abdominal walls, that this effect is greatly increased by filling the rectum. We infer, both from the silence of the author and from the plates that the bodies were frozen on their backs, and as this is the position in which the patient generally comes under the surgeon's hands, it is no doubt the proper one; still it would be very interesting from a practical as well as a scientific standpoint to see the results of similar series of experiments in which the bodies should be frozen in both the prone and the upright positions.

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[3] Dr. Fehleisen. Archiv für Klinische Chirurgie, Bd. xxxii, 1885.
[4] Verhandl. der Deutschen Gesellschaft für Chirurgie, 1880.
[5] 35 ccm.= ℥

STUDIES ON TOPOGRAPHICAL ANATOMY OF THE THORAX.

Dr. Topken[6] has studied the old question of the position of the heart. Although his conclusions present little or nothing that is new, the article is of value owing to the analyses of the works of well-known authors it contains and to the writer's careful observations and experiments. A very useful feature in the paper is a series of diagrams of the front and side of the chest on which the positions of frozen sections are represented. By means of these he discusses the results given in Henke's work on the position of the heart, those in Braune's celebrated atlas and a new series by the same anatomist that have not yet appeared. This paper, therefore, is well worth study. The conclusions condensed are essentially as follows: It is not possible to name a precise spot as the normal position of the apex either during life or after death. In young people the heart is placed higher than in old ones. Generally the heart is found higher after death than in life owing to cadaveric changes that move the diaphragm upward. The heart, however, is found lower after death even in the young, if expiration is impeded at the moment of death as is usually the case in drowning.

Dr. Sick[7] discusses the relations of the pleuræ to the sternum, the position of the valves of the great arteries, which he groups together, and the height to which the diaphragm rises on the right. He examined forty-six bodies of various ages from new-born children to very old age, but the majority of them seem to have been those of persons passed middle life. Our author believes that the diaphragm reaches the level of the insertion of the cartilage of the fifth rib to the sternum. We presume that he means after death. The most interesting question of those treated is the position of the pleuræ in regard to the sternum, and this is of especially practical value as it bears on the operation of tapping the pericardium. It appears that the left pleura is much more likely to reach, or to nearly reach, the left side of the sternum at the fifth and sixth cartilages than is generally supposed. In twenty-three bodies of adults the reflection of the left pleura at the fifth cartilage was seventeen times either behind the sternum or just at its border. At the sixth cartilage in ten cases it was still behind the sternum and in six cases was less than 1 cm. distant from it. At the level of the seventh cartilage in nine cases either the pleura was against the border of the sternum or else its lower reflection had occurred above the point. In two cases it was less than 1 cm. distant at this level. Clearly not very encouraging conditions for the puncture of the pericardium at the left of the sternum if passing through the pleuræ be considered a contra-indication.

As to the position of the arterial valves, out of twenty-seven cases they were found in twelve at the level of the third cartilage, in five at the third intercostal space, and in five at the fourth cartilage. Dr. Sick states that in several cases pins thrust in at the left side of the sternum pierced the aorta.

THE GLAND OF THE NASAL SEPTUM.

Jacobson's organ has of late been held to be present in man in a rudimentary condition. It is described in the ninth edition of Quain, and has been the subject of several papers by Klein in the *Quarterly Journal for Microscopical Science*. It may not be out of place to mention that this organ (in man) is a small canal under the mucous membrane of the nasal septum which opens a little above and anterior to the Stenonian canal. Many glands open into it and a special cartilage lies below it. In the rabbit and guinea pig, in which it is well developed, it receives considerable branches from the olfactory nerve, thus making it appear to be some special sense apparatus connected with smell.

Professor Gegenbauer[8] thinks that the little structure in the human nose above described is not a representative of Jacobson's organ at all, but a rudiment of a nasal gland, which is also found in some mammalia. He bases his view on two points in which the structure in question differs from Jacobson's organ. First, that in man the opening is above the floor of the nasal cavity, and next that the special cartilage lies below it and at some distance, instead of surrounding it as it does Jacobson's organ in all animals that have it.

Hospital Practice and Clinical Memoranda.

A CASE OF CO-EXISTENCE OF SCARLET FEVER AND MEASLES.

BY FRANCIS F. BROWN, M.D., OF READING, MASS.

Gertrude F., aged thirteen, was taken Thursday evening, January 28, with an attack of scarlatina anginosa. It was ushered in with vomiting and delirium. The vomiting persisted three or four days, but after the first, seemed to be kept up by the irritation of the fauces, produced by the swelling of the throat. The eruption was out on Saturday, the 30th. The attack was severe, the throat badly swollen, the breath, at first, foul; pulse, 125 to 130; temperature, 103° to 103.9° in the axilla up to the following Thursday.

On Monday, February 1st, there was some cough, and for the two days following, and her face had a peculiar spotty look; this and her next were her sickest days. On Tuesday, her face was covered, mingled with the scarlet fever rash, with an unmistakable eruption of measles; none were seen on the body. Just ten days previously, her younger brother first broke out with the measles. The respiration was hurried also, somewhat, but less so the next day. Wednesday, the eruption of measles had extended over her body and limbs, mingled with the scarlet rash, while on her face, neither could be distinguished; but the skin of it, with the exception of here and there a whitish spot, was of a uniform dark-red color, and elevated, giving it a peculiar look, as if covered with a red mask.

On Thursday, February 4th, the fever had abated, and from this time she convalesced. The general redness and elevated appearance of the face was gone, leaving the eruption of measles again distinct, and it could be faintly seen here up to the 6th and 7th. Both eruptions were fading on the body, and after that day, none of the appearances of measles were seen there, while the redness from the scarlet fever remained a little longer.

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[6] Archiv. für Anatomie und Entwickelungsgeschichte, 1885.

[7] Ditto.

[8] Morphologisches Jahrbuch, Bd. XI., 1885.

This case is reported on account of its infrequency. The case of varicella occurring simultaneously with scarlatina, reported by Dr. Ayer, in the Journal of February 4th, 1886, shows that such distinguished authorities as John Hunter and Hebra were too sweeping in their assertions that the eruptions of two exanthema never co-exist. The appearances in this patient were closely watched and noted at the time, and I do not think I could be mistaken. There has certainly been no lack of opportunity in this vicinity, of studying the characteristic features of measles the present winter.

A little reflection will show that the variety of this combination of the two diseases does not by any means prove their incompatibility. The chances that any patient will be so exposed as to bring on both at the same time are extremely small, and this may in part, at least, account for its infrequent occurrence. A few cases of scarlet fever known to have been fully exposed to measles from ten to fourteen days before, and failing to get it, would tend more to show their incompatibility, than the bare fact of the infrequency of their simultaneous appearance.

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Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M D., SECRETARY.

January 13, 1886. The meeting was called to order at eight o'clock, by Dr. F. I. Knight, chairman.

The first business was the report of a committee appointed in accordance with a motion passed at the last meeting, for the purpose of suggesting some way for meeting the necessary small expenses of the Section. The committee was appointed subsequently to the meeting and consisted of Drs. Henry I. Bowditch, Henry C. Haven and Chas. M. Green. The report of the committee was presented by Dr. C. M. Green, as follows: The committee appointed at the last meeting to devise means of paying the necessary expenses of the Section in Clinical Medicine, etc., beg leave to report, that, although the treasury of the Suffolk District Society bears such expenses as rent, printing and stationery, there are occasionally expenses of such a nature that they must be borne by the Section that incurs them. The committee therefore recommends that an executive committee of three, of which the Secretary shall be one, be appointed to raise, in such way as the Section may see fit, the money to pay such expenses as are not borne by the treasury of the General Society.

Dr. Green stated that it is desirable that the Section have some funds of its own, from which it may be possible to defray certain small but necessary outlays, such as belongs to the administration of any society. It might also be desirable at times to invite some distinguished member of the profession from abroad, to be present at some of our meetings, and it would seem no more than courteous to be able to remunerate such a guest for the expenses of travel, to say the least. At present the Section has absolutely no funds, and the necessary correspondence of the Secretary is conducted at his personal expense.

Dr. H. J. Barnes asked the amount needed by the Section for the purpose stated?

The Secretary replied that during the period of four years, the expenses had gradually increased until the annual outlay now amounted to about twenty-five dollars. This does not include the cost of any entertainment at the close of the meetings, these having been provided on all occasions by the liberality of the members.

Dr. Green said that the committee did not feel that they were authorized to propose any method for raising the needed sum, from the fact that the members already pay an annual assessment to the Suffolk District Society, and it would seem undesirable that an additional tax should be imposed upon them. It was therefore deemed best to leave the manner of raising the money to the Section.

Dr. Knight asked if the treasury of the Suffolk District Society is in a condition to assist the Section?

Dr. Green, the Secretary of the Suffolk District Society, stated that this is not probable, as the General Society already pays the rent, and the bills for printing for the various Sections. Last year the General Society found it necessary to levy an assessment of one dollar extra, in order to avoid a deficit in its accounts. On motion of Dr. Barnes the report of the committee was accepted, and its recommendations adopted. The chairman then asked for some expression on the part of the Section as to the method to be employed for raising the sum required. The Section was not prepared to adopt any method at this time, and the chairman decided to defer further action until the next meeting.

Dr. Barnes moved that the present committee be authorized to collect the amount needed, by voluntary subscription among the members. This was seconded by Dr. E. W. Cushing, and passed unanimously. It was moved by Dr. E. W. Cushing, seconded and passed unanimously that the thanks of the Section are due to the Secretary for temporarily advancing the funds hitherto required, until such time as the section might repay him. The regular business of the section was then taken up.

The first paper was read by Dr. E. O. Otis, entitled,

RANDOM NOTES ON SOME HEALTH RESORTS,[1]

and gave the reader's personal experience in a tolerably large number of places more or less noted as health-resorts during the last winter and spring.

Dr. Barnes said that he had been much disappointed in the benefit to be derived from a change of climate to some of the most noted of our resorts. This was illustrated by the description of a trip made by a patient of Dr. Barnes' who was advised to go for the winter to Bermuda for a pulmonary trouble. He sailed from New York in a leaky vessel, stormy weather prevailed during the entire passage, and the patient was frequently drenched with salt water. A few days after arrival the patient was seized with rheumatic fever, and suffered much. He returned after an absence of six weeks, much worse than when he went away, and died a few days after arrival at his home.

As far as climate is concerned, in a health-resort, there is no doubt of the necessity that the air shall be more or less humid. We keep our houses much too hot, and the air is far too dry for health or comfort to those inhabiting them. A house heated by steam is not comfortable unless the temperature be kept much higher than is necessary in a house warmed by open fires, and particularly if there be ample provision for moisture in the air of the room. The most comfortable room in our modern houses is the kitchen, because there is always a change of air going on from the frequent opening of doors, and the draught of the range. The teakettle is always on the range and furnishes a constant supply of steam, which makes the air moist, as proved by the frost on the windows. Plants will grow in the atmosphere of the kitchen, but they languish in those parts of the house which are supplied with steam heat, or with hot air from a furnace. In moist air, a temperature of 68° is very comfortable, while in air too dry, it is necessary to keep the temperature as high as 75° or 80° in order to feel comfortable.

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[1] See page 221 of the Journal.

DR. A. H. NICHOLS stated that a recent hasty visit to the South enabled him to confirm the correctness of the statements contained in Dr. Otis' paper. It is a strange sensation to go in a few hours from a temperature of zero to that of 75°. The defect, however, of most health resorts is that the climate is not equable. This is especially true in the South. The climate of California is better in this respect than that of Florida, and that of Southern Europe is better than that of California. The *ideal* climate is doubtless that of Ovatava in Teneriffe. The coldest weather ever known there compares with our June, while the warmest weather is much like our July with the warmest days left out. A very striking feature of the climate there is the fact that the warmest period of the day is not at noon as we are accustomed to observe in the United States, but at a time before noon. During the middle of the day, a fog-bank rolls in from the sea and covers the land like a huge umbrella, thus effectually protecting the inhabitants from the extreme heat which would otherwise occur. . . . One fact in connection with the southern parts of the United States is quite surprising, that is, that in many places where one would expect to find malaria, the disease is unknown. This is true in particular at some points near the sea, where the air is humid and we find most of the conditions usually met with in malarious localities. The nearness of the sea, with the presence of iodine and possibly ozone, seem, however, to be the agents of protection to these localities from the poison of malaria.

DR. J. AYER remarked that although he had but little knowledge of the peculiar recommendations of the various health resorts, yet it is becoming more and more evident that physicians must inform themselves of the hygienic advantages of the different parts of our country, so as to be able to give an intelligent opinion and suitable advice to those needing a change of climate for any purpose. There are no doubt many places as yet unknown, which possess great advantages as sanitary abodes, and the physician should inform himself in regard to them, as a part of his professional education. In Europe the science of sanitation has reached a degree of perfection as yet unapproached in America. Patients from our own country cross the ocean to obtain the benefit of a change of climate, which our land with its immense area and variety of physical conditions would surely supply.

DR. VINCENT Y. BOWDITCH spoke of the great harm which frequently results from the careless manner in which patients are sent away from home to languish in uncomfortable and crowded boarding-houses, destitute of all the comforts to which they have been accustomed at home, and dependent upon the caprice and interest of hotel-keepers of all kinds, for everything pertaining to their welfare. Then too, one is liable to be misled by the careless statements of those who describe the various places of resort. Thus each locality is vaunted as possessing the "ideal" climate, and other localities are misrepresented. Aiken has been highly recommended by many persons, to the detriment of similar places elsewhere. It is true that this town possesses the advantages of high altitude and pine forests, and the air is doubtless of exceptional purity, but even these qualities are not adapted to all cases. While speaking of remote health resorts, we should not omit to mention those near at hand and which are easily accessible; thus, Wellesley Hills and Sharon are of great service to many cases of pulmonary diseases. The location is high, the air dry, and many of the requisites of a noted resort are attainable at a slight expense of time, strength and money. Patients in both of these places often achieve most gratifying results.

DR. E. L. PARKS stated that he passed the winter of 1877-8 in Santa Barbara, which proved to be a most delightful place of residence. There is no malaria in the town or neighborhood. The extreme between the coldest temperature of winter and the warmest of summer is but forty degrees. These statistics are thoroughly reliable, as they were taken by a gentleman, a physician, who was advised to go there for the benefit of his health, which was fully restored. He remained perfectly well as long as he resided in this place, but he could not live elsewhere, and as a pastime he made a series of careful observations upon the meteorological conditions of the place. The relative humidity is a thing which is a source of the greatest disturbance to many delicate patients. Often a patient who cannot live at the level of the sea, will be perfectly comfortable at an elevation of four hundred feet above the sea.

In a case of this kind the humidity alone is variable, all else remains unchanged. Another thing which is often a cause of disappointment in the effect produced by residence at any health resort is the way in which patients are allowed to make the journey to the new abode. Very frequently a sick person arrives without an attendant; he is not welcome, he may not be able to secure good or comfortable accommodations, and he is entirely at the mercy of those who may be willing to receive him. A case of this kind was known to the speaker, in the person of a gentleman from Boston, now deceased. He came unattended and unknown, he was unable to secure good accommodations, and was not comfortable during his short stay there. Aside from this, he was in a condition quite unsuited to travelling, and should never have been sent from home. A patient may go to Santa Barbara at a certain stage of pulmonary disease and by a prolonged residence, never less than a year, may quite recover. It is, however, worse than useless, to send a patient to Santa Barbara after all the other resorts have been tried. These cases will not be benefitted by the climate of Santa Barbara or that of any other resort. When a patient has reached a certain stage of the disease, there is no benefit in change to any other climate.

Dr. E. W. Cushing said that the peculiar geological formations at many of the resorts for invalids, such as various parts of California, Nice, Cannes, etc., allows the patient to choose exactly the situation and the surroundings adapted to his comfort. The country rises rapidly from the seashore to the hills, so that an elevation of considerable magnitude may be attained at a short distance from the town, and within a short time from the sea-level. That it is not the "humidity" alone, or even to any great extent, is now generally admitted. The change of scene, the entire rest, the out-of-door life, and the relaxation from all labor are important factors in the amount of benefit to be obtained from a stay at any health resort. One of the most useful adjuncts to all the other measures which may be adopted. is exercise on horseback. Given good food, rest, trees, music and suitable companionship, with the advantages of good society, a sick person will often obtain great benefit from a stay at any proper resort. Throughout the South, however, the boarding arrangements are bad and the accommodations wretched.

Another objection to many, if not most "health" resorts, is the fact that one place after another fills up with phthisical patients, there is often no suitable water supply, and even more frequently no suitable provision for drainage, and the entire place becomes at length charged with the disease, the rate of mortality rises, and the place is ruined as a health resort.

Dr. E. T. Eastman thought that the most important object to be attained is the comfort of the patient. A sick person who is sent to a place where many consumptives are herded together, is quite easily depressed and may die from the moral effect of such melancholy surroundings. No doubt each year many persons die in such places who might recover under more cheerful surroundings. Above all, in the present state of our knowledge of pulmonary diseases, we should avoid the crowding of phthisical patients.

Dr. Knight said that it was gratifying to see that physicians had begun to use some discrimination in recommending climates. The discussion had been mostly restricted to the benefit of change of climate in pulmonary disease, but of course there were many other diseases which might be benefitted by an appropriate change.

A great and beneficial modification of the old custom of sending all cases of pulmonary disease to warm climates has taken place in recent years, a custom which has arisen from giving too much consideration to what might mitigate the concomitant bronchitis. There is no doubt of the great difference in the physical properties of different climates, and no doubt that we can favorably modify pathological conditions by taking judicious advantage of them.

In selecting a climate for consumptives the peculiarities of each patient should be considered, his temperament, the stage of his disease, complications, etc. If permanent arrest of the disease is hoped for, Dr. Knight said that he was always glad if the patient's condition is such as to allow of the selection of a dry mountain climate of considerable elevation. If his peculiarities will not admit of this, then a lower altitude, but still a dry and tonic climate should be chosen. It was unfortunate if a warm, moist climate had, for any reason, to be adopted.

The next paper was by Dr. Herman F. Vickery, entitled,

ENLARGED CERVICAL GLANDS.[2]

Dr. John Homans, 2d, thought that many other causes may exist for enlarged glands besides those mentioned in the paper. Thus rhinitis, pharyngitis, and tonsilitis may cause enlargement of the cervical glands. These are, however, the expression of a general systemic condition and are not dependent upon the local state of the neck.

Dr. Barker mentioned the enlargement of the glands of the neck following surgical operations as illustrating another causation of this condition.

Dr. Vickery said that the enlargement of the glands seems often to be secondary to other conditions. Thus a child pricked the neck with the tine of a fork, to a moderate extent. The prick healed quickly, but soon after there was noticed a distinct enlargement of the glands of the neck which proved to be not adenoma but scrofulous in character.

The next paper was by Dr. Edward B. Lane, entitled

TWO CASES OF CEREBRAL TUMOR, WITH AUTOPSY.[3]

Dr. J. J. Putnam stated that cases of tumor of the brain often present no definite or recognizable group of classical symptoms, by which their location, or size, or frequently their existence even may be determined. Dr. Putnam mentioned a case seen in consultation with Dr. Adams of Watertown, in which almost all the tissue of the pons was replaced by a large vascular glioma.

Dr. P. C. Knapp asked the seat of the tumor?

Dr. Lane stated that it was seated below the basal ganglia, and was evidently pressing upon the crus cerebri.

Dr. Cushing asked if the early recognition of the disease and its treatment by anti-syphilitic measures is of any avail in cases of cerebral syphilis?

Dr. Lane stated that no case is known in which the syphilitic lesion in the brain has been benefitted by any form of treatment.

Dr. Goldsmith has never seen a case of improvement in such cases.

Dr. Putnam remarked that probably that does not mean that no case may be relieved by treatment.

Dr. Lane stated that no case in which the disease was of a sufficient degree of severity to require treatment in an Insane Asylum had ever been known to be benefitted.

Dr. Putnam added that in the early stages of congestion, before deposits of syphilitic growth have taken place, it may be possible to improve the patient's condition. When chronic paralitic dementia has occurred there may well be no improvement from any mode of treatment.

Dr. Knapp added that in cases in which any mental derangement exists there is no hope from any form of treatment.

Adjourned at 10.15 o'clock.

— Pasteur has asked his government for a subsidy of 2,000,000 f. for the establishment of a hospital and for 50,000 f. a year to operate it. It is said that the authorities are in favor of giving him at least the latter grant.

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[2] See page 219 of this Journal.
[3] See page 217 of this Journal.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

January 21st, 1886, Dr. Walter Channing in the Chair.

Dr. F. M. Turnbull read

A REPORT OF THREE CASES OF MELANCHOLIA, BEING ESPECIALLY A CONSIDERATION OF THE PROGNOSIS.

The first case was of a single woman, fifty-one years of age, of good family, with an insane heredity, two aunts and a twin sister being insane. She had always been in good health, except for habitual constipation, and was of a strong intellectual character, and fond of reading. Grief at a nephew's ill-conduct and at her mother's death, and the consequent change in her manner of life, caused her to become depressed. In October, 1882, she conceived the idea that she had acquired syphilis from indulgence in masturbation; she grew very despondent, demanded anti-syphilitic treatment, and finally made several attempts at suicide, which caused her friends to send her to Somerville. On admission, in December, she was extremely depressed, had headache and insomnia, and groaned a great deal; she thought she was contaminated and might communicate her disease. She continued in this way for two or three months; then she began to eat less, and made another attempt at suicide. She had, evidently, hallucinations of hearing, and still held to the delusion that she had syphilis. She gradually grew worse, groaned, and rubbed her hands constantly, slept very little, and was very incoherent in her speech. In June, 1884, she had to be sent to the excited ward; she continued in the same way, rubbed the hair off her head in places, and made several sore spots on her face. In September, she became quieter and talked naturally, but soon grew worse again. In February, 1885, she had the new delusion that her brother had formed some wicked design against her, and she thought she saw him about the grounds. About the same time, she wrote a perfectly intelligible and coherent letter to Dr. Cowles, asking for mercy, and speaking of some of her delusions. After this, she grew worse, groaned constantly, and was very noisy, and at last accounts, was still in a very bad condition, having lost much flesh and strength, and weighing but seventy-three pounds. The morphine treatment was tried, and it occasionally made her stupid, thus quieting her somewhat, but neither that, nor codeine, stimulants, cannabis indica, chloral, bromides, nor bromidia, had any permanent effect.

The second case was a woman of fifty, married, with a good family history. About the beginning of 1884, she became much depressed, and thought that she had lost much property, and that she had committed a great sin and was spiritually lost. She was sent to Danvers, and there, after a period of slight improvement, she became much agitated, lost flesh, and talked of suicide, although she made no attempts at suicide then. She was said not to have false hearing while there. In August, 1884, she was transferred to the McLean Asylum. On admission, she spoke of her delusions, was restless and agitated, and before long made an attempt at suicide. Her agitation increased, she used to walk the floor, moaning and rubbing her head, and often fell or threw herself out of bed, possibly with suicidal intent. She would not converse with the physicians. During this time, she took cannabis indica and bromide. In December, she began to take morphine, beginning with gr. 1-8, and gradually increasing the dose to gr. 9-16, three times a day. Soon after she became less agitated and could be reasoned out of her delusions for a time, although there were still periods when she was restless, agitated and noisy. From this time on, she steadily improved. In August, she was able to go to the cottage at Lynn for the day, and in September, she went away on a visit, enjoying herself very much. In December she was still away, and it was reported that she was much improved and did not want to come back. She was still taking morphine, though in a very small dose.

The third case was not reported. It was a case of melancholia, with delusions of poverty, and of having committed the unpardonable sin, in which treatment was of little benefit but recovery took place after four years' duration.

The importance of prognosis in such cases was then spoken of, and the reader considered the bad heredity and the fact that the delusions were firmly established, as important factors in judging of the prognosis in the first case. Where the prognosis was unfavorable, the morphine treatment did no good; but in the second case, the depression was temporarily arrested by the morphine, and the recuperative forces had time to act.

Dr. Page said that, as a rule, cases of simple melancholia recovered, but that in cases of delusional melancholia, especially in patients over forty, and in women at about the period of the menopause, if the delusions became fixed, the prognosis was bad. Many of the cases of so-called "nervous exhaustion" sent to the Adams Nervine Asylum were really cases of simple melancholia, and most of them did well on over-feeding, and tonics without bromide. Clouston objected to opium or morphine in the treatment of melancholia.

Dr. J. B. Ayer spoke of a case of melancholia, coming on at the menopause, and following an attack of pneumonia, which was kept at home all the time. For three years the case seemed hopeless, but she now gets on without a nurse or special treatment at home. She took no morphine worth mentioning. He did not consider bromidia a good preparation for use as a domestic remedy, as each drachm contained gr. xv. of chloral.

Dr. Tuttle said that most of the cases of melancholia seen in hospitals were of the delusional form, but that since the introduction of the system of voluntary admissions, more mild cases were seen at the McLean Asylum. He considered false hearing an important element in the prognosis; where it persisted, the prognosis was usually bad, and the cases rarely got well. He had known of recovery in but three cases of the sort. Opium did good in some cases, but it could not be told whether it would act well in the individual case, except by trial. If a restless case can be quieted with it, it perhaps works well. The second case reported always went backwards on taking off gr. 1-8 from the dose, until the stimulus of going home began to act.

Dr. Turnbull said that there seemed very little that was tangible and available for prognosis in these cases. It seemed almost impossible to say why one case recovered and another did not.

Dr. Channing thought that mild melancholia did better outside of an asylum than any other form of insanity. He considered false hearing a bad element in prognosis. It was common in the simple melancholia seen in prisons. This "prison insanity" was of a depressed type, associated with anæmia and exhaustion; the patients often had delusions of persecution and false hearing. They rarely became excited, but occasionally made an assault. They usually masturbated, did poorly, and gravitated back to prison. The cases were generally chronic, and but a small percentage got well. He had tried codeia in one or two cases without special results. Schüle recommends opium in melancholia, and has had much success with it; Krafft-Ebing also advises it. He considered the acute forms of melancholia, with a good deal of physical disturbance, but without delusions, the most curable.

Dr. Tuttle, in answer to a question by Dr. Page in regard to over-feeding, said that at the McLean Asylum, when a patient would not eat, he was fed. Of late, they had tried giving half a pound of sugar with each meal, which, at least, caused the patient to gain flesh. He thought that codeia had less effect on the stomach and bowels, but that it did not brace a patient up like morphine. He considered the prognosis in mental diseases as mainly a guess, except in general paralysis, and there we could predict only the final result.

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THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting February 18, 1886.

Dr. H. D. Chapin read a paper on

RHEUMATISM OF EARLY LIFE.

This, he said, was a subject which, in view of its great importance, had not received sufficient attention on the part of the profession. Although generally very insidious in its advances, it was an affection which was continually crippling children for life. He gave a *résumé* of the opinions of the principal authorities on diseases of children, and remarked that the most of them seemed to think it was not a very common disease in childhood. A few, however, spoke of its great frequency, and this he believed to be the correct view.

He stated that his remarks would be principally based on an analysis of 76 cases which had occurred under his own observation. The number of these at different ages are given as follows:

6 months	1	9 years	9
11 "	1	10 "	10
20 "	1	11 "	8
3 years	1	12 "	7
4 "	2	13 "	9
5 "	4	14 "	4
6 "	6	15 "	2
7 "	3	17 "	2
8 "	11		

During infancy the disease was apparently not very common. In his three cases occurring in infants of six, eleven and twenty months respectively, however, there were well-marked attacks of acute rheumatism, and the diagnosis was rendered the more positive by the fact that in each of the three instances one or both of the parents had also suffered from rheumatism. In regard to heredity he said that it seemed to him an undoubted fact that some state was inherited, which would develop rheumatism under favorable conditions. It was a rheumatic tendency that was inherited rather than the disease itself, as was the case in syphilis. Having referred to the statistics of other writers, he stated that in the great majority of his own cases either one or both of the parents had had rheumatism.

In early life rheumatism attacked more females than males. Of his own cases 50 were girls and 26 boys, and in 69 cases tabulated by Goodhart, 42 were in girls and 37 in boys. As to the part of the body affected, in 43 out of his 76 cases their lower extremities alone were affected, and in 40 of them the knees were involved. In 23 cases both the upper and lower extremities were affected, and in three the upper extremities alone. In two cases the plantar surface of the feet bore the brunt of the attack.

Pain, as a general rule, was not very severe. In children able to express their feelings, stiffness and soreness of the limbs, rather than acute pain, was complained of. There was generally little or no rise of temperature. A decided tendency to repetition was observed, and in one case there were as many as six distinct attacks. A general feature was marked hydræmia, and this was to be regarded an important factor both as regards diagnosis and treatment.

The absorbing interest in rheumatism in early life, however, centered about the heart. In 26 out of his 76 cases, or one-third of the whole number, there was organic valvular disease, and in 18 of this number there was a mitral regurgitant murmur. Of Goodhart's 69 cases, 15 had organic disease of the heart, and five other pronounced symptoms of organic disturbance. It was worthy of remark that endocarditis was by no means so serious in children as in adults, and therefore it might entirely escape attention. It appeared to him, he said, that the heart became affected only after several attacks of rheumatism; and hence it could be seen how very important it was to make an early diagnosis of the latter disease, and place the patient under appropriate treatment in order to ward off subsequent attacks, with increased danger of cardiac complication. The proportion of cases in which the heart became involved, as compared with the number in adults, had not as yet been definitely determined.

Chorea, as was now generally recognized, had a direct connection with rheumatism. In 38 cases of chorea which he had tabulated in a paper read before the New York Neurological Society in 1883, Dr. Chapin found that 22 had been preceded or were accompanied with rheumatism; and he thought it possible that the two affections, as well as the heart trouble so frequently met with in each, are due to a common cause. In many of his cases chorea did not appear until after several attacks of rheumatism. He had met with 15 cases in which acute tonsillitis appeared before, during, or after attacks of rheumatism. This association of the two affections could not be proven to be anything more than a coincidence; but it was so frequent as to have attracted the attention of a number of observers.

The diagnosis of rheumatism generally depended on the considerable number of corroborative symptoms, rather than the marked severity of one or two. As to the pathology of the disease the lactic acid theory was probably correct. There were in the system both the lactic acid resulting from fermentation in connection with faulty digestion and sarco-lactic acid, which was developed in the muscles.

In speaking of the treatment, Dr. Chapin said that it was highly important when it was hereditary to check the rheumatic tendency at the outset if possible, and to this end all appropriate hygienic and preventive measures should be adopted. In an attack of rheumatism he was accustomed to commence the treatment with a dose of Rochelle salt, and follow it up with oil of winter-green and salicylate of sodium. If any disturbance of the heart was shown, he insisted on the most absolute repose in the recumbent position. When endocarditis or pericarditis was present, bodily exercise might be of the greatest possible mischief, as irreparable damage to the heart might ensue if prolonged rest was not secured. Rest enforced for several months he believed sometimes had a curative effect and prevented permanent injury of the organ. The long-continued use of such agents as iron and cod-liver oil was also to be resorted to.

DISCUSSION.

In the discussion which followed, which was under the auspices of the Section on Obstetrics and Diseases of Women and Children, Dr. **J. Lewis Smith** read a short paper, in which he said that he had notes of 73 cases of rheumatism in children. Whether there was or was not a *materies morbi*, such as lactic acid, in this affection, he had observed two principal exciting causes, namely: taking cold and scarlet fever. Inherited predisposition was also common. The disease was rare under the age of two years, but occasionally occurred. In most cases in children the symptoms were much less severe than in adults. It usually began in the lower extremities and thence extended upwards; but the reverse of this was true in scarlatinal rheumatism, where the trouble, as a rule, began in the upper extremities.

But however mild the attack might be, rheumatism was a dangerous malady in children on account of the liability to heart-trouble which characterizes it. Endocarditis might begin as early as the second or third day, and in one instance he had observed it on the very first day of the attack. If the child escaped this complication for the first week and proper remedies were kept up, the chances are that endocarditis would not occur at all. In 43 out of his 73 cases there was a mitral regurgitant murmur, and one case of embolism had been noted by him as a result of endocarditis. Pericarditis was much more rare than endocarditis, although there was little doubt that it was more frequently overlooked than the latter.

As to the association of chorea with rheumatism, out of 68 cases of chorea which he had noted, 26 of the patients had had rheumatism one or more times. Usually the rheumatism preceded, but occasionally the chorea set in as early as the latter. Of the other 42 cases of chorea, in 11 one or both parents, and in one other a sister, had had rheumatism. Therefore, in about 50 per cent. of his cases rheumatism was noted either in the patients themselves or in near relations. Dr. Smith said that he should like to emphasize what had been said in regard to the importance of making an early diagnosis, and placing the patient as soon as possible under appropriate treatment.

The best remedy he thought was salicylate of sodium. If given sufficiently early and in large enough doses, he believed that it would in a large number of instances prevent cardiac complications. He would recommend that it should be commenced on the first day, if possible, and given in doses of ten to fifteen grains to a child four or five years old. Given under these circumstances he had come to regard it as a specific. In cases, however, in which the disease had already continued for some time, its good effects were much less apparent. As to the origin of the lactic acid, provided this was the essential cause of rheumatism, he thought that Dr. Chapin was probably mistaken in attributing its formation to fermentation in the process of digestion, for the reason that in infants in whom the lactic acid fermentation was by far the most abundant, rheumatism was much more rare than in older children.

Dr. Malcolm McLean said that he was inclined to believe that if the minute history could always be ascertained, it would be found that heredity was a factor in every single case of rheumatism. As to the so-called "growing-pains," he believed that they were invariably due to rheumatism, and that the physician should on this account not underrate their importance. In some cases of chorea he had observed an accelerated condition of the heart's action remaining, sometimes for years, after the choreic trouble had disappeared; although no cardiac disease could be detected by the most careful examination. This seemed to show an undoubted rheumatic element.

Dr. L. Emmett Holt remarked that this typical rheumatism was very rare in children: but if pains were taken to discover it, it would be found that rheumatic disease was nevertheless very frequent in this class of subjects. In these indefinite cases it was necessary to seek out the attendant conditions, and inquire into the matter of heredity. There was a marked tendency among the later writers to trace a strong connection between quinsy and rheumatism. As to the ordinary follicular tonsillitis, however, he doubted whether there was any special connection between the two, as in 200 cases of the latter he had not been able to find any apparent association with rheumatism.

The President, **Dr. A. Jacobi** said that heart-disease was very frequent in children, and this was due to two causes, *first*, sepsis, which was rare, and *second*, rheumatism, which was the cause in the vast majority of instances. The cases of congenital cardiac disease were those of the right side of the heart, and these usually terminated fatally at so early a period of life that it was not necessary to take them into consideration. As a rule, the younger the child was, the less prominent the joint affection in attacks of rheumatism. As to so-called "growing-pains," he thought a word of caution was necessary. Dr. McLean had remarked that the diagnosis of growing-pains ought never to be made, and when the parents mentioned that a child was suffering from such pains it should always be treated for rheumatism. It was no doubt true that such pains were very frequently of rheumatic origin; but they might be due to two other causes also. In the first place the affection might be a neurosis, and there was sometimes œdematous swelling about, but not in, the joint. Secondly, there was such a thing as *real* growing-pains. When the epiphyses and cartilages were developing rapidly, hyperæmia always resulted, and this might be so marked as to cause the pain complained of.

Dr. J. Lewis Smith said in reference to the acceleration of the heart's action without appreciable cardiac lesion mentioned by Dr. John McLean, that he called to mind a case of this kind in which the autopsy showed the presence of well-marked endocarditis. Yet during life there had been no murmur whatever. He had presented the specimen to the Pathological Society, and the examination of the heart was made with great care by Dr. Francis Delafield. Endocarditis was not necessarily accompanied by such lesions of the valves as to give rise to murmurs.

Dr. Chapin said that he wished those present would endeavor to assist him in collecting cases in which there had been evident valvular trouble which afterwards entirely disappeared.

Dr. Jacobi remarked that there were a certain number of cases in which a cardiac murmur disappeared after lasting perhaps only a day or two, or perhaps for a longer period. There were probably instances of simply a rheumatic murmur, and not really of endocarditis. What was taken for endocarditis was in fact rheumatism of the heart muscle. But in other cases there was true endocarditis, attended with a murmur, which after a longer or shorter period entirely, or almost entirely, disappeared. A heart in which this took place was not strictly a normal one, being larger than it should be; but compensation was so ample that no murmur resulted. This change usually took place a little after the age of puberty, and it was more liable to occur in males than females. Dr. Jacobi said he knew of several cases of this kind in the city, where the patients were now grown men, and entirely free from any appreciable cardiac trouble. Dr. Smith had called attention to the fact that endocarditis might occur without valvular disease. This was, no doubt, true; but in the larger number of cases of endocarditis without a murmur, the disease was probably of ulcerative character. In the ulcerative form of endocarditis the valves were affected, but the difficulty was not on top of the valves but at their insertion.

Recent Literature.

Hunterian Lectures on some of the Injuries and Diseases of the Neck and Head, the Genito-Urinary Organs, and the Rectum. Delivered before the Royal College of Surgeons of England, June, 1885. By Edward Lund, F.R.C.S., Member of the College and Court of Examiners of the College, Consulting Surgeon to the Manchester Royal Infirmary, Professor of Surgery in the Owens College. London: J. & A. Churchill. 1886.

These three lectures, on the subjects indicated by the title, give the result of the author's experience during a long surgical practice. They are eminently practical, dealing only with such cases as have fallen to the lecturer for treatment and giving the success and failure which he met with. They have all the charm that belongs to autobiographical writing. No surgeon can read the lectures without being entertained as well as instructed; and we feel sure that few Americans can read the little book without wishing that lectures of the same kind that should induce men to lay before their brethren the experience of their lives, were more numerous in this country.

— We observe by the daily press, that a Newark doctor who has kept watch over some dogs bitten by one of the same rabid creatures that snapped at the children who were sent to Paris to be treated by Pasteur, is prepared to swear that the cur was not mad at all. His bitten dogs have grown fat, and have thus far shown no signs of rabies.

Medical and Surgical Journal.

THURSDAY, MARCH 11, 1886.

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ARSENICAL WALL-PAPERS.

Our readers will notice from an article in another column that an order has been introduced in the Massachusetts Legislature which, in substance, directs the committee on public health to consider whether or not any legislation is necessary relative to the presence of injurious substances in wall-paper. Attempts have heretofore been made in this State to secure legislation prohibiting the manufacture and sale of papers containing arsenic. Determined and well-organized opposition on the part of the manufacturers and dealers has rendered all such attempts unsuccessful; but the repeated agitation of the subject, not only in this country but in Europe, has added much to our knowledge regarding the extent of the use of arsenical pigments at the present time in the manufacture of wall-papers and regarding the deleterious effects which result from such use.

The matter is one of great importance in its relations to the public health and has received the careful consideration of competent scientific authorities. It seems proper at this time therefore, to state briefly such facts in regard to the subject as, in our opinion, are established by competent evidence, and to consider if the opposition to legislation rests upon any substantial foundation.

The demand for legislation is based essentially upon two considerations: (1) that arsenical pigments are used very extensively at the present time in the manufacture of wall-papers; (2) that arsenic, when thus used, is very deleterious to the public health, giving rise frequently to disagreeable and sometimes to dangerous symptoms.

It is not denied, we believe, that arsenical pigments have been used in times past in the manufacture of wall-papers; but one of the main arguments made use of by the manufacturers, in their opposition to legislation, is that no arsenic is used at the present time. It is without doubt true that compounds of arsenic, such as Scheele's and Schweinfurt green are not much used nowadays in the manufacture of paper-hangings. The dangerous character of these pigments is now so well recognized that they have been largely replaced by other pigments. It is a fact, however, easily demonstrated by chemical analysis that a large number of the pigments used in the manufacture of paper contain arsenic, either because arsenic has been used in the manufacture of the pigment, and not removed subsequently, as is sometimes the case with the aniline colors, or because some compound of arsenic has been purposely added to the color by the color manufacturer.

It is probable that most of the manufacturers are ignorant of the exact chemical composition of the pigments used by them. They may, therefore, not be aware of the fact that many of their pigments contain arsenic: and it is reasonable to suppose that some of those who guarantee their papers free from arsenic, do so in good faith simply on the strength of their belief that they are using non-arsenical colors. It is obvious however, that any guarantee of this kind is worthless. If it is not based upon a trustworthy analysis of the paper or of the materials used in its manufacture, it does not afford the public the protection which it asks. That arsenical pigments are extensively used in the manufacture of wall-papers is evident from the experience of chemists in Boston alone, which shows that about twenty-five per cent. of the samples submitted for analysis are arsenical. Among the arsenical papers it is not unusual to find some which are guaranteed, by the manufacturer, free from arsenic. Reference to an article by Dr. E. S. Wood, published in the public health supplement to the Fifth Report of the State Board of Health, Lunacy and Charity of Massachusetts shows that the amount of arsenic in these papers may be as high as six to seven grains per square yard, and that one color is as liable to be arsenical as another.

A favorite argument of the opponents of legislation on this subject is that the presence of arsenic, assuming it to be present, is accidental and unavoidable; that it is derived from the size used in the manufacture of the paper. This is, however, an unimportant source. That traces of arsenic may occasionally be explained in this way is very likely true. Analysis, however, shows that the arsenic exists in the color in most cases. Moreover, the amount of arsenic is, as a rule, entirely inconsistent with the theory that it is derived from the size. Assuming, however, that it is a constituent of the size, it is just as dangerous as though it existed in the pigments.

The evidence regarding the deleterious effects of arsenical wall-papers is very conclusive to an unprejudiced mind. A very large number of well-authenticated cases of wall-paper poisoning are recorded. Many of these are readily accessible for reference, since they have been incorporated into Dr. Wood's article; but besides these, numerous cases are to be found in the medical journals. An analysis of the symptoms in these cases show that the arsenic acts upon the system both locally and constitutionally. The first symptoms are the result of the local action of the arsenic, and consist of irritation of the mucous membranes of the eyes, nose and throat, dry cough, loss of appetite, nausea, a feeling of uneasiness in the stomach and intestines, and sometimes vomiting and diarrhœa. Among the latter symptoms produced by the constitutional action of the poison are headache, sleeplessness, muscular debility, depression of spirits, attacks of dizziness and neuralgic pains in various parts of the body. These symptoms are undoubtedly due in many cases to the inhalation of minute particles of arsenical dust. Repeated analysis of the dust which has collected in rooms papered with arsenical papers show conclusively that such arsenical dust is continually detached from the paper. It is proven, however, that under certain conditions, a portion of the arsenic in wall-papers is given off in the form of arseniuretted hydrogen; and it is the opinion of competent authorities that the symptoms, in many cases are due in part, at any rate, to the inhalation of this exceedingly poisonous gas. All the symptoms described will not be observed in every case since they are subject to many variations, depending especially upon the length of exposure and upon idiosyncrasy.

It has been argued that, as the number of persons exposed who experience symptoms of poisoning is comparatively small, there is no necessity for legislation. This is, in our opinion, an unimportant objection. In many cases the symptoms have undoubtedly been attributed to other causes, inasmuch as the catarrhal symptoms resemble those of an ordinary cold, while the gastro-intestinal irritation, if comparatively mild, may readily be attributed to indigestion. There is good reason, therefore, for believing that the number of cases which occur is in excess of those which are reported.

The positive evidence which we have at the present time leaves no room for doubt in unprejudiced minds that some legislation on this subject is necessary. The question has been strongly agitated in Europe and the strict regulations which exist in some of the European countries show that the present agitation in Massachusetts is not a merely local affair. In Germany the sale of arsenical paper-hangings is punished by a fine of one hundred and fifty marks; and, if we understand the law correctly, the seller of an arsenical paper is, in addition, liable to imprisonment upon proof that any injury to health has resulted from such arsenical paper. The Swedish law is exceedingly stringent prohibiting the sale of wall papers containing more than one four-thousandth (approximately) of a grain of arsenic in sixteen square inches. In both Baden and Bavaria the use of arsenical colors in the manufacture of wall papers is prohibited.

We cannot see that legislation will in any way prove detrimental to the manufacturers. It is conceded that arsenical pigments are not essential in the manufacture of wall papers, and that non-arsenical pigments of any color can be obtained of satisfactory brilliancy and durability. We do not consider it necessary that the prohibition of arsenic should extend to minute traces, which are frequently unavoidable on account of the wide diffusion of small quantities of arsenic. A committee of the National Health Society of Great Britain, in a report presented to the Society in 1883, concluded as a result of their investigations, that an allowance of 0.001 grain per sample of sixteen square inches would be ample for accidental and unavoidable contamination; and that this quantity would not be injurious to health. The manufacture of papers which shall come within this limit is practicable and can be reasonably demanded. In fact a large proportion of the wall paper made at the present time comes within this limit. Certain of the English manufacturers take great pains to exclude all arsenical colors; and they are so successful that it is only rarely that one of their papers is found which contains more than the merest trace of arsenic.

It is highly important that the method of analysis to be employed in testing papers should be clearly defined. It is a matter of frequent occurrence that papers which are guaranteed, by the dealers free from arsenic, are found to be highly arsenical. A failure to detect arsenic in an arsenical paper is presumably due to the employment of inaccurate methods of analysis. It is, we think, very evident that a law which prohibits the manufacture and sale of arsenical papers, but at the same time allows the chemist to employ a method of analysis which fails to detect arsenic in a paper containing three to five grains per square yard, will afford the public but little more protection than it has at present.

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THE CAUSATION OF PLEURISY.

Germain Sée in his most recent work on "Simple Diseases of the Lungs," arranges the numerous varieties of pleurisy into two great categories: (1) Pleurisies by propagation; (2) Pleurisies by infection. The group of pleurisies from cold (pleurisy *à frigore*, or idiopathic pleurisy) he divides up, apportioning a part to the first category and a part to the second. He denies that cold is, properly speaking, a *cause* of pleurisy, and thinks that it can only favor the development of pleural inflammation by permitting the real cause to act more rapidly or more efficaciously.

Pleurisies by propagation take their origin from lesions of the thoracic walls, thoracic organs or neighboring viscera. Among the parietal lesions are osteo-periostitis, costal caries, parietal phlegmon and even cancer of the mamma. Other propagating lesions are broncho-pulmonary inflammations (pleurisy is a constant accompaniment of acute fibrinous pneumonia); pericarditis (especially when the latter is due to rheumatism); hepatic affections, such as acute hepatitis, hydatic cysts of the convex surface of the liver, atrophic or hypertrophic cirrhosis: here the pleurisy is generally right sided and the propagation takes place by the lymphatics.

Among the pleurisies by infection, first in the order of importance and frequency is tuberculous pleurisy. Tuberculosis is a very common etiological condition of pleurisy, being the determining cause in three-fourths of the cases, according to Professor Sée. Fiedler's statistics in this regard are very instructive; out of 112 cases of pleurisy treated by thoracentesis, only 21 recovered — of the 91 other patients, 25 died of phthisis at the hospital or at their homes, 66 got well of their pleurisy but were found to be victims of confirmed phthisis or other tuberculous affections.[1] Pleurisy has also been known to supervene in the course of diseases unquestionably rheumatic, and hence in these cases might properly be ascribed to the rheumatic virus, which Sée considers of an infectious (microbiotic) nature. Lastly, all the infectious diseases properly so called — scarlet fever, measles, surgical or puerperal pyæmia, typhoid fever, small-pox, blennorrhagia, etc., may be attended with pleurisy as a part of their manifestations.

As for the pleurisy which so often accompanies chronic Bright's disease, two explanations may be given. Either the pleurisy is the result of the pulmonary lesions which are so frequently a concomitant with Bright's disease, or else it developes in consequence of the general hæmic alterations of that disease which provoke pleurisy as they do inflammations of other serous membranes. If the latter explanation be the correct one the pleural inflammation would belong to Sée's second category.

The views of the French professor will not probably be generally accepted, as there doubtless do occur cases of simple acute pleurisy which are more easily referred for their origin to exposure to cold than to any other cause. Yet it is quite possible that such cases are fewer than one would suppose, and that pleurisy in this respect resembles peritonitis which is rarely idiopathic, and rarely *à frigore.*

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MEDICAL NOTES.

BOSTON.

— Dr. H. J. Bigelow has declined to accept the appointment which was tendered him at the Massachusetts General Hospital as "surgeon emeritus," and also the five beds which were placed at his disposal.

— Dr. David Hunt gave an interesting talk before the members of the Boston Medical Library Association last Friday evening, on the subject of engravings in relation to medical men and medical science. The speaker illustrated his remarks freely by an exhibition of a wide range of engravings on professional subjects and of doctors of varying degrees of note and notoriety.

— In the third annual report of the West End Nursery and Infants' Hospital recently presented, the directors, on behalf of the corporation, express their most grateful acknowledgment of the kindness and liberality of those whose aid has enabled them to carry on the work of the institution during so much of the past year. Although obliged to close the Nursery four months on account of lack of means, during the remaining seven of the eleven months included in this report, one hundred and sixteen infants and thirty-three mothers have been cared for. The objects of the institution are these: 1. The cure of disease, or alleviation of suffering in children under two years of age. 2. The prevention of suffering and disease by securing proper care to infants. 3. The teaching to mothers the proper care of infants, especially in regard to the proper methods of artificial feeding. The directors make, in behalf of the enterprise, the following appeal:

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[1] Cited by Sée.

> We are especially anxious to secure annual subscriptions. However little sum you may be inclined to give, will you not help that little? If we can secure the necessary amount for the annual expenses from donations, we can hope from other sources, which have aided us in the past, to pay the mortgage on the building now owned by us, and in the future, possibly secure a new and properly-arranged building. The annual cost of the maintenance of a free bed for mother and child is $250; an annual donation of this amount makes the giver a member of the corporation, and entitles him to have the bed occupied by any suitable case he may recommend. An early reply to this appeal is solicited, in order that the directors may decide on the possibility of the continuance of the work of the institution.

Subscriptions may be sent to Dr. H. C. Haven, No. 19 Exeter Street; or to William Minot, Jr., No. 39 Court Square.

NEW YORK.

— The Commencement exercises of the American Veterinary College were held at Chickering Hall, March 1st, when diplomas were conferred on twenty-eight graduates.

— The forty-fifth annual Commencement of the Medical Department of the University of the City of New York was held at the Academy of Music, March 6th, the graduates numbering one hundred and seventy-three.

— The sum of $4,160 has been received at Newport for the payment of bequests made in the will of the late Charles Henry Russell, of New York. Of this amount, $2,080 goes to the Home for Friendless Children, and $1,080 to the Newport Hospital.

— Dr. Gaspar Griswold, Demonstrator of Anatomy in Bellevue Hospital Medical College, and one of the most accomplished and best known of the younger physicians of New York, died of acute peritonitis, after a five days' illness, on the 4th of March. He was born in the city April 24, 1856. He was the only son of the late James Clinton Griswold, and was graduated from Columbia College in 1876. While in College, he distinguished himself in athletics, as well as in scholarship, and was a member of the famous crew which won the intercollegiate regatta at Saratoga in 1874. After completing his medical studies (graduating from Bellevue Hospital Medical College, in 1878), he became an interne of Bellevue Hospital, passing the best competitive examination of the year. When he had completed his term of service at the hospital, where he showed himself a physician of more than ordinary accomplishments and ability, he continued his medical studies in London, and became a member of the Royal College of Physicians. After his return to New York, he was taken into partnership by Dr. Fordyce Barker, and since then, has been actively engaged in successful practice. He was a Fellow of the New York State Medical Association and New York Academy of Medicine, and a member of the New York County Medical Association, the New York County Medical Society, and the Clinical Society; and his funeral, which was held at Zion Church March 6th, was largely attended by his professional and other friends.

— The State Board of Health met on March 3d, at the Murray Hill Hotel, when Dr. Louis Balch, who has been for some time Secretary of the Albany Board of Health, was chosen Secretary, in the place of Dr. Alfred L. Carroll, resigned. Dr. T. C. Curtis, the Acting Secretary, reported the work done at the Central Office since the last meeting, and gave an account of the efforts made to ascertain the cause of the recent epidemic of typhus fever in the Albany Penitentiary. The origin, he said, had not been successfully traced, but the outbreak was now entirely suppressed. It is supposed that the first case was imported from New York, as that was the only place in the State where the disease existed at the time. The results of vaccination throughout the State, to ward off the threatened invasion of small-pox from Canada, were, the Secretary reported, extremely gratifying, and in this connection, he said: "Two facts have been demonstrated: first, that vaccination is a certain preventive of small-pox; and second, that the virus furnished by the New York Board of Health is most efficacious."

Mr. James T. Gardiner, the consulting engineer of the Board, made an elaborate report on the bad sanitary condition of the new Capitol at Albany. At the last meeting of the Board, Dr. Millbank, of the State Insurance Department, reported that he had been attending a number of cases in that department, which he believed to be due to filth poisoning, and it was in consequence of this, that Mr. Gardiner made a thorough examination of the entire building. He found it in a deplorable condition, both as regards ventilation and drainage, the air-shafts, for instance, being placed so near the soil-pipes on the roof, that the strong suction down the former draws down the foul gas escaping from the latter, and distributes it throughout the entire building, while the drainage-pipes in the basement are wholly inadequate. An appropriation for remedying the defects will be asked for at once.

The Executive Committee presented a report on beer, which contains the tabulated results of the examination of nearly five hundred samples, purchased in open market throughout the State, which was made at the request of the Board, by Prof. F. E. Englehardt, of Syracuse. The report points out that there is no legal definition of what constitutes normal beer, nor any standard established by the authorities on the subject, and makes the following recommendations:

That the law be amended so as to define the normal condition of malt beverages. That a malt beverage should, as its name indicates, contain only malt, hops, water, and yeast, and their constituents. That Congress should pass a law making it obligatory upon the Internal Revenue Department at all times, to permit publicity to be given to the ingredients reported by the brewers and dealers of malt beverages. That local Boards of Health throughout the State should have special control over breweries within their jurisdiction; should visit them, and report publicly upon the condition of these establishments. That nothing but pure water should be allowed in the brewing of malt beverages. That local Health Boards of the State should have special supervision over saloons; should have samples purchased of the beverages sold, and forward the same for examination, and that arrangements should be made that the expense of such analyses should be defrayed by the Board of Excise. That no condition of secrecy should be imposed in the law relating to beer, spirituous, or malt liquors, and that it should be admissible, in case any sample be found impure, to make the matter public.

CHICAGO.

— The forty-third annual commencement exercises of Rush College took place at Central Music Hall on the 16th ult. The graduates in a regular course numbered 156; the Honorary degree was conferred on five gentlemen: Dr. Daniel Hack Tuke, of England; Dr. Grant, of Cairo, Egypt; Dr. Haeker, of Hamburg, Germany; and Drs. Hanna and Sheffield, of Illinois.

The annual dinner given by the Faculty to the Alumni occurred in the evening, over four hundred of the Alumni being present. The attendance of students at this school the past term was something over four hundred.

— A few months ago, the organization of a Polyclinic was announced, independent of any other medical school. Now there has been formed another school of this class, to be known as the *Post-Graduate Medical School of Chicago.* It appears to have been created to take the place of the Practitioners' Course of Rush College, and it combines the clinical teaching of the College, the Central Free Dispensary, the Presbyterian Hospital, the Eye and Ear Infirmary, and to a degree, the County Hospital, in addition to the laboratory work of the College. No announcement has yet been issued, but the school will probably be in session during June, July, and August of each year. The fate of this school remains to be seen, but it has the good fortune to be able to start upon what it has, and without the building up of any clinic, or dispensary, or hospital, or the expenditure of money for buildings, and apparatus and furniture. If it does not succeed, it will not be owing to a lack of facilities and material for teaching.

— The *Chicago Hospital for Women and Children,* which has, since the great fire, occupied a moderate-sized dwelling-house on the corner of Ogden Avenue and Adams Street, has just moved into its new and commodious building situated on the same ground. The new hospital will increase the capacity of the institution many fold. It is a substantial, plain, brick structure; is provided with many modern devices for rendering hospitals free from danger to the sick, including the construction of the laundry and mortuary in a separate building, which also has isolation wards for infectious cases, and is, altogether, a credit to the friends of the institution and to the city. The hospital was founded nearly twenty years ago by Dr. Mary H. Thompson, who has always been its chief surgeon, and it has never had a regular attending physician or surgeon who was not a woman. It has a consulting staff of masculine doctors, but from the first, the design was to furnish an opportunity to women physicians to practise the art, as well as to care for sick women and children, and this purpose has never been deviated from. Dr. Sarah Hackett Stevenson is the attending physician.

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Miscellany.

RECENT LEGISLATION IN MASSACHUSETTS ON SUBJECTS OF PUBLIC HEALTH.

Legislative Committee hearings were continued last week upon the subject of water gas, in which Health Officer Abbott and Professor Sedgwick repeated the evidence already published in the Health Supplement of the Annual Report of the State Board of Health, Lunacy and Charity.

The Committee on Public Health also continued the hearings upon the petition for legislation to forbid the manufacture and sale of wall-papers containing poisonous substances. On Tuesday March 2, testimony was given by Professors D. G. Lyon, Henry B. Hill, Charles R. Sanger and Walcott Gibbs, besides persons who had had personal experience of poisoning from arsenical papers, and numerous letters were read in support of the petition.

On Thursday last further testimony to the same effect was offered. Professor Lyon read a letter from Professor Kinnicutt of the Worcester County Free Institute of Industrial Science, in which the latter says that of 126 wall-papers examined by him twenty-six contained more arsenic than is allowed by English chemists, fifty contained arsenic in smaller quantities, and only fifty were free from it.

Dr. Edward S. Wood of Harvard Medical College, the author of "Arsenic as a Domestic Poison," in a recent State Board of Health Report, said that since this paper was published evidence had increased largely. The contact of arsenical compounds attacked the mucous membrane of the eye, throat, mouth and stomach, after which the nervous system was undermined, the results being shown in nervous headache and all sorts of neuralgia. All these symptoms ceased or decreased when the sufferer left the house containing the arsenical paper. His investigations had convinced him that the use of arsenic is not necessary in the manufacture of wall-papers, and it did not seem that a law limiting the amount of arsenic to one-half grain per seven square yards, as under the English law, would be unjust to the manufacturers. This quantity of arsenic could be detected by the Berzelius-Marsh test. He had never found, except in one instance, traces of poison in carpets. Senator Harlow here suggested that the petitioners might have the scope of their petition extended to include fabrics other than wall-papers. On cross-examination Professor Wood said he had found arsenic in calico and in cretonnes, but none in silks. In his opinion it is not essential to employ arsenic in the manufacture of any of these fabrics. If a law were passed defining the limit of arsenic permitted, the form of that test should be stated. Arsenic is sometimes put into paste to prevent its souring.

A draft of a bill was submitted by Professor Sanger, prohibiting the manufacture and sale of wall-papers containing more than one-fourth of a grain of arsenic to the square yard, and permitting the sale of such papers containing not more than one-fourth grain to the square yard. Mr. Bailey also submitted a bill prohibiting more than 1-100 of a grain to the square foot, under penalty of not less than $50 for the first offence and $100 for subsequent offences. The remonstrants will be heard on Friday, 12th.

The Public Health Association also gave a second hearing on the subject of the amendment of the existing laws as to the inspection and sale of milk. Milkmen were heard as to the injustice of the present standard of 13 per cent. solids, claiming that with some cows and at certain seasons, even pure milk did not reach that standard. One contractor stated that he agreed to furnish the City Hospital with milk having 13½ per cent. solids, but it is under verbal understanding that the percentage was higher than could be reached, and that the firm shall only be required to give pure milk.

The bill to prohibit the selling or giving of tobacco to persons under the age of 16 years, which passed the House a few days ago, was passed to be engrossed by the Senate, the vote standing 18 to 14.

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Correspondence.

LETTER FROM VIENNA.

HYPNOTISM IN LABOR.—CORROSIVE SUBLIMATE POISONING.

Vienna, February 23d, 1886.

Mr. Editor,—In your issue of January 21st, an account is given of a case of labor under hypnotism. While the details of the case are correctly given, the honor of employing these means, should, in my estimation, be given to an American, Dr. Chas. S. Sargent, of Boston, at the present time pursuing his studies here.

Having visited Paris previous to coming to Vienna, Dr. Sargent had the opportunity of studying hypnotism and its effects under Professor Charcot. It seemed to him that these means might be applicable in lessening the pains in childbirth, and while working in the wards of Professor C. Braun, he asked permission of Dr. E. Pritzl to experiment upon a patient, which being given, the experiment was performed with success.

Permission was also given to hypnotise when this patient was in labor, but at the time Dr. Pritzl performed the experiment with the result as stated. The two other cases reported were not delivered under hypnotism but were only experimented upon with indifferent success.

As too much care cannot be exercised in the use of corrosive sublimate, and too much attention cannot be given to the administration of intra-uterine injections, the following notes of a case in Carl Braun's Clinic may not be amiss.

Frau F., twenty-three years old, second child, presented herself at the hospital, being in labor. Temperature 38.3°C Central vaginal examination showed transverse position, head on the left, back to the front, with cord pulseless; version was performed with extraction. As there was a suspicion that the rise in temperature might be due to some intra-uterine trouble, an intra-uterine injection of corrosive sublimate [1-2000] was given after the extraction, and the placenta was expressed. Ordinarily when corrosive sublimate is used here another injection of water is given to guard against poisoning, but during the injection of the sublimate the patient had a collapse with unconsciousness, etc.; the irrigation was stopped and means taken to relieve these alarming symptoms. Within half an hour she recovered and then the uterus was washed out with water. The next three days the temperature fell to 37°C.; On the second day she had diarrhœa, on the fourth stomatitis, and on the sixth she suddenly died. The autopsy showed signs of the poisoning, as did also chemical examination.

Very truly yours, I. Louis, M.D.

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THE IMPROVEMENT SOCIETY'S REPORT ON THE MASSACHUSETTS MEDICAL EXAMINER SYSTEM.

Gloucester, March 6, 1886.

Mr. Editor,—Apropos of Dr. Fifield's paper on the Medical Examiner System, and the report of a committee to the Boston Medical Improvement Society on the same subject, both published in the Journal, I would beg your readers to refresh their memories upon one case, the subject of criticism, by referring to the number of the Journal for November 9, 1882, in which on page 436 *et seq.* is a very able paper upon the case in question by the Medical Examiner under whose notice it came.

Very respectfully, George B. Stevens, M.D.

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Norfolk County, March 5, 1886.

Mr. Editor,—I perceive on reading the report of the committee of the Medical Improvement Society on "Medical Examiners in Massachusetts," as published in last week's issue of the Journal, that an oversight was made by the committee in not discovering that the *second* instance of incompetency investigated by them occurred under the *coroner* regime, and consequently if there was any failure of duty at the autopsy it did not lie at the door of the medical examiner. It may, however, be said of this case, in the language of Dr. Fifield concerning that other case of his, alluded to by the committee as the *fourth* instance, that "conviction and sentence of the criminal duly took place."

The reference by Dr. Fifield is without doubt to the celebrated case of Julia Hawkes whose dead body was found in Monatiquot river several years since, with a bullet hole in the head and a tailor's goose tied to the feet. As shown at the trial, the death probably occurred outside of Norfolk County. Very truly yours, Medical Examiner.

[We understand that, as the committee was refused information as to the particular "instances" referred to in the paper of Dr. Fifield, its members did not feel at liberty to go behind the written words and surmise to which cases the criticisms applied, although there might have been no great difficulty in doing so.—Ed.]

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RELATION OF THE SPLEEN TO THE STOMACH.

Augusta, Me.

Mr. Editor,—The following suggestions in regard to the possible function of the spleen have occurred to me. Briefly recall to mind something of the anatomy of the spleen, especially in connection with the stomach.

Situated as it is in the left hypochondriac regions embracing the cardiac end of the stomach and held in position by the gastro-splenic omentum and suspensory ligament, its function would naturally be closely related with the stomach. Having no secretory duct to indicate its function, it is classed by anatomists with the ductless glands, and its office in the economy appointed alone on theory. The spleen is composed of such elastic structure as to allow of the considerable changes occurring in its size.

Its increase during and after digestion is a well-known fact. This we know to be the result of an engorgement of blood. As to its blood supply we need but to recall the large size of the splenic artery and the great vascularity of the organ itself. This blood is returned through the splenic vein which constitutes the largest branch of the portal vein. The splenic artery is in such relation, by its origin from the cœliac axis and by branches to the stomach, as to be capable of greatly influencing the blood supply of that organ.

We find its nerve-supply, the pneumogastric and semilunar ganglia, such as to render it in close sympathetic relation with its neighbor, the stomach, controlled by the same centre.

By a controlling nerve centre closely allied to that of the stomach the condition of the spleen appears to be regulated correspondingly. By this nerve-system the digestive turgescence seems explicable, and may it not be in ratio inversely to the flushed condition of the gastric membrane during its activity?

In view of the fact that the spleen may be wholly removed from an animal without any obvious changes in the economy taking place, might we not with propriety ask, is not its office solely mechanical and one of great importance, namely, that of a regulator of blood supply to the stomach? It seems obvious that such a regulator is necessary to an organ subject to such varying conditions — at one time the receptacle of hot drinks, tea and coffee, taken at a temperature little below scalding, and again of large draughts of ice water. What is to prevent serious congestion or depletion, or to afford a ready supply in aiding the digestion of a hearty meal, if not this balancing medium?

So we offer this special and sufficient function of the spleen — an organ attendant to the stomach, a diverticulum of its blood supply, standing ever in an inverse relation in this respect to the needs of the stomach.

Yours truly, H. L. Johnson, M.D.

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Ft. Bidwell, Cal., Feb. 14, 1886.

Mr. Editor, — I am engaged in the preparation of a "Compendium of the Surgical History of the War of the Rebellion," designed as a hand-book for military surgeons, and desire to consider at some length, "Injuries of the Bloodvessels," the remote effects of gunshot wounds in general, and the ultimate results as regards the functional utility of the limbs treated by conservation and excision in particular. Inasmuch as many of the survivors have doubtless come under professional observation at this late date, it is hoped that the observers will render a service to military surgery and to me personally, by communicating unpublished data, which will be gratefully acknowledged.

Respectfully, George M. Kober,
Act'g Ass't Surgeon U. S. Army.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 27, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	697	259	15.26	14.42	1.26	6.72	2.52
Philadelphia	927,995	375	113	9.72	17.82	.54	5.67	.54
Brooklyn	644,526	285	112	17.85	15.40	4.90	7.00	2.10
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	136	47	8.88	19 24	.74	5.92	—
St. Louis	408,520	157	45	10.24	16.00	—	1.28	1.28
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	106	29	9.43	20.68	1.88	4.70	.94
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia .	194,310	96.	32	6.24	18.72	1.04	1.04	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	38	9	2.63	13.15	—	—	2.63
Nashville	54,400	20	5	—	20.00	—	—	—
Worcester	68,383	18	11	11.11	11.11	—	5.55	—
Lowell	64,051	34	10	—	—	—	—	—
Cambridge	59,660	14	5	—	—	—	—	—
Fall River	56,863	18	7	—	—	—	—	—
Lynn	45,861	15	—	—	—	—	—	—
Lawrence	38,825	11	5	9.09	27.27	—	9.09	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	3	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	1	10.00	20.00	—	—	—
Holyoke	27,894	7	4	14.28	14.28	—	14.28	—
Chelsea	25,709	9	2	11.11	11.11	—	—	—
Taunton	23,674	7	2	52.84	14 28	—	14.28	—
Haverhill	21,795	7	2	14.28	14.28	—	14.28	—
Gloucester	21,713	3	2	33.33	33.33	—	33.33	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	3	16.66	16.66	—	16.66	—
Malden	16,407	8	3	12.50	37.50	—	—	—
Fitchburg	15,375	5	0	—	—	—	—	—
Waltham	14,609	5	2	—	20.00	—	—	—
Newburyport	13,716	2	0	—	50.00	—	—	—
Northampton	12,896	3	0	—	66 66	—	—	—
82 Massachusetts Towns	—	40	7	7.50	17 50	—	5.00	—

Deaths reported 2,047: under five years of age 720; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 268, consumption 347, lung diseases 343, diphtheria and croup 120, whooping-cough 31, scarlet fever 20, typhoid fever 21, diarrhœal diseases 21, malarial fever 29, cerebro-spinal meningitis, nine, erysipelas five, small-pox four, measles four, puerperal fever four. From typhoid fever, Philadelphia eight, Baltimore three, New York and Brooklyn two each, District of Columbia, Lowell, Salem, Taunton and Malden one each. From diarrhœal diseases, New York seven, Brooklyn five, Boston three, Cincinnati and Lowell two each, District of Columbia and Holyoke one each. From malarial fever, New York 13, Brooklyn four, Baltimore three. From cerebro-spinal meningitis, New York three, Baltimore two, Philadelphia, Worcester, Fall River and Taunton one each. From erysipelas, New York three, Philadelphia and District of Columbia one each. From small-pox, New York four.

Cases reported in Boston: diphtheria 24; scarlet fever 21; and typhoid fever three.

In 103 cities and towns of Massachusetts, with a population of 1,339,159 (population of the State 1,941,465), the total death-rate for the week was 14.83 against 15.96 and 16.14 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 13th the death-rate was 23.1. Deaths reported 4,024: infants under one year of age 882; acute diseases of the respiratory organs (London) 584, whooping-cough 188, measles 67, diarrhœa 46, fever 43, scarlet fever 30, small-pox (Liverpool) three.

The death-rates ranged from 14.7 in Huddersfield to 30.9 in Preston; Birkenhead 23.5; Birmingham 19.6; Hull 18.3; Leeds 19.2; Leicester 15.3; Liverpool 24.4; London 24.9; Manchester 29.1; Nottingham 20.8; Sheffield 18.6; Sunderland 22.1.

In Edinburgh 18.7; Glasgow 29.8; Dublin 38.6.

For the week ending February 13th in the Swiss towns, there were 31 deaths from consumption, lung diseases 27, whooping-cough 10, diphtheria and croup seven, small-pox two, measles one.

The death-rates were: at Geneva 13.3: Zurich 28.6; Basle 18.5; Berne 24.6.

The meteorological record for week ending February 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Feb. 27, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...21	29.934	18.6	23.2	8.4	47.0	34.0	80.6	53.7	N.W.	W.	W.	16	10	10	C.	O.	O.	—	—
Monday, ..22	30.085	21.2	26.6	10.2	72.0	70.0	75.0	72.3	N.	S.E.	S.W.	9	7	8	F.	C.	C.	—	—
Tuesday,..23	29.998	33.8	43.1	21.0	76.0	53.0	68.0	65.7	W.	N.W.	N.W.	17	18	12	O.	F.	C.	—	—
Wednes., .24	30.423	16.5	27.8	12.4	53.0	38.0	57.0	49.3	N.	N.	N.E.	16	15	6	C.	C.	C.	—	—
Thursday, 25	29.768	33.3	46.0	14.4	65.0	94.0	100.0	86.3	S.	S.E.	S.W.	11	19	16	F.	K.	R.	—	—
Friday, ...26	29.112	19.9	47.7	8.7	100.0	89.0	68.0	85.7	N.W.	N.W.	N.W.	30	36	35	N.	O.	O.	—	—
Saturday, .27	29.515	9.2	13.5	4.0	62.0	54.0	60.0	58.7	N.W.	N.W.	N.W.	40	44	32	F.	O.	F.	30.0	0.83
Mean, the Week.	29.834	27.5	32.7	11.3				67.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; K., Sleeting; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 27, 1886, TO MARCH 5, 1886.

WILLIAMS, J. W., major and surgeon. Ordered for duty as post surgeon, Vancouver Barracks, Washington Ter.

MUNN, C. E., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Cœur d'Alene, Indian Ter.

WOOD, M W., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Walla Walla, Washington Ter. S. O. 31, Department of Colorado, February 26, 1886.

WM. S. TREMAINE, major and surgeon Leave of absence extended six months on surgeon's certificate of disability. S. O. 50, A. G. O., March 2, 1886.

HENRY MCELDERRY, major and surgeon. Leave of absence extended one month. S. O. 49, A. G. O., March 1, 1886.

WM. G. SPENCER, captain and assistant surgeon. Ordered for duty at Fort Yates, Dakota Ter. S. O. 17, Department of Dakota, February 23, 1886.

To be assistant surgeons with the rank of captain after five year's service, in accordance with the act of June 23, 1874.

ARTHUR, WILLIAM, H., assistant surgeon, February 18, 1886.
BUSHNELL, GEORGE E., assistant surgeon, February 18, 1886.
BIRMINGHAM, HENRY P., assistant surgeon, February 18, 1886.
WYETH, MARLBOROUGH C., assistant surgeon, February 18, 1886.

Circular A. G. O., March 1, 1886.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, March 17th, at 7.45 o'clock. Communications: Dr. W. S. Brown, of Stoneham, "Gynæcological Hints and Hobbies." Dr. S. W. Driver, of Cambridge, "Obstetric Gleanings; or Expedients and Mistakes" Dr. R A. Kingman will exhibit an Axis Traction Appliance for Simpson's or Braun's forceps. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*
ROBERT B. DIXON, M.D., *Secretary.*

ERRATUM.

In an article by Dr. F. N. Otis, Feb. 18, 1886, on "Limitation of the Contagious Stage of Syphilis," etc., p. 148, 1st column, Mr. Hutchinson should be quoted as saying that "no *minified* transmission of syphilis is possible."

BOOKS AND PAMPHLETS RECEIVED.

Coast Defences against Asiatic Cholera. Report of an Inspection of the Atlantic and Gulf Quarantines between the St. Lawrence and Rio Grande. John H. Rauch, M.D. Springfield, Ill. 1886.

A Case of Prolonged Gestation with Autopsy of the Fœtus. By M. Miñez Rossié, M.D. Havana, Cuba. (Reprinted from American Journal of Obstetrics, January, 1886) New York: Wm. Wood & Co. 1886.

Report of a Case of Pelvic Abscess with Autopsy. Remarks upon the Treatment by Henry T. Byford, M.D. Containing the Discussion of the Chicago Gynæcological Society, Dec. 18, 1885.

The Adirondacks as a Health Resort. Edited and Compiled by Joseph W. Stickler, M S., M.D. New York and London: G. P. Putnam's Sons. 1886.

Twenty-Seventh Annual Report of the Inspector of Milk and Vinegar from April 6, 1885 to Dec. 31, 1885. Boston, 1886.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M.D., LL D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. Assisted by Louis Starr, M.D. Volume IV. Diseases of the Genito-Urinary and Cutaneous Systems, Medical Opthalmology, and Otology. Philadelphia: Lea Brothers & Co. 1886.

On the Suprapubic Operation of Opening the Bladder for the Stone and for Tumors. By Sir Henry Thompson, F.R.C.S., etc. London: J. & A. Churchill. 1886.

The Temperance Teachings of Science. Adapted to the Use of Teachers and Pupils in the Public Schools. By A. B. Palmer, M.D., LL.D., etc. With an introduction by Mary A. Livermore. Boston: D. C. Heath & Co. 1886.

Special Report of an Investigation of the Management of the Cook County Hospital for the Insane. By the State Commissioner of Public Charities. Presented to the Governor, Jan. 28, 1886.

Original Articles.

THE ÆTIOLOGY OF LATERAL CURVATURE.[1]

BY E. H. BRADFORD, M.D.
Visiting Surgeon, Boston City Hospital.

The theories advanced to explain the phenomena of lateral curvature are the following:—

1. That the distortion is due to unequal muscular action as is true in torticollis. 2. That the cause is to be found in an inequality of growth of different portions of the vertebræ as if the affections were to be classed as a localized unilateral hypertrophy. 3. That the distortion is the result of superincumbent weight acting upon a faulty condition of the spinal column.

Of the two first it may be said that they do not explain satisfactorily the conditions presented by many cases where no evidence of muscular contraction can be found, or any other reason to justify a belief in the existence of a freak of growth. Furthermore, if a series of cases be collected and arranged according to their severity, it will be found that in the lighter cases (differing apparently but in degree from the severer ones), no abnormity of growth in the spinal column is present.

To demonstrate, if possible, the truth of the third of these theories the following series of observations were made, for which I am indebted to the assistance of Professor Dwight and Drs. Mixter, Conant, Newell, and Burrell. Observation I. The spinal column of a full term infant was removed, leaving the skin, superimposed muscles and ligaments intact, but removing the ribs. It was found that although the column was more flexible than in children, adolescents, or adults, rotation was not readily brought about by simply pressing the two ends toward each other, holding each end in the hand; the amount of lateral deviation, that is, curving sideways, without rotation of the bodies, was not great, though much greater than in well-grown spinal columns. The most noticeable effect of pressing the upper part downwards was to cause a bending with the concavity forwards; bending with the concavity backwards was possible only to a comparatively slight degree. Rotation was easily produced by twisting the spine.

Observation II. The body of a young female adult was hung by the head with the head fixed and the body free from the floor, the skin of the back having been dissected off; long pins were driven in the occiput and in the spinous processes of the different vertebræ; a thread with a weight was hung from the pin in the occiput, long enough to touch the floor, and a second thread with a piece of chalk attached was hung successively from the pins inserted in the different spines and from the sacrum. The pelvis was then twisted forcibly and the arc marked off on the floor by the piece of chalk, as suspended from the different pins, was measured from that point in the circle indicated by the plumb line, hung from the pin inserted in the immovable head.

The figures are as follows, measured from the line from the occiput.

Arc described by a line from	sacrum	150°
" " " "	axis	60°
" " " "	first dorsal	83°
" " " "	third dorsal	100°
" " " "	sixth dorsal	118°
" " " "	twelfth dorsal	130°
" " " "	third lumbar	136°

While these figures are only approximative, as the amount of force used in the successive twistings was not measured and presumably not the same, yet they indicate that the amount of rotation possible is greatest in the dorsal region, leaving out of count the twisting possible in the atlanto-axoid articulation. The three or four upper dorsal moved together; the greatest rotation appeared to be in the third lower dorsal; lateral deviation (that is, without rotation) was possible only in the lower dorsal vertebræ. Pressure made on the floating ribs appeared to have little effect in twisting the vertebræ, but pressure on the thoracic ribs appeared in a measure to affect the line of the spinal column. Some play in the costo-vertebral articulation existed, but beyond that point pressure exerted on the ribs was transmitted to the column.

Volkmann[2] found that in life the greatest possible twist of the whole body, including that occurring in the hip joints, was 144°, so that the figures here given are overstatements of the possible physiological limits of rotation. This is also somewhat greater than that indicated by the facets of the disarticulated vertebræ, which would show that if the joints were firm there would be absolutely no rotation in the lumbar region, little in the cervical, except in the atlanto-axoid articulation, and not much in the dorsal region. A certain amount of laxity in the articulation allows more play than would be supposed by the structure of the bones. This was evident on forcibly twisting the cadaver.

The amount of forward and backward motion possible in an adult is much less than would be supposed. This is apparent on inspection, and has been accurately measured by Meyer.[3]

Observation III. The whole spinal column of an adult male, a dissecting-room subject, was taken, including a portion of the pelvis, and the base of the cranium. The larger muscles were removed, but the ligaments and smaller muscles were kept. The pelvic sacrum was firmly held in a vice and a box was secured on the cranium by passing a rod, firmly secured to the box down into the medullary canal of the cervical vertebræ; the box was then secured so that it would move up and down, but not laterally; weights were placed in the box.

It was found that the spinal column could bear a considerable weight without yielding to any noticeable extent. As the amount was increased a curvature with concavity forward was seen, which increased as the weight was increased up to eighty-four pounds. No rotation of the vertebræ was observed as long as the weight bore down directly, but rotation on the lower dorsal and lumbar region was seen when any lateral deviation was made in the cervical region; the amount of rotation or deviation was, however, very small as compared with that possible in children.

None of these experiments approximately reproduced the conditions to be found in life, as the attachments of the ribs had been severed and the viscera removed. Furthermore, the spinal column in the adult is much less flexible than that of a child or adolescent, when lateral curvature is usually observed.

Observation IV. The body of an infant of a year was prepared in the following way. The thighs were amputated near the hip joints and the pelvis fixed upon the remaining stumps and secured by means of nails on a board, long pins were passed laterally through the pelvis and secured to the board by means of hooks, and the whole pelvis then imbedded in plaster-of-Paris.

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[1] Read before the Boston Society for Medical Improvement, March 8th, 1886.

[2] Virchow's Archiv. 1872.

[3] Die Statik and Mechanik des Menschlichen Knochengerüctes, page 210. Virchow's Archiv. Bd. xxxv, page 225. Ibid. Bd. xxxvi, 1866, page 144. Ibid. xxxviii, page 15.

The board to which the body was secured was then placed on a stand with four upright rods attached at the four corners, to which rods a flat board was attached so that it would slide smoothly up and down. The child's trunk therefore was placed between two boards, one being fixed and the other pressing down upon the child's head. To keep the head in place it was inserted in a tightly-fitting tin cylinder which was fastened to the under surface of the board. Weight placed upon the upper board, (sliding as it did freely upon the uprights) brought a downward pressure upon the child's head and shoulders. To make the latter more even a wooden collar was placed around the neck resting on the shoulders. Long pins were then inserted in the spinous processes of the vertebræ so that rotation could be more readily noticed. To check the falling forward of the neck a cord was placed around the neck and fastened at the side to the uprights, acting as a check, just as in life the longer muscles of the back would act in keeping the body erect.

Downward pressure upon the upper board caused the child's back to bend backward (convexity backward). When carried beyond a certain point the column would bend sideways with marked rotation, with the changes usually noticed in the ribs, flattening on the side of the concavity and projection on the side of the convexity. This projection was most marked in the middle and upper dorsal region, but the amount of greatest rotation appeared to be in the lower dorsal region. If the angle of downward pressure was changed, or if the pelvis was tipped so as to cause a curve in the spinal column the effect of downward pressure was more marked.

Rotation of the vertebræ was, of course, readily produced by lateral pressure twisting the spine; and on removing all downward pressure, by placing the cadaver in a horizontal position rotation and curvature in the dorsal region was easily made by twisting the pelvis and holding the head fixed, or *vice versâ*, the axis of the head and pelvis being kept the same.

Although a well marked scoliosis was thus artificially produced, attended by the characteristic flattening of the ribs on the side of the concavity and projection on that of the convexity, yet a more careful examination appeared to show that although this was the result of downward pressure, it was downward pressure not exerted in a perfectly vertical direction; for although the force was applied properly, yet it was not possible to prevent some play in the cervical region, from which it resulted that the force fell obliquely upon the under portion of the spinal column, causing curvature and necessarily rotation.

If it were practicable to apply a force directly downward and transmit it through the cervical and upper dorsal region without deviation, the effect upon the lower dorsal region would be to cause an antero-posterior curvature.

The lateral curvature therefore results from downward pressure, but downward pressure applied obliquely upon some portion of the spinal column. Rotation follows from the anatomical structure of the interlocked vertebræ, it being possible for them to rotate slightly, while the amount of tipping sideways (without twisting) which the articular facets permit is much less.

Rotation takes place with the vertebral bodies directed toward the convexity and the spine to the concavity for the reason that the former being larger, are unable to be crowded into the smaller space of the concavity, and are pushed in the direction where there is more space. Perhaps also, as has been pointed out by Judson, the fact that the bodies are free while the spines are held by muscles may give the former more freedom in movement.

From the above facts the following generalizations may be made:—

The effect of the weight of the thorax on head and shoulders would be, if applied in a vertical direction, to bend the spinal column forward and backwards, but in flexible spines the superincumbent weight rarely falls directly, and curvature follows. This is at first a physiological process, but it subsequently becomes, by the alteration in the shapes of the bones under altered pressure, a pathological change.

The extent of the curve, and the situation of the curve will be determined by the attitude habitually taken by the individual, and perhaps also by a difference in the resisting power in different parts of the column.

The injurious effect of superincumbent weight in curving the spine, is increased by the obliquity of the pelvis, or the inclination of the shoulders so frequently taken by persons of weak muscular systems in sitting sideways and leaning. The curve is usually in the dorsal region, with the right shoulder raised, as the majority of people are right-handed.

The distortion is one of growing years, and is more common to girls than boys, for two reasons, namely, that at the age when lateral curvature is usually seen first, girls grow more rapidly than boys, and their muscular system is less well developed, from the customary of life habits of girls in society. The effect of superincumbent weight upon a yielding spine in adult life, after the vertebræ have ceased to grow, is to cause an increase in the antero-posterior curve of the back.

The matter may be summed as follows:

The deformity known as lateral curvature is the result of several factors, the chief being,

1. Superincumbent weight.
2. Faulty attitudes due usually to muscular weakness.
3. A condition of the bone structure of the spine incapable of resisting the effect of weight, analogous to that known as rickets of adolescence.

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SIX CASES OCCURRING IN PRACTICE.

I. SPASMODIC ABDOMINAL CONTRACTIONS. II. PARALYSIS OF ARMS IN CONGENITAL SYPHILIS. III. TWO CASES OF EMPYEMA, (1) AT EIGHTEEN MONTHS, (2) AT FOUR YEARS. IV. DOUBLE PLEURITIC EFFUSION AT THIRTEEN YEARS. V. SIMULATED VESICAL AND RENAL CALCULUS AT TEN YEARS.[1]

BY T. M. ROTCH, M.D.

SPASMODIC CONTRACTION OF ABDOMINAL MUSCLES.

J. M., a man twenty-eight years of age, presented himself for treatment at the City Hospital, January 12th, 1886. He has always been strong and well, but since beginning to work as a barber last spring, has been very nervous. In April, 1885, he began to have attacks of spasm of the abdominal muscles. The contractions are irregular in force and interval of rest, but have been continuous and have incapacitated him from work; at first he had some control over the attacks, now he has none. The spasms occur nearly every day, and he feels that they are coming on a short time before they begin. The intervals are usually about half a minute. When he has succeeded in controlling one or two spasms the next one is increased greatly in severity.

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[1] Read before the Boston Society for Medical Observation, February 1, 1886.

He is slightly constipated, and since the attacks began has lost in strength somewhat and had a poor appetite. On physical examination nothing abnormal was discovered. He behaves, when observed during an attack, as though some one had struck him in the epigastrium.

He was treated with Fowler's solution, and on January 21st, reported himself as improving.

APPARENT PARALYSIS OF BOTH ARMS IN A BABY WITH CONGENITAL SYPHILIS.

C. S., a boy six weeks old, was brought to the Children's Hospital, April 7th, 1885, by his mother, a Swede. The mother has always been well and strong, according to her own account, and has never had any miscarriages, efflorescence on skin, sore throat or anything which would point towards her having been infected by syphilis, and, on examining her, nothing abnormal could be found: she is strong and healthy-looking and manifests a desire, for the sake of her baby, to answer all questions freely. She has had no other children, and states that the father of the child had a sore in April, 1884. The child is breast fed and was healthy at birth. When one week old the mother says that the child had a bulbous eruption coming out on the soles of the feet, legs, palms of hands, arms, body and face, and began to have snuffles. April 4th, the left arm was noticed to be paralyzed. On examination the face was found to be covered with reddened patches, ulcerations and crusts. The arm hung helpless by the side, and the child seemed to be sensitive to the touch and to have pain.

The oleate of mercury 20 per cent. was ordered spread on a flannel abdominal band. When seen on the 14th, the right arm was also helpless, and the mother stated that the inunction had not been used much, as it caused excoriation. The ointment was then reduced in strength one half and hydrargyrum cum creta, one grain, given three times daily. In three days the paralysis of the arms disappeared, though the other symptoms continued. April 21st, the eruption had disappeared almost entirely from the face, but as the snuffles continued the mercury was increased to four grains daily; this had to be reduced to three grains later as it caused a slight diarrhœa. May 12th, the snuffles disappeared; the child was then not seen again until November 15th, when it presented gummata of the anus, a few papules on the body and a slight squamous efflorescence on the soles and palms.

The previously mentioned mercurial treatment was then renewed, and by December 10th, all the lesions had disappeared excepting the squamous eruption on the hands and feet. The child at present looks well and strong, and is cutting its incisor teeth.

This case is of interest, first on account of the apparent freedom of the mother from syphilis, while the child was undoubtedly syphilitic: second, as showing that hereditary syphilis in not necessarily an atrophic disease, where the child can have good breast milk; (this child always looked particularly well nourished:) and finally the apparent cause of the paralysis. The possibility of the paralysis being poliomyelitis anterior acuta was considered but hardly seemed to cover the case, both arms being affected and entire relief taking place in three days after the use of mercury was properly carried out (of course it might have been essential paralysis but it is not probable.) A central syphilitic lesion was then thought of, but the rapid recovery of the paralysis before the efflorescence, or snuffles had begun to be affected seemed to show that a central lesion did not exist: the evident pain manifested by the child when the arms were touched and the speedy disappearance of this sensitiveness together with the paralysis under mercurial treatment, pointed towards a local trouble in the arms themselves, which causing pain on motion, the child did not choose to lift or use its arms. No traumatic history could be obtained; rheumatism occurring at six weeks of age and affecting the child in this peculiar way would be very unlikely, and I therefore supposed the case to be local inertia of the arms, from pain in the bones, resulting from that disease of the bones which occurs in hereditary syphilis and described by Wegner in Virchow's Archives, 1870, vol. 50. This disease was formerly called Parrot's disease, and supposed to be incurable until it was discovered to be one of the manifestions of syphilis. Roques describes a similar case, where the mother was apparently healthy but the child at birth had a pemphigoid eruption which disappeared under antisyphilitic treatment in a few weeks. At two months however paralysis of the arms occurred with pain and crepitation at the upper end of the humerus; antisyphilitic treatment was renewed and the symptoms passed off. Millard also reports a case where one arm was affected.

I thought that it might be of interest to the society to compare these plates showing the disturbance in the bones in Hereditary Syphilis, in Hereditary Cretinism, and in Rachitis.

In the fœtal skeleton the long bones are cartilaginous and the process of ossification is intracartilaginous. As the cartilage changes to bone the cartilage cells increase in number and are closely packed together: then comes the area of osteoblasts, then the calcareous matter, and deeper down in the ossified portion are the blood-vessels running in from the periosteum.

The epiphysis of the bones of the arm are still cartilaginous at birth and they remain separated from the bone shaft for some time by a narrow cartilaginous layer. It is in this cartilaginous separating layer that certain changes are seen in congenital hereditary syphilis, as will presently be shown in the wood-cut, and Wegner's colored plates of fresh specimens show also the characteristic change of appearance of this layer from its normal color to a yellowish-white: the pain and sensitiveness in these cases of local syphilitic paralysis are probably caused by a consecutive low grade of periostitis; this same cartilaginous layer is also a marked feature in the changes which take place in the bones of congenital cretins and in rachitis. I will also call the attention of the society to these preparations of sections of bones, made by Dr. Wm. F. Whitney, which beautifully illustrate the difference of proportion between the cartilage and bone in the normal child at birth and the cretin, the cretin bone being shorter and the cartilaginous epiphysis greatly out of proportion to the shaft; the cretin bone also showing the above spoken of cartilaginous layer or zone very narrow in comparison with the same layer in the rachitic bone.

Dr. Ernest Zeigler in his Lehrbuch der Allgemeiner und Specieller Pathologische Anatomie und Pathogenese: II. Theil. 2 Hälfte. represents these different conditions of the bones in four wood-cuts. No. I, illustrates diagrammatically the normal endochondrial ossification. No. II, the endochondrial ossification in a new born cretin. No. III, the endochondrial ossification in hereditary syphilis of the new born, with its misplaced foci of calcification, misplaced medullary spaces and islands of calcification. No. IV, the rachitic endochondrial bone formation. The literature of this osteochondritis syphilitica is: Wegner, Virch. Arch. 50. Bd. Waldeyer u. Köbner, ib. 55. Bd. Hoab, ib. 65. Bd. Veraguth, ib. 84. Bd. Stilling, ib. 88. Bd. Parrot. Archiv. de phys. IV. 1872; Cornil et Ranvier Man. d'histol. pathol. II. 1881. Kassowitz, Die Normale Ossificat. u. s. w. Wien 1881. Müller, Virch. Archiv. 92. Bd.

(Dr. Rotch then showed in addition to the colored plates of Wegner and the wood-cuts of Zeigler, colored plates of normal and rachitic bones by Kassowitz, and a photograph of the new born cretin from which Dr. Whitney had prepared the section of bone.)

III. EMPYEMA.

In reporting these cases of empyema, my idea is not to draw any especial conclusions from them or to give the records in detail, but to pick out some of the points which may be of use to others in the daily treatment of this class of cases, where the sudden changes from comparative quiescence of symptoms, with almost normal temperature, to heightened temperature and a serious aspect of affairs, is not of uncommon occurrence.

I have personally had only eight operative cases of empyema under my care, and with the exception of the two cases which I am about to report, and one other, simple incision, drainage and daily washing out with carbolic acid and water were employed, and where no complicating disease existed, they did well and ultimately recovered; but I should say that the course of the disease was decidedly prolonged in comparison with the time taken when antiseptic methods were employed. Various tubes and appliances for securing the tubes were tried from time to time, resulting in finding that a safety-pin passed through a rubber tube, the easiest to manage, and the most simple. I also found that two tubes were preferable to, and more likely to work well than one, and that the size of the tube was determined by the individual width of the intercostal space, the largest which could be introduced into the cavity without being pinched by the ribs, and thus interfering with the flow of pus, being the best. The cases now under consideration were treated in exactly the same manner, and, it is believed, with equal care as to antiseptic details, such as cleanliness, and thorough disinfection of hands, instruments, and dressings; both cases were in private families, and both were subjected to the same climatic changes in Boston during the spring of 1885; both recovered completely, without deformity, and with apparently sound lungs, so that they show how, under the same conditions, the disease can vary in its course: Case I being short, fifty days; tube in twenty-four days; Case II being long, three months; tube in sixty-seven days.

Case I. A boy, eighteen months old, well-developed; always well until April 26th, 1885, when he was suddenly attacked with fever, pain, and restlessness. Temperature 102°, pulse 160, respiration 60; no vomiting or nervous symptoms. April 27th, temperature 103°, respiration 80; grunting in character; decubitus right side, child screaming with pain when turned on left side; slight cough; auscultation and percussion of heart and front of chest normal; resonance slightly diminished in right back; no râles or bronchial respiration; left back normal.

During the next few days, numerous fine, moist râles were heard over the right back, and dulness gradually developed over the back, the axillary region, and apex in front.

May 8th. The dulness changed to flatness; the râles disappeared, and the respiration was scarcely perceptible in the area of flatness behind. Aspiration was performed in the seventh interspace, at the angle of the scapula, and three ounces of clear, inodorous pus removed, when the resonance became fair in lower back, with tubular breathing and a few fine râles; the temperature then went down from 101 to 99.5°, the respiration from 80 to 60, and the child was much brighter.

May 11th. The flatness returned, and four ounces of rather thicker pus was removed with the aspirator, and one ounce on the 14th.

May 18th. The temperature was 102.4°, and as the fluid continued to return, ether was given, and (Dr. Ruddick and Dr. H. L. Burrell being present) an incision was made in the eighth interspace in the anterior axillary line, one and a half inches long; two or three ounces of odorless pus escaped, two tubes were introduced one inch into the chest, secured by a safety-pin, and an antiseptic dressing applied.

May 19th. Comfortable until the afternoon, when he began to be restless and to have a heightened temperature; and on the 20th, was reported to have cried all night, and was found to have a temperature of 102°. The dressing was changed, and clots of somewhat tenacious pus, about a handful, were washed out with a solution of corrosive sublimate, 1 to 10,000; a pint of the solution was used, and a block-tin sound to break up the clots; the tubes were left one-half inch in the chest. The temperature then fell to 98.5°, and the child began to gain and to have a good appetite.

On the 29th, one of the tubes was removed; the dressing was only changed when there was evidence of soakage, when it was done at once. On the 31st, as there were only a few drops of pus on the dressing, and these of rather a serous character, the remaining tube was removed, and the child walked out and rapidly regained its strength; on the 5th of June, however, the temperature went up to 102° and the tube was replaced, considerable pus flowing out. On June 11th, the tube was permanently removed, and later in the summer, the child was reported to be perfectly well, the lung apparently being normal on auscultation and percussion.

There is nothing but a normal course to record in this case, with the exception of the first forty-eight hours after the operation, when, instead of the temperature going down and the patient being comfortable, the old symptoms continued until relieved by washing out the cavity. This episode, however, is of considerable interest in respect to the treatment of the case at the time of the operation, that is, whether the cavity should be washed out at once, to ascertain whether the pus is too thick to flow through the tube, or whether we shall take our chances of this occurring, as it is the exception, rather than the rule. In my former cases, where I always washed out at the time of the operation, I obtained entire relief to the symptoms at once, so that I was at first rather inclined to irrigate with a disinfectant in the antiseptic cases before adjusting a dressing; but the experience with reference to this formation of pus-clots, which came to me in Case II, seemed to show that the clotting can take place at any time, either before or after the operation; and that, therefore, it may be wise to wait for some sign that nature needs assistance in accomplishing an uninterrupted flow through the tubes, before introducing foreign matter into the thoracic cavity. The age of this patient, eighteen months, is also a point of interest in the case.

Case II. A girl, four and a half years of age, with a history of measles two years previously, and a chronic otorrhœa following, and lasting up to the time of the present attack; otherwise strong and well until April 15th, 1885, when, in the morning she was very well, and had a normal temperature, but later in the day, began to complain of pain in the sternal region, and when seen at 2 p. m., had a temperature of 103° (axilla), respiration 60, pulse 165, and nothing abnormal found on physical examination.

7 p. m. Temperature 104°. Dr. Minot in consultation; nothing abnormal discovered.

April 16th. Temperature 104°, pulse 165, respiration 66 (grunting in character); slight dulness in right axillary region and respiration rather tubular; urine passed involuntarily; mind clear; pain on being moved, and when placed on right side, cries out continuously until turned on to back.

April 17th. Respiration 84, pulse 165 (intermittent); slight cough; coarse, sonorous râles over both fronts; a little dulness in right back; auscultation and percussion, otherwise normal, excepting slight area of dulness over upper part of sternum. The child always refers her pain to the upper part of the sternum, on the right side. On the 18th, a few râles and dulness were found over the right front and sternum, and the heart's apex was a little to the left of the mammary line; also, a friction-sound was heard at the right edge of the upper part of the sternum, some dulness in the axillary line, and a few moist râles in the right back, with lessened percussion resonance, but no dulness.

By the 20th, the friction-sound had disappeared, bronchial respiration was heard at the right apex, in front and behind, and the dulness extended to the right back. Temperature 100 1-5°, respiration 84, pulse 165, regular.

Up to the 23d, the dulness was decidedly most marked in front, but by the 27th, there was flatness over the whole of the right lung, front and back, with bronchial respiration. Temperature 100°; no cough. On the 30th, aspiration was performed in the seventh interspace, just outside of the angle of the scapula, and one ounce of thick pus withdrawn.

May 2d. Pulse 165, respiration 60, temperature 101°. Ether was given (Dr. Minot and Mr. J. Perkins, interne at the Children's Hospital, being present), and with carbolic acid spray, and the antiseptic precautions employed in Case I, an incision was made in the eighth interspace, in the posterior axillary line; one pint of inodorless pus escaped, two tubes were introduced, and the antiseptic dressing applied. 6 p. m., temperature 98.5°.

May 3d. Reported to have had a restless night. 8 a. m., temperature 101°, pulse 165, respiration 60; tube found to be pressed upon by the dressing; heart's apex in position; gurgling râles and cavernous respiration all over right lung, and in an hour or two, temperature 98 4-5°, pulse 135, respiration 45. The temperature then remained normal, and the patient steadily improved until the 12th, when she began to have an evening temperature of 102°, and respirations of 60; and as this continued for several days, the dressing was removed on the 15th.

Very little discharge was found on the dressing and no odor; a probe passed through the tubes entered the pleural cavity freely; Labarraque's solution 1-16 of water was then injected and ran in and out freely, very little pus coming out with a small amount of coagulated fibrin, and a few little blood clots; the dressing was then re-applied and the temperature found to be 99°; six hours later it went up to 103°; the dressing was then again removed, the tubes taken out and a block-tin sound introduced and gently moved about in the cavity; the Labarraque's solution was then again injected and some thick clotted pus came away; new tubes were introduced. May 16th, the child was screaming with pain and was reported to have had an almost sleepless night. Temperature 101°. Pulse 150. Respiration 50; the dressings and tubes were again removed and a female catheter attached to a fountain syringe was introduced between the ribs and Labarraque's solution injected; large dense tenacious clots (a basin full) then with great difficulty came through the wound; the clots did not merely look like those described in Case I, but it seemed as if some chemical reaction had taken place between the Labarraque's solution and the pus, rendering it a dense mass, which by no possibility could flow through a tube; the dressing was then re-applied, but although the temperature went down the child was restless and looked very badly, so that on the next day it was deemed best to remove the dressing and I then thoroughly washed out the pleural cavity with a solution of corrosive sublimate 1 part to 10,000 of water; a few more of the tenacious clots came away, the tubes were shortened one-half inch, and the child had the first good night which it had had for some time; the sternal pain disappeared; the temperature became normal and the child rapidly gained, there being occasional complaints of sternal pain and slight rises of temperature, easily controlled by changing the dressing and injecting the corrosive sublimate. May 27th, one tube was permanently removed, and the child walked for the first time. At times the tube had to be introduced further and again shortened. June 2d as there was only a little serous discharge and the child was doing well the remaining tube was removed, and two days later the auscultation and percussion was almost normal, excepting that the respiration was rather harsh at the base behind, and that there was a small area of dulness in the axillary line around the wound; three days later, June 7th, the child was looking badly and had a temperature of 103°, quick shallow respiration and pulse 160. Ether was given and the tube introduced, when two or three ounces of clear inodorless pus came away; the child then began to improve and to have a normal temperature, and was taken to Beverly on the 10th;

from this time, with an occasional bad day from the tube getting clogged, she grew stronger and played out of doors with, however, decided left lateral curvature and raising of the left shoulder. The tube was not removed but gradually shortened by altering the position of the safety pin, and on July 8th the tube was permanently removed by simply letting the wound close up around its pleural end and gradually push it out. The auscultation and percussion of the lung soon became normal excepting a slightly dull area around the wound; the lateral curvature soon passed off, having existed for two months. In December the child, who is passing the winter at the Lake of Geneva, was reported to be perfectly well, excepting that the chronic otorrhœa returns from time to time.

The points of especial interest in this case were the obstinate and unaltered dorsal decubitus lasting for weeks, the sternal pain and the unusual behavior of the pus when Labarraque's solution was used. It is also to be noted in this case that instead of being able to withdraw the tube at once when the discharge became serous, as is usually a safe procedure, I had to gradually shorten the tube from the outside allowing the cavity to close around it and finally push it out, for complete withdrawal of the tube always made the temperature go up. As to the fluid used in washing out the pleural cavity, corrosive sublimate is disinfectant at 1 to 10,000, is without odor, and so far as I know has not caused any symptom of poisoning when diluted to this extent; it was freely used in both cases.

IV. TWO ATTACKS OF PLEURITIC EFFUSION, CLOSELY FOLLOWING EACH OTHER, ON OPPOSITE SIDES OF THE CHEST.

Case IV. A boy, thirteen years old, always well and strong, came to the City Hospital for treatment November 9th, 1885. Three weeks previously he fell into some water and was soaked from head to foot: in a few days he began to have pain in his left side and to cough. On physical examination the apex of the heart was found in the line of the epigastrium and there was flatness on the left side of the chest in front and behind nearly to the apex of the lung, with diminished respiration. November 23d he was aspirated and fourteen ounces of clear yellow serum withdrawn. November 28th the apex of the heart was found to be in position; there was lessened resonance on percussion and diminished respiration, but no râles; he had gained in weight and strength, had no cough and looked and felt well. He was then discharged and was perfectly well until December 23d when, without known exposure he had a chill and began to have pain in his right side, with dyspnœa and cough. He entered the hospital again January 7th, 1886, and was found to have flatness in the right side of the chest below a line corresponding to the angle of the scapula and the mammary line, the flatness extending a little higher in the axillary line.

In the area of flatness the respiration was much diminished; the vocal resonance and fremitus were decreased; the heart's apex was displaced to the left of the mammary line two c. m. At times a few moist râles were heard in the back, but these disappeared and the fluid after increasing for a few days, diminished; the boy gained in weight and strength and on the 28th is reported was feeling perfectly well. February 1, 1886, auscultation and percussion of the left lung were about normal; the apex of the heart was in position. Percussion of right lung fairly good; no râles; respiration diminished and about the same as was found in the left lung at time of second entrance to hospital. Vocal resonance and fremitus equal on both sides.

[Dr. Rotch exhibited the patient with the line of pleuritic effusion on the left side, and the heart displaced to the right; signs of the first attack, marked in red, and the pleuritic line on the right side and the heart displaced to the left; signs of the second attack, marked in blue.]

SYMPTOMS OF RENAL AND VESICAL CALCULUS IN A BOY TEN YEARS OLD.

A boy ten years of age had been moderately strong and well for some years; he has from time to time had incontinence since he was three years old, and at one time was for a short period unable to control his fæcal discharges; he had measles in the summer of 1885, and then although he did not have any especial symptoms, looked pale, lost in weight, and got tired easily, but he went to school and no complaint was made until November 2d, 1885, when he began to pass his water frequently, the desire coming suddenly; the water passed freely but caused pain referred to the end of the penis, and there was also irritation and pain about the prepuce. (No incontinence.) The prepuce was then retracted twice daily and carefully washed, and in four days the pain had disappeared from the prepuce and penis and was referred to the lower part of the abdomen; this pain was less when he rode on horseback, but increased when he sat down quietly. On the 8th he complained of considerable pain over the pubes. Pulse 81, temperature 98°, urine, sp. gr. 1,020; reaction acid; no albumen; heavy sediment of urates; under the microscope the whole field was found to be covered with uric-acid crystals.

November 9th. The urine was examined by Dr. Hills, with the following result: Color normal; specific gravity, 1021; reaction, acid; amount of sediment, considerable; urophæn, slightly diminished; indican, normal; urea, normal; chlorides, normal; ether phosphates, normal; alkaline phosphates, normal; albumen absent; bile pigments absent. Sediment, normal amount of epithelium, some excess of mucus, an occasional crystal of oxalate of lime.

November 10th. Dr. Hills also found numerous uric-acid crystals.

December 1st. No sediment; neutral.

December 12th. Uric-acid crystals, and a few pus corpuscles; reaction, acid.

November 9th. The boy was then ordered to drink six or seven tumblers of Belmont Spring Water daily, with two or three grains of bicarbonate of soda in each tumbler, and on November 12th, he was restricted to a liquid diet. He, at times, had spasmodic pains in the bladder before and after passing his water, and attacks of vomiting and diarrhœa. The amount of the twenty-four hours' urine was about twenty ounces.

November 21st. The urine contained no uric acid, and he was without pain, still, however, passing his urine frequently. The soda was simply used to the extent of rendering the urine less acid.

December 7th. He complained of spasmodic anal pain and irritation; nothing was found on examination, and these symptoms were relieved in a few days by enemata of sweet oil.

December 9th. He was reported to have attacks of pain in the region of the bladder, so severe, that his parents said that he rolled on the floor in agony, and he was confined to the bed for several days, with pain and frequent micturition. Uric acid in urine.

December 13th. Ether was given, and he was carefully sounded by Dr. E. H. Bradford; nothing abnormal was detected, excepting a slight feeling of resistance at the neck of the bladder, and a small adhesion on one side of the prepuce, which was torn away. The boy came out of his ether well, and for the next few days, seemed better and took solid food (for about twenty-four hours after being sounded, he had great pain on passing his water). The paroxysms of pain gradually grew less, and disappeared on the 19th.

On the 24th, he went out to drive, and he seemed to be improving, although considerable pus was found in the urine, but from the time of the sounding, no uric acid was found in the urine.

On the 26th, he had nausea, pain in right side of abdomen, passed his water frequently, though without much pain, was fretful, and in bed all day, and in the middle of the day, his temperature went up to 104°.

December 27th. Temperature 103.5°; too sick to get out of bed, drowsy, so weak that he can hardly stand; in the night, very restless, and passed a great deal of urine.

December 28th. Feels better, but pain and tenderness continue in right side, and there is some tenderness on pressure over the pubes.

December 29th. Dr. Hills reports as follows: Urine, color pale. Reaction, acid; urophæin diminished; indican diminished. Urea diminished; uric acid diminished; specific gravity, 1013; amount of sediment, considerable; chlorides normal; ether phosphates diminished; alkaline phosphates diminished; albumen, a trace; sugar absent; bile pigments absent. Sediment, considerable pus; an occasional blood-globule, a considerable number of small, round epithelium cells, which, so far as their size and shape afford any indication, may come from the tubules of the kidney, or from the prostatic portion of the urethra. As there are no casts, the epithelium without doubt comes from the prostatic portion of the urethra, and localizes the inflammation at this point. There is no excess of large bladder epithelium, so that the fundus of the bladder is apparently not involved. There are, however, a few cells resembling those found about the neck of the bladder, so that there may be a slight catarrh of the mucous membrane of this region. There is no evidence of any trouble in the kidney, or pelvis of the kidney, and no evidence of stone. The trouble is probably catarrh of the prostatic portion of the urethra, extending possibly into the neck of the bladder.

December 30th. Temperature 104° in the afternoon, and some pain in the back of the head, as well as the abdominal pain.

December 31st. Temperature 98°; feels better; appetite has returned: no pain on passing water. Two loose operations from bowels without pain. Pulse 75, regular. Less tenderness of abdomen. Passes a great deal of urine, but much less irritation about bladder. He then began to steadily gain in weight, strength, and color; the pain disappeared from the side, and the tenderness over the pubes grew less. He was up and about the house, but too much exercise or excitement at times caused a return of the pain.

January 19th. Dr. Hills reports as follows: Urine, color pale; specific gravity, 1012; amount of sediment, slight; albumen, slight trace. Chlorides normal; urophæin, indican, urea, uric acid, ether phosphates, and alkaloid phosphates diminished; sugar and bile pigments absent. Sediment, rather more small pus cells than normal; hardly more bladder epithelium than normal. Amount of twenty-four hours' urine says from three to four pints, but he is drinking about that amount of water daily.

January 31st. Has been steadily improving; slight tenderness over pubes, but no pain elsewhere, or in passing water. Urine normal. The boy is apparently well; the treatment has been, mainly, giving him large quantities of pure water to drink, on the ground that the great excess of uric acid in the urine might be causing, or rather exaggerating, his various nervous symptoms, and diluting the urine, apparently giving relief to this condition.

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RECENT PROGRESS IN PUBLIC HYGIENE.

BY SAMUEL W. ABBOTT, M.D.

SPREAD OF SMALL-POX BY HOSPITALS.

Further important observations in addition to those already noted, are published in a recent report by Dr. Murphy, late medical officer of health on the sanitary condition of Highgate and Hampstead as affected by the small-pox hospitals located therein. The conclusions arrived at are that in the four years, in which the Hampstead Hospital was closed, the houses immediately surrounding the hospital were attacked less than others in the parish. In 1884, when it was reopened these houses suffered three times as much as the rest of the parish. The same was also true of Highgate Hospital. While confessing that the distribution of the disease did not warrant him in expressing any definite opinion on the question whether the disease was spread through personal communication, or was aërially diffused, he considered that the evidence afforded, tended to show that their small-pox hospitals as at present constructed and managed were a means of disease to the neighborhood in which they were placed.

Hence the propriety of selecting sparsely settled districts, remote from habitations for the site of such hospitals.[1]

REGISTRATION OF NEW CASES OF SMALL-POX.[2]

Dr. S. Wolffberg suggests the following points of information as desirable to be ascertained in each new case of small-pox.

(1) Age; gender. (2) Date; Course and result of disease. (3) Has patient had small-pox before? When? Was it confirmed by a physician? (4) Was patient vaccinated? When? With what success? That is, how many scars to be seen at time of occurrence of small-pox? With what kind of lymph? (5) Was patient revaccinated? When? With what success? Are these traces of revaccination at time of occurrence of small-pox? With what kind of lymph was revaccination performed?

VACCINISATION.

Dr. Titeca[3] concludes that the principle of vaccination should be raised to the state or condition of an axiom; in other words, that it may be made perfectly protective. Dr. Warlomont has expressed a similar belief in his recent work.[4] They have crystallized this belief under the name of the school of vaccinisation (ecole vaccinisatrice), wherein they are in accord with the views of many others both in America and in Europe.

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[1] Local Government Chronicle, February 6, 1886, page 112.

[2] Centralblatt für Allgemeine Gesundheitspflege. Erstes heft, 1886, page 24.

[3] Etude sur la pratique de la Vaccine, ce qu'elle est; ce qu'elle devrait être, par le docteur Titeca. Bulletin de l'acad. r. de méd. de Belgique. 3 ser. t. xix. No. 6. 1885.

Dr. Titeca details at length the views of the vaccinists, and also of the anti-vaccinists. It is largely to the short-comings of the former, that the latter school owes its existence.

The following graphic picture of the defects of the vaccine employed, as well as of the operation itself, presents some of the most common reasons for failure.

"It often happens, especially in the country, that the agent intended for affording protection against variola, has nothing more of vaccine than the mere name. Whether sent out by the vaccinal institute, or by a committee of vaccination, or collected by the vaccinator himself, preserved in the shape of pulp, or upon points, plates, or in tubes, its efficiency is gradually weakened or lost in the desk or medicine-chest of the physician, who takes no care to renew his stock at the proper time.

"The operation is quite simple, three insertions on each arm, often one only, and that is all. Usually the child escapes further notice. The parents, or even the neighbors, take upon themselves the duty of informing the physician when occasion presents itself, that the vaccination has proved successful.

"More rarely . . . the child is brought, at a longer or shorter time after the operation, the visit resulting in the delivery of a certificate of vaccination, in the event of any vesicles or vaccinal scars, without regard to their number or appearance. In case of absolute failure the operation is delayed to a more favorable time.

"In point of fact this delay is often indefinite, the child being, in the opinion of its parents, *vaccinated*, as soon as it has received the required punctures. The case is still worse when it is left to the care of midwives or nurses."

The author therefore concludes that vaccination is in many cases *nothing but a deceptive operation performed with a hypothetic virus.*

The following questions are also discussed:

1. *No vesicle follows a given vaccination.* We are not therefore to infer that the subject is wholly insusceptible and abandon the attempt to secure a successful result. The quality of the vaccine employed, the method of operation and the possibility of a temporary insusceptibility of the subject are to be borne in mind. Of vaccinations made in 1882 at Utrecht and Groningen on subjects upon whom a primary vaccination eight days before had failed, there were respectively ninety-two and one hundred per cent. of successful results.

2. *One or more vesicles are developed.* Ought the subject therefore, *ipso facto,* to be regarded as having acquired immunity from small-pox? No. In discussing the question of multiple insertions, the author affirms the impossibility of determining beforehand the required number to protect a given subject. An old regulation of the German army required twenty insertions, ten in each arm.

In Holland, a modified vaccinisation has been practiced for a long time, ten insertions being made upon each subject, and the results classified in accordance with the number of good resulting vesicles, certificates being given to such as have more than five good vesicles. All others are submitted to a supplementary, or an auto-vaccination.

The following table gives the results of some supplementary vaccinations.

		Number of Supplementary Vaccinations.	Number Successful.	Average No. of Supplementary Vesicles.	Per cent. of Successful Results.
La Haye, 1881,	Subjects having 4 vesicles,	81	50	1-6	62
	" " 3 "	137	100	1-8	73
	" " 2 "	111	91	1-8*	82
	" " 1 "	76	72	1-8*	94
La Haye, 1882,	Subjects having 4 vesicles,	96	60	3	62
	" " 3 "	101	75	4	74
	" " 2 "	78	72	5	92
	" " 1 "	44	40	5	91
Utrecht, 1882,	Subjects having 4 vesicles,	45	28	1-4	62
	" " 3 "	53	34	1-8	64
	" " 2 "	90	60	1-9	67
	" " 1 "	52	34	1-9	65
Groningen, 1882,	Subjects having 4 vesicles,	4	2	1	50
	" " 3 "	20	13	1-5	65
	" " 2 "	43	34	1-8	79
	" " 1 "	44	37	1-9	84

* Or more.

Dr. Titeca criticizes this table, and reasonably asks if the subjects bearing four vesicles were submitted to revaccination, and gave fifty and sixty-two per cent. of success, would not those having five vesicles have nearly as successful results. In addition, Dr. Titeca gives the results of twenty-three primary vaccinations of children of various ages from three months to five years: twelve boys and eleven girls.

A second vaccination of these twenty-three children gave the following results:

7 successful, equal to 30.4 per cent.
6 partially, equal to 26 per cent.
10 unsuccessful, equal to 43.4 per cent.

Fifteen of these were vaccinated on the 6th or 7th day after the first insertion, with virus taken from the same subject (auto-inoculation).

In these the results were

6 successful, equal to 40 per cent.
3 partially, equal to 20 per cent.
6 unsuccessful, equal to 40 per cent.

In four cases vaccination was followed by a supplementary vaccination in from one to four months. None were successful; one partially, three unsuccessful.

In four others it was practiced at an interval of two, four, five and six years, something as follows; none successful, two partially, two unsuccessful.

A third vaccination was made upon four subjects, six to seven days after the second vaccination. Result: none successful, two partially, two unsuccessful.

The author regrets that for various reasons three cases which were wholly successful on the second trial could not have been submitted to the third vaccination. He also discusses the value of one or many cicatrices, and also the revaccination of persons who have had variola, citing the well-known figures of Marson, and the conclusive experience of the Prussian army.

With reference to the revaccination of persons who have had variola he states that 851 soldiers who had suffered from variola, were vaccinated at Antwerp in 1881, '82, '83, and '84, with almost 30 per cent. of success. (24.41 per cent in 1883; 33.5 per cent. in 1881).

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[4] Traité de la Vaccine. Paris, 1883, page 283.

From a general review of the subject the author concludes that vaccination, to be perfectly protective, should be practised under the following conditions:

1. The employment of a vaccine virus which has lost none of its vitality.
2. The number of inoculations should be in accordance with the individual vaccinal receptivity, even to the extent of the exhaustion of that condition.

The first of these conditions is fulfilled by the use of living (*vivant*) vaccine, collected at the time of the operation; the second by the operation to which Dr. Warlomont gives the name of vaccinisation.

Every vaccination made in default of these conditions is deceptive, and to such faulty methods the anti-vaccination school owes its existence. Its faults and grievances will cease when the school of vaccination is recognized.

The author recommends the following practice:

1. Vaccinisation of infants within six months of birth.
2. Revaccinisation every ten years, when no epidemic is prevailing, and general revaccinisation in time of epidemic.

CREMATION.

The following figures show the extent to which this method of disposal of the dead has increased in eight cities of Italy since its introduction at Milan in 1876.

Years.	1876	1877	1878	1879	1880	1881	1882	1883	1884
No. burned.	2	15	16	27	45	75	69	82	113

Making a total of 444, of which number 332 were cremated in the two crematories at Milan, one built upon the plan of Gorini, and the other upon that of Venini.[5]

The new regulations in force since 1884 in the province of Milan with reference to cremation, provide for the prevention of the concealment of crime, very much in the same manner with the law enacted in Massachusetts in the following year requiring the addition of the signature of the medical examiner of the district where the death occurred, to that of the attending physician. The law in force in Milan requires an autopsy in case of the death of a person whose body is offered for cremation, provided the cause of death was uncertain, suspicious, sudden or violent.

No body can be cremated till twenty-four hours have elapsed from the time of death.[6]

THE VENTILATION, CLEANSING, AND DISINFECTION OF SEWERS.

In 1849, the Metropolitan Commission of Sewers, of London, following a series of experiments conducted by Sir Joseph Bazalgette, adopted a system of ventilating sewers by means of road-shafts with surface gratings. Latterly, complaints were made of noxious gases arising from these openings, which, it was claimed, were a nuisance, and injurious to health. In 1877, a Commission was appointed to consider the question of sewer ventilation in the metropolis. The results of their investigation have recently been published.

The origin of "sewer-gas" is accounted for by the decomposition of substances passing through, or deposited in the sewers. this gas being at a minimum at low temperature, and also when considerable quantities of water were passing through. The discharge of specially offensive trade refuse into them gives rise to additional objection, and the formation of more offensive gases. The difficulty of detecting such discharge in sewers is very great. Provision for frequent flushing in dry weather is suggested as a remedy of prime importance. With such a measure, special ventilation is imperative, otherwise running house-traps would be forced, and the health of inmates imperilled.

Large, heated chimney-shafts have also been suggested, and employed to a limited extent as a further remedy; also smaller shafts attached to houses, and extending to a considerable distance above the roof. Permanganic acid is also suggested for the purpose of disinfecting the sewers.[7]

In the same line of work, may be also named the experiments of Health Officer Wight, of Detroit, as detailed in a recent paper read before the American Public Health Association, at Washington. Several tons of sulphate of iron were used to disinfect the sewers of that city, and large quantities of sulphur were burned in pails suspended in the man-holes of the sewers.

The chief objection offered to this method was that it must afford only a temporary disinfection. One decided advantage was claimed, that of detecting imperfect traps and house-connections.

TRICHINOSIS.

Dr. Eulenberg reports the entire number of inspections of pork (Prussian) for the year 1884 as 4,611-689, of which number 2,624 were found trichinous, distributed in 904 districts. 250 sides of American bacon, and other preparations of American pork, were also found trichinous. The number of official inspectors was 19,521.

Inspection has been quite generally practised, with the exception of a few districts. There have been occasional requests for its abolition by some districts, in consequence of the tax imposed, and also an alleged unfairness in the treatment of city and country.[8]

Notwithstanding the vigorous inspection of pork, requiring an army of officials for its execution, outbreaks of trichinosis occasionally occur, like that of Emersleben, owing to the habit of eating raw meat. Dr. Rupprecht, therefore, proposes a law of still greater severity, which shall require the examination of thirty specimens from each animal by two inspectors acting independently of each other, with loss of position for carelessness in observation. Certificates of freedom from trichinosis to be exhibited with every sale of pork. In support of the necessity of more vigorous legislation, he cites certain localities where the hogs are constantly found to be trichinous.[9]

PUERPERAL FEVER AS A PREVENTABLE DISEASE: AMENABLE TO PUBLIC SANITATION.

Extracts from government decrees relating to physicians and midwives:

Minden, January 23, 1885.

Physicians and midwives are required to report every case and every suspicion of child-bed fever in their practice within twenty-four hours after knowledge of the same, to the police office, verbally, or in writing. Penalty, thirty marks, or imprisonment, for failure to report.

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[5] Centralblatt für Allgemeine Gesundheitspflege. 4 Jahrgang. Page 435.

[6] La Crémation en Italie et a l'étranger de 1774 jusqu'à nos jours, par le Dr. G. Pini. Milan, 1885.

[7] Local Government Chronicle, January 30, 1886, page 86.

[8] Vierteljahrsschrift für Gerichtliche Medicin und öffentliches Sanitätswesen, October, 1885, page 305.

[9] Vierteljahrsschrift für Gericht. Med. u. öff. Sanitätswesen, 1884 Bd. 42, p. 111—110.

REGULATIONS FOR MIDWIVES FOR PREVENTION OF PUERPERAL FEVER.

Dresden, March 28, 1885.

1. Midwife to see patient; provide douche, metallic catheter, and bottle of weak carbolic acid, as provided in 7. 2. Midwife to keep on hand carbolic solution, glass specula, etc., to sell to patients. 3. Instructions as to clothing, etc. 4–6. Careful instructions as to cleansing of hands, arms, and finger-nails. Examination of perineum, bathing, etc. 7. Carbolic vaseline and solutions. Directions for using, and strength of solution prescribed. 8–13. Further instructions as to cleansing catheters, basins, and other appliances. No sponges allowed. 14 Midwife must neither wash nor cleanse the clothing of patient or child. 15–16. Regulations as to informing the district physician of the occurrence of cases of puerperal fever, or deaths from the same. 17. Instructions as to visiting patients ill with puerperal fever. Midwife not to attend another case under five days from last visit, and meanwhile, to wash arms, hands, and nails twice daily with five-per cent. carbolic solution, using soap and nail-brush, and cleansing cloths. Instruments also to be boiled in five-per cent. carbolic solution. 18 Midwife may visit the sick woman during these five days, but must not examine her. After this, may resume work under restrictions. 19. If other cases occur in her practice, she must go fourteen days without taking new cases, and follow the instructions of (17) as to cleansing, etc.[10]

POISONING FROM ARSENICAL PAPER.

A case of illness in a child, from the handling of arsenical glazed paper, is detailed, in which the symptoms were loss of appetite, loss of sleep, vomiting, and headache. The paper contained four centigrams of arsenic in sixty-three centigrams of paper. It was used by the child for the purpose of weaving toy-baskets.[11]

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Clinical Memoranda.

POST-MORTEM IN A CASE OF MEASLES, WITH SOME REMARKS UPON THE TREATMENT OF PULMONARY ŒDEMA.

BY F. J. CANEDY, M.D., MEDICAL EXAMINER, SHELBURNE FALLS, MASS.

Being called into one of the border towns of the county to make a post-mortem upon a young lady who had died, unexpectedly, while sick with measles, I received the following history from the girl's parents. Her age was twenty-four years, her occupation teaching in the district schools of the town, in which she had become tired, nervous and dyspeptic of late.

She came from her school in another part of the town on Friday, at the close of the school week, with a cough, headache, and general malaise, supposing that she had an influenza, but knowing that she had been exposed to measles.

Saturday and Sunday she was about the house with symptoms of a cold, but on Monday the catarrhal trouble having increased in severity, sneezing and redness of the eyes having come on, it was thought she was coming down with measles and she took her bed. Tuesday a physician from an adjoining town passing the house was called in, who diagnosticated the case as one of measles, and left some medicine. Wednesday the eruption having made its appearance upon the face, and the patient apparently doing well, word was sent the doctor that he need not call again, unless sent for.

Thursday night she was very restless and delirious, and the doctor was sent for Friday morning, who gave her bromide of sodium and tincture digitalis, which seemed to quiet her, though her pulse, as counted by her father, were one hundred and twenty or more during the day, her breathing very fast, and her heart beat with so much force as to shake her body and the bed upon which she lay, and so loud as to be heard across the room.

The doctor saw her again at 7.30 Friday evening, when he directed the medicine of the morning to be continued. At 8.30 the family thought her sleeping, and at 9.30 as she still remained in the same condition, they tried to rouse her, when they found she was in a stupor, her extremities growing cold, and much rattling in her lungs. At 10.30 she died.

Autopsy two days after death, assisted by Dr. Hiram Temple, of Charlemont. Body of a short light-complexioned girl, with much adipose tissue. The skin pretty much covered with the eruption of measles, especially upon the upper part of the body.

Subcutaneous fat two inches thick along the line of incision over the thorax and abdomen. Lungs occupied a rather small place in the upper and posterior part of the chest, the arch of the diaphragm being abnormally high, and upon lifting them up were found to be very heavy, displacing nearly their volume of water in a pail.

The trachea and bronchi were nearly filled with a serous fluid mixed with air bubbles, and upon inverting the lungs it ran in a stream from the cut end of the trachea. Upon cutting into the lung tissue, water flowed freely from the air vesicles, and dark venous blood from the vessels. The mucous membrane lining the trachea and bronchi was much reddened, thickened and softened, having much the appearance of a freshly-cut piece of beef steak. No points of broncho-pneumonia were found or deposits of any kind, the lungs having apparently been in a healthy condition previous to this attack of measles. The heart was rather small, with no evidence of disease, left side and arteries empty; right side, pulmonary artery and veins greatly distended with black tarry blood. Portal veins of the liver full of black blood. Mucous membrane of the stomach along the greater curvature reddened and swollen. Kidneys healthy.

Post-mortem examinations are made for medico-legal and diagnostic purposes, to add to our pathological knowledge and for therapeutic suggestions.

This was not a medico-legal case, and pathologically it adds nothing to pulmonary congestion and œdema, though, as we seldom have an opportunity to make a *post-mortem* in a case of measles, the evidence of the extent and severity of the tracheo-bronchitis, was interesting, and impressed forcibly upon my mind the fact, that measles are not always the trivial matter they are sometimes thought to be.

In the light of the *post-mortem* what were the therapeutic indications in this case? The cause of death was evidently congestion of the lungs and its consequent œdema; the acute bronchitis being the active cause of the congestion, and excessive deposit of adipose tissue a secondary factor of no small importance.

Treatment, to have been of any avail must have been some measure that would have relieved the over-distended right ventricle, and removed the venous stasis. Stimulants would have been manifestly useless applied to a heart beating with such force as to shake the patient's body, in its vain efforts to force the blood through the pulmonary vessels, and it seems to me that nothing but a *free venesection* from the arm, or perhaps better yet, a plentiful application of wet cups over the chest followed by hot flaxseed and mustard poultices to cover the thorax, frequently changed, with a judicious administration of stimulants when the fatigued heart began to falter, offered the patient any chance.

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[10] Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege, Bd. 17, Heft. 4, 1885.

[11] Wiener Med. Wochenschrift, 1885, No. 1.

These therapeutic suggestions are illustrated by the following cases: A large and very fat man, aged eighty-three years, who had suffered for many years with mitral insufficiency and latterly with cardiac dilatation, and shortness of breath upon exertion, had been down with influenza for a few days, when his breathing became so difficult as to alarm his family, and I was summoned in haste to see him.

I found him sitting in a chair, suffering most intense dyspnœa, expectorating frothy bloody water. Pulse very irregular, rapid and feeble, lips, face and fingers cyanotic and extremities as cold as those of a corpse.

With a lancet I freely scarified the skin in a half dozen places over the front and back of his chest, over which I applied tumblers, having first exhausted the air by burning cotton in them, and in this way drew a half pint or more of blood, at the same time putting his feet and hands into a hot mustard bath, and giving him two grains of carbonate of ammonia every fifteen minutes. After the cupping I ordered his chest covered front, sides and back with hot mustard and flaxseed meal poultices, and with the purpose of unloading the portal veins, and thus relieving the right breast, administered that much prized and perhaps much abused cathartic of our fathers, ten grains of calomel with fifteen of jalop, and left the old man with the feeling that I could not be charged with omissions in this case at any rate.

The next morning I was much gratified to find him entirely comfortable, and without any vestige of the alarming pulmonary œdema of the previous evening.

Was sent for by another physician to do a tracheotomy upon a little girl aged four years, dying with membranous croup. The child, who had been struggling with most intense dyspnœa for many hours, was thoroughly exhausted and very cyanotic, and when placed upon the table, pulse and respiration ceased. Thinking that the introduction of the tube into the trachea might resuscitate her, I proceeded with so much haste and nervousness, as to cut one of the superior thyroid veins, causing a profuse flow of black blood, when my patient at once began to breathe, the pulse to beat with more strength than for hours, and the purple hue faded out of lips and skin. The hæmorrhage was arrested, the trachea opened, the tube inserted, and the child fell off into a quiet sleep, but died two days later with capillary bronchitis.

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

March 8, 1886, the President, Dr. F. W. Draper in the chair.

PULMONARY ŒDEMA RAPIDLY APPEARING AFTER THORACENTECIS.

Dr. Bowditch reported a case that he had seen in consultation, and which was the second case of the kind that he had met with in practice.

The patient was a man who had had severe rheumatism seven months before, which had resulted in a diseased heart. There was little rubbing, but the area of cardiac dulness was increased, and there was some dyspnœa. Digestion was fair, counter-irritants were applied over the heart and gave some relief.

Fourteen days later Dr. Bowditch saw the patient again. In the meantime there had been a left-sided pleural effusion, which still existed, and for which tapping had been attempted but without getting any fluid. The physical signs were different from when the man was last seen by the speaker. Dulness extended backward from the left axillar line. The front was somewhat tympanitic. The heart was pushed up and to the right. Aegophony was heard, and also some râles in the back, but these last were probably transmitted. The speaker had urged another attempt at tapping, and owing to the patient's weak condition it was done while he was lying down, the needle being inserted between the seventh and eighth ribs. The discharge of serum was very free, and three pints were withdrawn. Before this quantity had been wholly removed the patient, who was sucking ice, coughed; but the needle was not immediately removed, as the operator believed that the cough was merely choking over the melted ice. As the cough continued the needle was removed.

Dr. Bowditch does not mean to say that the cough had anything to do with the final result. Dyspnœa and death followed in less than forty-eight hours. Autopsy showed an expanded lung full of serum.

This is the second case of the sort that Dr. Bowditch has in three hundred and ninety-eight operations, and the other had recovered.

Dr. E. H. Bradford read a paper on

THE CAUSES OF LATERAL CURVATURE.[1]

Dr. Haven asked the reader if weight habitually carried on one arm and transmitted from the shoulder, had in his opinion that effect in causing curvature which had been ascribed to it.

Dr. Bradford said that in that case the position would be faulty, and therefore would predispose to a lateral curvature if other conditions were present. It has even been supposed that the peculiar curvatures thus arising from different trades might be sufficiently distinct to admit of classification.

To other questions Dr. Bradford answered that rickets is not usually a cause of lateral curvature unless we assume the rickets of adolescence; for the reason that rickets is commonly over before the age when heavy enough weight is carried to cause curvature, the weight of the head in early childhood being slight, while lateral curvature rarely begins before the eighth or tenth years. A rickety patient either lies down or holds himself erect. He does not usually loll about.

Dr. J. J. Putnam inquired if the paper covered all the causes of lateral curvature.

Dr. Bradford said that he thought that these factors and these alone are efficient.

In answer to a question by Dr. Fitz, he said that the changes in the bone and cartilage are in his opinion nutritive changes secondary to position, which last is due to muscular weakness in most cases. Muscular weakness is not the only possible cause, as is shown by the reported case of two school-girls, twins, who occupied in common a narrow bench, and who leaned apart in order to gain room. Here lateral curvature of opposite sides followed, which evidently was not because of weakness but of long-continued position. The reader said in answer to questions, that it is perfectly possible theoretically to effect a cure in cases of marked osseous change; but that practically treatment for this object must be so rigid and so long continued that most surgeons are content with arresting the process. Where no osseous change as yet exists, muscular exercise may correct the deformity, but otherwise it will not do so. Preventive treatment consists in general care of the child's health, in addition to rest and strengthening of the weak muscles by proper exercise.

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[1] See page 241 of this Journal.

The amount of rest and the question of removal from school must be determined in individual cases. The speaker decides the question of overgrowth by comparing the weight, height, etc., with the average of American school children at the same age, as shown in Bowditch's tables. The strength of the muscles of the neck and of the back is tested and compared with what is expected at the given age or size.

Dr. J. B. Ayer reported a

CASE OF SCARLET FEVER (SECOND ATTACK) PRECEDED AND FOLLOWED BY A SCARLET RASH.

November 25th, he was called to see a boy, eleven years of age, whose body was covered with the characteristic scarlet fever rash, but there were no constitutional symptoms present. For three days the rash was well marked. There was no desquamation. He had had at five years old a typical attack of scarlet fever.

January 25th. He was surprised to find him again broken out with a similar rash, but more intense than before. At this time, however, he was ill; vomiting, fever, and congestion of the fauces were prominent, and desquamation of over three weeks' duration followed.

The house had hardly been disinfected when he was called, March 1st, to see the rash for the third time in fourteen weeks. Excepting a slight fever at the outset there had been no other constitutional symptoms with this attack. The rash lasted three days.

Now, the ninth day, his skin is rough in places, but the speaker finds no proof of fresh desquamation.

It is an interesting fact that the child's mother has passed through two severe attacks of scarlet fever.

In this connection Dr. Ayer mentioned the case of a girl ten years old, whom he isolated a year ago on suspicion of scarlet fever. He concluded at the end of five days, when the rash disappeared, that it had been of an erythematous character, as it had been situated principally in the flexures of the joints, and he dismissed the patient, but three days later she began vomiting and developed a typical attack of scarlet fever.

ENLARGED PROSTATE: DIFFICULT CATHETERIZATION: QUESTION OF CYSTOTOMY.

Dr. Gannett showed the enlarged prostate of a man of seventy-five, who had never been catheterized, and who died of another disease; but the specimen was interesting because of the great difficulty it would have presented to the introduction of any catheter but a soft one. One of the lateral lobes was much enlarged, bulging into the urethra and causing it to have a sharp lateral curve. Immediately beyond this was another sharp curve; this time in a vertical plane and caused by enlargement of the third lobe.

Dr. Gannett also showed the genito-urinary organs from a hospital patient of Dr. Bradford's. There was great hypertrophy of all the lobes of the prostate there contained diverticula, in some of which small calculi had lodged. There were old false passages and there was cystitis.

Dr. Bradford said that owing to the great difficulty made by the false passages, there had been a question of immediate cystotomy, but that it was decided that as the patient was eighty years old, that immediate cystotomy was unjustifiable. The patient lived but three days, and considering the result it may be a question which would have been the better operation.

ANCHYLOSIS OF ELBOW: FRACTURE OF ELBOW: GUN-SHOT WOUND OF CHEST.

Dr. Bradford showed an anchylosed elbow that he had excised, and which was a good specimen of this deformity, as it follows caries.

He also showed a large number of splinters of bone of various sizes, broken off from an old woman's elbow, by falling upon it.

He also showed the temperature chart of a case of traumatic pneumonia from a gun-shot wound in the chest.

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BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

Meeting February 1, 1886, **Dr. G. F. Jelly** in the chair.

Dr. T. M. Rotch reported six cases which had been under his care:

(1) SPASMODIC ABDOMINAL CONTRACTIONS. (2) PARALYSIS OF ARM IN CONGENITAL SYPHILIS. (3) TWO CASES OF EMPYEMA; I. AT EIGHTEEN MONTHS, II. AT FOUR YEARS. (4) DOUBLE PLEURITIC EFFUSION AT THIRTEEN YEARS. (5) SIMULATED VESICAL AND RENAL CALCULUS AT TEN YEARS.[1]

Dr. A. N. Blodgett said that he had been particularly interested in the cases of empyema reported by Dr. Rotch and felt that these cases were often neglected by practitioners. He had recently had a case where he had operated and had been much pleased with the result. He had applied the mackintosh to get a "valve action," as described by Dr. Cabot sometime since, and had not been successful in getting the mackintosh to act as a perfect valve. He spoke of the difficulty of getting the tubes to stay in position and said that he had at last taken a section of a rubber catheter and had softened it by heat so that it stayed very well in position.

He had found that iodoform by its odor was irritating to the patient and to the friends, and mentioned the value of mixing iodoform with coumarin. This mixture completely masks the odor of iodoform and has an odor not unlike vanilla, if one could think of vanilla in the presence of iodoform. Further, coumarin does not diminish the antiseptic action of the iodoform. In one of his cases he had, on opening the chest, a very offensive discharge, the cavity was irrigated with Labbaraque's solution, one to twelve, with the result of completely removing all offensiveness from the future "washings-out." The Labbaraque's solution had no solidifying effect upon the pus, as described by Dr. Rotch.

Dr. A. H. Nichols related the case of a middle-aged woman, formerly an over-worked teacher, who for many years had manifested spasmodic contractions of the abdominal muscles similar to those described by the reader. This patient was by no means of a nervous temperament, for during this period she had sustained with fortitude and without an anæsthetic several minor surgical operations. These involuntary contractions though usually moderate were at times severe enough to convulse the whole body, and were then accompanied by a loud guttural sound as if the diaphragm was involved. These movements resembled the contractions of chorea in that they were aggravated by the presence of a stranger, and were uniformly suspended during sleep; but they had not exercised any appreciable effect in impairing her general health.

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[1] See page 242 of this Journal.

Dr. **W. B. Hills** said that the case reported by Dr. Rotch of "symptoms simulating renal and vesical calculus" was typical of a class ot cases that occur which are a source of much anxiety to both patients and physicians. He felt that there was a great deal to learn regarding the uric-acid diathesis.

Not infrequently when he reported to a physician that there was a deposit of uric acid in the urine he was asked, Why is the uric acid there? and, What shall we do about it? An occasional deposit of uric acid in the urine is of no consequence, but when it is persistently present it certainly should be considered as endangering the patient to the formation of a calculus. It is generally known that the urates exist in the blood, and they may be deposited in the following places: ***First***, in the tubules of the kidney where they may cause disturbance or may pass off in the form of gravel. ***Second***, in the bladder where they may form a calculus. ***Third***, outside of the body where it is of course of no importance.

There are certain conditions of the organism that seem to favor the formation of uric acid; namely, it is more common in winter than in summer, it recurs in chronic diseases of the respiratory organs, it occurs where there is an imperfect action of the skin, it follows attacks of gout and when the food is not properly assimilated. In children, Dr. Hills felt that it was due to some derangement of the system. The symptoms are pain in the bladder and pain in the back. Regarding treatment he considered that the rational way of treating the affection was to favor oxidation. No general prescription can be given which will be useful in every case. The physician must systematically interrogate the various functions of the body and correct the one that may be deranged. The patient should have plenty of fresh air, moderate exercise, a proper diet, and the function of the excretory organs should be set aright.

Medicinally the administration of the alkalies favor the solution of the urates, and the giving of large quantities of water is a useful adjunct.

It is interesting to know that the supervening of any intercurrent affection frequently causes the uric acid to disappear from the urine.

Dr. **A. T. Cabot** said that he was sorry to hear Dr. Minot speak slightingly of antiseptic treatment in empyema, for in his experience the aseptic conduct of the wound had the greatest influence upon the safety of the convalescence. Of twenty cases that he had operated upon in this manner, about one-half were in private practice, the other half in hospitals, and the success in the private cases had been much more gratifying than in those treated in hospital practice. This would seem to show that the septic influences encountered in hospital atmosphere and dressings did retard the process of cure. And this belief is still further strengthened by the fact that two of the hospital cases which did exceptionally well were ones in which Dr. Cabot did all of the dressings himself and brought in the dressing materials (gauze, etc.) from outside. One of these cases was that of a young man in whom the pus evacuated was of an exceedingly fetid character. The cavity was closed in twelve days, the tube was taken out and the tissues in which it had lain quickly healed.

The other patient was a young woman about twenty-eight years old, and in her case the tube was taken out on the seventeenth day, and the opening quickly closed.

As children do well by many different methods of operating, it is not easy to draw conclusions from their cases as to the efficacy of different plans of treatment. In adults, on the other hand, the case is different and a cure is far more difficult to obtain, yet the speaker could recall five cases of adults in which a complete cure was obtained within a month by the method of treatment which he advocated.

This is a record which he had not seen equalled in the reported statistics of any other method. In regard to the valvular action to be obtained by the proper application of the rubber cloth or mackintosh, he regarded it of the greatest importance in promoting the rapid expansion of the lung and closure of the cavity.

Any one without a moustache can easily test this by holding a piece of rubber cloth lightly over the mouth and forcibly breathing in and out while the nose is held.

In dressing the chest the mackintosh should entirely overlap the innermost dressing of gauze, and then the elastic dressings outside of it hold its edges applied to the skin and make a very perfect valve. Under this dressing properly applied, the lung is often fully expanded in from twenty-four to forty-eight hours. This of course only in cases of simple empyema where there is no consolidation of the lung and where it is not tied up by adhesions.

Suppose such a lung is released by the emptying of the cavity of pus; as it expands and the two surfaces of the pleura come together they quickly adhere. Now if the expansion is so favored that it takes place quickly and the lung is at once brought down to its normal position, it adheres there and the cavity is soon closed. Suppose, however, on the other hand, the lung only partly expands and so partially fills the pleural cavity. Here again it becomes adherent, but it becomes adherent in the wrong place and these adhesions afterwards make its further expansion difficult if not impossible, and the closure of the remaining cavity has to be effected by the collapse of the chest wall and displacement of neighboring viscera.

These considerations show the wisdom of any course which will favor the rapid expansion of the lung, and the proper intelligent application of the mackintosh will do much in this direction.

Dr. **Blodgett** said that his operation was strictly antiseptic and was kept aseptic throughout.

Regarding his failure to have the mackintosh act as a valve, perhaps he should have said, "that he failed to get that degree of valve action that he had hoped for."

Dr. **Cabot** said that if a lung was consolidated or had been perforated, of course the valve action of the mackintosh in assisting the expansion of the lung would be greatly impaired.

Dr. **Rotch** referring to the difficulty that Dr. Blodgett had met with in adjusting the mackintosh, as recommended by Dr. Cabot, said that he also had failed to make it work satisfactorily, although he had employed it in both cases, but he had purposely avoided mentioning this, as he had come to the conclusion that the method was a good one, and that he himself was as yet not sufficiently skilful in his application of it to justify criticism.

He also remarked that he had been greatly aided in the antiseptic precautions taken in the second case, by Mr. Perkins, who assisted at the dressings.

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PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

TWENTY-FIFTH ANNUAL MEETING, January 9, 1886, the President, DR. A. D. SINCLAIR, in the chair.

PROLAPSE OF THE FUNIS.

DR. RICHARDSON alluded to a case of twin labor at eight months and a half, complicated with prolapse of the cord. In this, as in most other cases, it was easy enough to replace the cord within the uterus: the difficulty in all such cases lies in carrying the funis sufficiently high, and keeping it there sufficiently long to enable the presenting part to occlude the superior strait, and thus prevent a second prolapse. In the case referred to, not having at hand any of the instrumental devices for replacing the cord, he made use of the following expedient:

An English gum-elastic catheter was softened by immersion in hot water, the stylet slightly withdrawn, and, by bending back the tip of the catheter, made to protrude from the eye. A loop of narrow tape about three inches long was then placed around the funis, and the two ends of the loop passed over the tip of the stylet, which was then slipped back through the eye into the tip of the catheter. The funis, being thus secured to the end of the catheter, was readily carried high up into the uterus: the catheter was allowed to remain in situ until the presenting part had occluded the brim; then the stylet was withdrawn, thus freeing the funis, and the catheter was taken away, leaving the loop of tape behind to escape after the birth of the child. In subsequent cases, this method had commended itself to him as safe and efficient: moreover, it did not require a special instrument for its performance.

DR. BLAKE said that he had tried various devices for replacing the cord, but had not usually been able to keep the cord in the uterus after he had replaced it there: he had usually, therefore, in such cases, delivered as soon as possible with forceps or by version.

DR. REYNOLDS said that in roomy pelves the cord could often be put in a position where it would escape pressure. He also alluded to the danger, in rapid deliveries, of catching a loop of cord between the forceps and the head, and thus destroying the child: the accident cannot always be avoided; but the possibility of its occurrence should be borne in mind.

POST-PARTUM GLYCOSURIA.

DR. MINOT reported the case of a healthy woman of nervous temperament, who was normally delivered of a healthy child, and whose convalescence progressed favorably for ten days. On the morning of the eleventh day, the mother awoke with a headache. The temperature was elevated one or two degrees: there was no chill, no pain, and no tenderness. The skin was hot, but not dry: the lochial discharge was normal. The specific gravity of the urine was 1030: there was a slight trace of albumen, and a large trace of sugar. The bowels had not moved on the day before, as they had regularly done previously. After the exhibition of purgatives the symptoms declined, and all went well the next day. The gravity of the urine was 1020, and the amount of sugar was about the same. After a few days it had nearly disappeared. Dr. Minot had never noticed the complication of glucosuria in the puerperal condition, and asked if other members of the Society had met with such cases. He would not have attached much importance to the occurrence, if the patient had not been of a nervous temperament.

DR. RICHARDSON said that sugar was often present in the urine during the establishment of lactation: and also at any time during lactation when there is any marked disturbance of that function.

SHOULD INFANTS BE NURSED AT NIGHT?

DR. REYNOLDS asked the opinion of members of the Society about the advisability of feeding young infants at night. An undisturbed night's rest is of great benefit to the nursing mother; but is it not cruel to compel the infant to go for eight hours, from evening to early morning, without nursing?

DR. T. M. ROTCH, present by invitation, thought it was injudicious to begin to train an infant to go without food at night during the first two months. During this time the infant's welfare is liable to be disturbed from other causes, and therefore he believed the feeding should be as regular at night as in the daytime.

DR. BOARDMAN believed that infants should sleep at night, as well as adults. If the mother has a sufficiently abundant supply of milk to satisfy the infant in the daytime, there is no reason why the child should be nursed after the mother's bedtime until morning. If the child is restless, it does not follow that it needs nourishment: oftentimes change of position or attention to the clothing and napkins will quiet the infant and cause it to go to sleep again. The difficulty of maintaining discipline is with the mothers, who are too apt to believe that a restless infant ought to be nursed, or who find the breast a more convenient way to quiet the child. He had succeeded in many cases in his practice in carrying out his views on this subject, and had never seen anything but good result.

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MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., RECORDING SECRETARY.

MEETING at the Rooms of the Boston Medical Library Association, February 3d, 1886.

The meeting was called to order at 12.05 P. M., by PRESIDENT WINSOR. Present, twenty-nine members. Records of the last meeting were read and approved.

The Secretary read a communication from Clark Bell, Esq., of the New York Medico-Legal Society, requesting the appointment of two members of this Society to act with him in preparing statistics concerning the insane, in conformity with the plan offered at the International Congress held at Antwerp, Belgium.

On motion of MEDICAL EXAMINER TOWER, the President was appointed one of a committee of two to communicate with Mr. Bell upon this subject. On motion of Medical Examiner Draper, Medical Examiner Ira Russell, of Winchendon, was appointed as the second member of this committee.

Medical Examiner Paddock read a paper upon

THE DUNBAR CASE.

The case was of interest from the fact that it was difficult to determine from post-mortem appearances alone, whether it was a suicide or homicide. The essayist, in a careful and interesting paper, gave his reasons for favoring the view of suicide.

Medical Examiner Fish read a paper upon the same case, giving a very ingenious explanation of the method which, in his opinion, the suicide employed to effect his purpose.

The papers were discussed by members Holmes, Bronson, Hurd, Adams, Paddock, Fish, Tower, Winsor, Harris, and Abbott.

On motion of Medical Examiner Holt, Dr. J. L. Sullivan, of Malden, Ex-Medical Examiner, was made a regular member of this Society by a unanimous vote.

Medical Examiner Harris made a verbal report of a case of resuscitation of an infant nine or ten days old, who was exposed to the cold and wet of January 31st and February 1st for twenty-eight hours without nourishment. Adjourned.

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Recent Literature.

A Reference Handbook of the Medical Sciences, Embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-Lithographs and fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Volume I. New York: William Wood & Co. 1885.

The first volume of 808 pages, imperial octavo, of the eight which it is thought will be necessary to cover the field as proposed, is very creditable both to the publishers and to the editor. If the other seven volumes reach the same standard the work will be one of unusual value for consultation "on all the important topics belonging to the broad domain of medicine."

In deciding upon the character and scope of the handbook, the editor has to choose between two courses: "either to retain a reasonably full list of topics and give to each its proper share of space, or to curtail the list, and so gain enough space for a fairly satisfactory and thorough treatment of at least the more important subjects." The former plan, the one generally pursued in books of reference which can with any propriety be called handbooks, favors brief and unsatisfactory articles; the latter plan necessitates the omission of some of the less important topics. The latter evil seemed to the editor, and we think, justly the less of the two; accordingly he has aimed at presenting to the profession a medical encyclopædia whose articles shall convey a certain fullness, rather than one which covers — though superficially — every possible title in medicine and the many collateral sciences. The larger portion of the space is devoted to practical subjects — the diagnosis and treatment of disease — but such collateral departments of medical science as botany, climatology, embryology, physiology, physiological and pathological chemistry, applied anatomy, medical jurisprudence, military and naval surgery have been by no means neglected.

Each article is signed with the writer's name. Of course, when coming from so many different writers — there being no less than ninety contributors to this first volume — the articles are of varying degrees of merit. In general, however, our examination of the volume, which has been far from a hasty one, leads us to the conclusion that the writers, even for the less important subjects, have been carefully selected, and that they have done their work well. Without mentioning any individual names, we do not hesitate to say that the treatment of some of the topics could not easily be improved upon.

The illustrations have been generously and in most cases judiciously supplied. The wood-cuts are well made and really illustrate instead of confusing the text; the volume contains in addition four handsome chromo-lithographic plates. The paper is good and the type is clear.

The expense of publishing such a work is necessarily very great, entirely apart from any remuneration offered to the writers of articles; the cost to the subscriber must also be large, but the purchaser has the consolation that he is really getting something for his outlay. We understand that the second volume will appear very shortly.

The Essentials of Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A.M., M.D. New York. 1885. pp. 63.

The title-page tells us that this manual was prepared for the use of the physicians in the class of general medicine and diseases of the chest of the New York Polyclinic. The methods of no two teachers are precisely the same in all respects, and sometimes differ widely in detail; a teacher is seldom, consequently, quite contented with his text-book unless he has written it himself, and it may be presumed that this fact has something to do with the appearance of this new claim on the attention of those studying physical diagnosis.

There is one special difficulty the medical student must constantly face, a difficulty unavoidable in a measure, because dependent on the progressive nature of our science, but so real, that instructors should never lose sight of it, striving to lessen it by every means in their power. We refer to medical terminology, which is so confusing in this relatively small subject of physical diagnosis, that a Committee was appointed at the London International Medical Congress to propose a uniform nomenclature. The Chairman of the Committee, Dr. Flint, than whom, certainly, no one is more fit, reported to the American Medical Association at the New Orleans meeting, two lists of terms, one his own, the other that of the English members of the Committee.

These two lists are very nearly identical, and either of them is, in our opinion, preferable to the classification of Walshe, whom Dr. Hudson follows in the main. Walshe thought that his classification could not be simplified without a loss in accuracy, but most authorities of the present day think otherwise. No American has done so much for physical diagnosis in thoracic disease as Flint; his teachings have extended throughout the land, and have been influential in England and on the Continent, and we fail to see the advantage of departing materially from his terminology, which is sensible, simple, and complete.

Hudson follows Loomis in the error — as our senses tells us — that tympanitic resonance is lower in pitch than vesicular. "Cracked pot or cracked metal quality is an air-impulse sound — air in a cavity rushing against its walls. Over trachea and large bronchial tubes, the percussion-sound is tubular. . . . the pitch is low, not hollow nor tympanitic, and the duration is long and ringing." What a hollow or tympanitic pitch, or a ringing duration may be, we do not know. Another example of want of care, is the use of "sputa" as if it were the nominative singular — "the sputa is:" this we note twice.

Cardiac hypertrophy is defined as "enlargement of the heart as a whole, or of the walls of any one of its cavities," a definition which does not clearly exclude dilatation. The prognosis of hypertrophy is said to be bad if that condition associated with dilatation, a statement far too general and very misleading. Not a word is said as to the bearing of enlargement of the heart on the differential diagnosis between organic disease and functional disturbance.

We have thus sought out some of the details which strike us as open to criticism; it only remains to add that the proof-reading leaves much to be desired.

A Manual on Animal Vaccination, Preceded by Considerations on Vaccination in General. By Dr. E. Warlomont, Founder of the State Vaccinal Institute of Belgium, etc. Translated by Arthur J. Harries, M.D. pp. 168. London. 1885.

This excellent translation comprises mainly, the fifth and sixth chapters of Dr. Warlomont's valuable treatise entitled, "*Traité de la Vaccine et de la Vaccination Humaine et Animale.*"

The author has added a note from Pasteur, which contains the following just comments on the character of the work:

"From one end to the other, your treatise is excellent for its clearness, for the perfect knowledge of the subject displayed, and for the place which you so judiciously give in it to modern discoveries, and to the relations which they hold to the questions of small-pox and vaccination, each of such great general and scientific interest."

The first portion of the book is devoted to the modes of origin of vaccine lymph. The celebrated remark of Depaul is quoted: "There is no vaccine-virus; vaccine is nothing but modified small-pox attenuated in its passage through the system of the horse or of the cow," and the author sums up the question as follows:

"We are compelled for the present, and we are sorry for it, to consider the theory of unicity as simply a hypothesis. A respectable hypothesis, however, for there is no other, that gives so well, a key to the complex problem of which we have been seeking the solution." This is more than Dr. Warlomont was wont to admit in his earlier publications.

The directions as to arm to arm vaccination, the choice of vesicles, and the preservation of vaccine lymph, are admirable. American authorities will be pleased to notice the prominence which this distinguished authority gives to ivory points, as employed for the storage of lymph.

The author alludes to the putrefactive changes and the mouldy smell to which the contents of capillary tubes are liable. Any competent microscopist who will examine the contents of a capillary tube which has been filled more than forty-eight hours, will find abundant reason to condemn their use for the purpose of vaccination.

In the chapter on animal vaccination, its advantages are clearly set forth. These are, mainly, the immunity from vaccinal syphilis, and the relative paucity of humanized virus. In support of the theory of vaccinal syphilis, the translator also judiciously appends a note containing the results of Dr. Cory's well-known experiments upon himself.

In regard to a third reason for employing animal vaccination, the degeneration of humanized vaccine, the author concludes: "It is not the vaccine that degenerates, but the stocks, that use, or abuse it." The remarks on the technics of animal vaccination are of special interest to propagators of virus.

Certain usages advised by the author are open to objection. He recommends the employment of mucilage of gum-arabic as a coating for the protection of lymph upon points, a measure of doubtful utility, for two reasons: its liability to employment as an adulterant or substitute, and also its comparative insolubility.

Vaccine in pulp, either with or without glycerine, as well as any other moist methods of preservation, like the cones once employed by certain American producers, are liable to serious objections.

The question of the inoculability of tubercle is carefully discussed, its possibility having been urged in objection to animal vaccination, and while such possibility is admitted, its inoculability by *superficial* insertion of the bacilli (the common method employed in vaccination), is shown to be impossible. The following sentence, inserted in the English edition, commends itself to all American producers of vaccine lymph. A vaccine propagator who would resort to the careful methods therein proposed, and which is said to be practised at the Belgian Vaccinal Institute, would be worthy of public commendation and confidence:

"There is a method of placing beyond suspicion and any possible danger the preparations of animal vaccine furnished to the medical public, which consists in only delivering it to them after the animal from which it has been taken, has been proved by autopsy to be perfectly healthy."

The Temperance Teachings of Science. Adapted to the Use of Teachers and Pupils in the Public Schools. By A. B. Palmer, M.D., LL.D. Boston: D. C. Heath & Co., Publishers. 1886.

This book is a safe hand-book for the purposes for which it was designed; and teachers who wish to give oral instruction upon the subject of the alcohol habit will find it useful. The author employs the term temperance in its popular rather than its actual sense; the book being devoted to the subject of alcohol to the exclusion of other harmful narcotics and stimulants.

The book is divided into twelve chapters, in which the effect of alcohol upon the various organs of the body appears to be correctly and briefly stated.

— Vogel relates the following in his "Diseases of Children": "I once treated an American lady, who still suckled her son, who was *two and a half years old*, till one morning, when the strongly-developed, robust child was called to be nursed, he very kindly replied: 'I thank you, dear mamma, the nursing is too tedious for me.'" — *Guillard's Medical Journal.*

Medical and Surgical Journal.

THURSDAY, MARCH 18, 1886.

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THE SURGICAL TREATMENT OF PERITYPHLITIS.

Medical practitioners are, we believe, fully agreed as to the propriety of surgical interference in those cases of perityphlitis where suppuration has taken place in the cellular tissue about the appendix. The diagnosis of a perityphlitis is not ordinarily difficult, but to recognize the exact moment when expectancy should yield to action and the knife should make a passage for the pus already formed is certainly a matter of difficulty. To wait for fluctuation is to expose the patient to all the dangers of perforation and peritonitis, and the physician himself to the accusation of dilatoriness and timidity where the only safety lies in bold and immediate action. To operate before the formation of pus is certain to expose the patient to the dangers of an operation of some gravity for a disease which often recovers without such interference.

The indications can hardly be called definite. Everything depends upon an exact diagnosis, but the means of making an exact diagnosis are not perfectly understood, and he who adds to our means of definitely distinguishing the condition and fixing the time of operation will deserve the thanks of his colleagues.

Dr. Wm. T. Bull, of New York, has recently reported a case of perityphlitic abscess in which an incision was made at an earlier moment than in any case previously reported.

The patient, a gentleman thirty years of age was suffering, when first seen, from very severe pain in the right iliac fossa radiating down the thigh, with a temperature of 103° and pulse of 120. The abdomen was normal on examination except that in the right iliac region there was dulness and exquisite tenderness (so that percussion was very unsatisfactory), and a sense of fulness or increased resistance on palpation. These were the only signs of an exudation. He had been in bed but forty-eight hours, although for ten days previously he had experienced a steady dull pain in the inguinal region, with occasional paroxysms which were more severe. He was constipated for a week during this time, but the bowels moved naturally three days before I saw him. His symptoms were not sufficiently acute to deter him from a week's railroad travel, and on his return they presented the features mentioned above.

Dr. Kinnicutt, who was the medical attendant, had suggested exploration, and it was done at once. The needle, thrust to a depth of three inches directly backward into the iliac fossa, produced no pus; nor was any obtained when it was thrust in front of and behind this site. A longer needle was then pushed from a point behind and above the anterior superior spine, toward the middle of the fossa, a depth of four inches, and through it the syringe drew some very offensive and bloody pus. The incision was made a few hours later, under ether, above and to the outer side of the middle of Poupart's ligament. The tranversalis fascia was thickened and grayish in color, the muscular layers absolutely healthy in appearance. An incision through the fascia evacuated about an ounce of pus, very dark from blood, and of characteristic odor. No foreign body escaped, and as the time of operation was so early I did not deem it wise to thrust the finger into the abscess cavity; but an elastic bougie showed that it extended from the centre of the incision about two inches toward the symphysis and three or four toward the lumbar region. The pain and fever disappeared next day. The cavity reduced to a sinus four inches deep was slow in healing. At the end of six weeks a foreign body was detected in it at a depth of three inches and removed with dressing forceps. It proved to be a calculus, doubtless formed in the appendix.

The sinus closed in a week. The concretion is as large as a white bean, calcareous in composition, the salts being arranged in concentric laminæ, and with no foreign body as a nucleus.

It is to the comments of the author that we wish to draw attention, and especially to his remarks upon the use of the aspirator in diagnosis.

"In this instance," says Dr. Bull, "the operation was performed at an earlier moment than in any case that I have seen recorded, and I think that the thorough exploration with the needle and hypodermic syringe was the chief factor in bringing it about. I have several times withdrawn pus from the iliac fossa, through a puncture made from the lumbar region downward and forward toward the middle of the iliac fossa, when punctures directly into the fossa or the tumor occupying it were fruitless. A good-sized needle is indispensable (No. 3 or 4 of the French scale for urethral instruments) and a "tight" syringe. These punctures are "harmless" (we trust we shall escape the charge of too great carefulness in the use of words if we prefer to say these punctures are so nearly harmless, that the possible danger should be disregarded when anything so important as a positive diagnosis is to be gained), "and should be made into the lumbar region, as well as into the iliac fossa. We are familiar with their value as a means of diagnosis, but I would like to emphasize the advantage of making such thorough explorations as I have described.

"But I desire to claim something more for the needle, and that is, that it is the only trustworthy means of ascertaining the presence of pus. Both the general symptoms and the local conditions mislead us in this respect. There are patients who are attacked with high fever, severe pain, chill, and even sweating, whose inflammation undergoes resolution; and there are others in whom the abscess reaches great proportions with trifling disturbance.

"The necessity of opening the abscess early — and long before fluctuation has occurred — has been insisted on with justice by a number of writers. I have but one suggestion to make on this point, and that is, in determining the *time* to operate, the *duration* of the illness should play a rôle subordinate to that of the results of exploration with the needle. It is certainly undesirable to operate too early, when the pus may not have formed, or the inflammation be going on to absorption. It is equally undesirable to defer the incision, and subject the patient to the risks of an unfavorable course on the part of the pus. A sort of 'time allowance' has been fixed by some surgeons. Gouley fixes the seventh or eighth day as the proper time for incision; Weber 'not beyond the ninth or tenth'; Sands, from the twelfth to the eighteenth day. From this discrepancy, it is obvious that the 'time allowance' is of no use, and that it will be far wiser to be guided by the evidence afforded by *needle exploration*."

This case of Dr. Bull's draws attention to an anatomical detail in the diagnosis of pericæcal abscess which is not sufficiently insisted upon: that is, the formation of the pus beneath the transversalis fascia. To wait for fluctuation is to wait until the fascia has been perforated, and the tendency of the abscess to spread beneath the fascia before seeking an external outlet, is well illustrated in this case by the distance to which the bougie penetrated: the cavity held but an ounce, but extended some five or six inches. Some remarks of Professor Pepper describe very well the condition of affairs.

"It is not too much to say, that the unjustifiable delay permitted in many cases of typhlitis, whilst hoping, day after day, for the more definite detection of suppuration, is the direct cause of many avoidable deaths. It is true that ordinarily, the approach of suppuration will be announced by a change in the constitutional symptoms, by the occurrence of rigors, followed by sweats, febrile movement of a remittent or hectic type, and increased acceleration of pulse. But, on the other hand, it is certain that after an abscess has already formed, the general symptoms may merely indicate increasing gravity of the case, without presenting the above indications of suppuration. So, also, it must be borne in mind, that the existence of a pericæcal abscess may be unattended with the local appearances which usually accompany suppuration. In many cases where a considerable amount of pus has been found, the cæcal tumor, immediately before operation, was hard, absolutely without fluctuation on palpation, and resonant on percussion. This may be due to the fact that at times, the pus is chiefly confined behind the thickened and inflamed cæcum, which is pressed forward against the abdominal wall; or, again, that the pus, either collected to the outside, or in front of the cæcum, is so compressed by the tense transversalis fascia and abdominal muscles, that fluctuation cannot be detected on percussing over the abscess until an incision has been carried down to, or through this fascia."

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CREMATION, A CONSERVATIVE VIEW.

In the history of every alleged reform there are fortunately always to be found men of conservative tendencies, who put on the brakes long enough to give an opportunity for a calm and quiet reconsideration of the subject. To move a reconsideration does not jeopardize a really needed reform, and it enables the public to revise their beliefs which are perhaps in danger of becoming unduly ardent under the exhilarating effect of too rapid and uninterrupted "progress."

At a recent meeting of the New York Society of Medical Jurisprudence and State Medicine, Dr. Frank H. Hamilton read a paper entitled "Cremation not Required as a Sanitary Measure." The subject had been brought up by the introduction of a resolution by Dr. W. M. McLaury that the Society request the Legislature to pass an act making cremation compulsory in the case of paupers and those dying of contagious or infectious diseases. Dr. Hamilton said that the danger to life and health from burial four to six feet under the soil, as practised in this country, had been greatly exaggerated, if, indeed, it could be said to exist at all. He cited the testimony of the eminent French authorities, Duchâtelet, Dubois, Dupuytren and Boyer, who all concurred in the opinion that it was an error to suppose that the air in the neighborhood of graveyards or dissecting-rooms was contaminated by emanations from dead bodies. There was no more danger arising from the presence of human remains than from those of other animals, and if incineration was needed by the human race for protection against decaying animal matter and the germs of disease, nothing short of the cremation of the whole world would avail. He contended that the emanations from dead bodies, though offensive, were not, as a rule, dangerous. The trouble with those who urged cremation as the only proper disposition of the dead was, that they never took their examples of the evils of earth-burial from their own country. They went to Italy, and Egypt, and Turkey, and to all sorts of places; but they hesitated to meet their opponents on their own soil. After dwelling on the undeniable fact that cremation would often destroy traces of crime and make detection impossible, Dr. Hamilton said: "In this country there is a strong public feeling opposed to even voluntary cremation. The same is true of civilized nations in all parts of the world, and especially among those calling themselves Christian. This may be only due to sentiment. but no true friend of the human race, Christian or infidel, would wantonly destroy that sentiment. If any one desires to be cremated, there exists no valid reason why he should not be; but I argue that it is totally unnecessary for any sanitary reasons, and therefore that there is no need that cremation should be enforced by legal enactment, or that it should be even urged upon a reluctant public.

DR. AUSTIN FLINT.

This eminent physician and teacher died suddenly at his home in New York, on Saturday last. Of an illustrious medical ancestry, the occupant during the last forty years of professional chairs in no less than six different cities of the union, the author of a standard work on practice which has passed through several editions, the recipient of the highest honors in the profession, his death will be felt throughout the medical world. We defer to a future time a more extended and fitting notice of his fruitful life.

MEDICAL NOTES.

— Mr. Lawson Tait has been elected President of the British Gynæcological Society.

— Apropos of the recent exceptionally cold weather, it is interesting to learn that the coldest weather ever recorded on the globe was that experienced in January, 1885, in the expedition under Dr. Burrage, to the new Siberian Islands, and reported to the St. Petersburgh Academy of Sciences at the annual meeting on January 10th last. The mean temperature of January, 1885, was –52.7° C. (–62.9° F.), and the minimum –68° C. (–90.4° F.).

— A case is recorded in the *British Medical Journal*, (December, 1885, page 1104,) of a female, aged forty years, who was admitted into the Philadelphia Hospital in a delirious typhoid condition. The abdominal cavity was filled with a large tumor, which extended to the ribs. It was globular, movable, tense, and distinctly fluctuating. For five or six weeks, the urine had dribbled away constantly. The author diagnosticated a distended bladder, and introduced a catheter; by this means, during the next twenty-four hours, he drew off 464 ounces of urine. Next day, a partially decomposed four-month's fœtus was passed. For the next three weeks, the patient was unable to pass urine naturally, but the bladder gradually regained its tone, and in three months the patient was cured.

— For engaging in the practice of medicine in China, no license is required, says the *Medical Record*, but the lot of the unsuccessful physician is not one to be envied. The following is the two hundred and ninety-seventh section of the penal code, which deals with these unlucky practitioners: "Whenever an unskilful physician, in administering medicines or using the acupuncture needle, proceeds contrary to the established forms, and thereby causes the death of the patient, the magistrate shall call in other physicians to examine the medicines or the wound. If it appear that the injury done was unintentional, the practitioner shall then be treated according to the statute for accidental homicides, and shall not be allowed any longer to practise medicine. But if he have designedly departed from the established forms, and have practised deceit in his attempts to cure the malady, in order to gain property, then, according to its amount. he shall be treated as a thief; and if death shall ensue from his malpractice, then, for having thus used medicine with intent to kill, he shall be beheaded."

— We are not in the habit of going to the *London Truth* for medical hints, but its quotations are, perhaps, reliable, and it certainly has a lively way of putting things. It says: "According to the *United Service Gazette*, a new use has been discovered for the musical instrument of torture called the bagpipes. Last year a Spanish soldier was brought to the Military Hospital at Havana in a state of catalepsy, and for fifteen months he showed no signs of improving health. At last, the doctors ordered the bagpipes to be played near his bed, whereupon the man promptly recovered consciousness, and was soon able to articulate. The first words were not couched in the form of a blessing; but there may be yet a great future for the bagpipes in medical science. Their music may be strongly recommended to persons suffering from nervous or hysterical disorders, and generally speaking, to maladies imaginaires of every description. Whether the disease or the remedy is the worst, must be left to the judgment of the invalids themselves."

NEW YORK.

— The Council of the University of Buffalo have decided to establish a college of pharmacy in connection with the Medical School, and Prof. R. A. Witthaus has been elected head of the Faculty.

— The seven dogs bitten by the supposed rabid dog which bit the six Newark children about the first of December last, were released from pound March 2d, no symptom of rabies having developed in any one of them during the three months of their confinement.

— At a meeting of the Academy of Medicine held March 4th, Dr. D. B. St. John Roosa read a paper on "Limitations in the Value of Glasses for the Improvement of Vision and the Relief of Disease," the main object of which was to show that the tendency had of late been to attribute altogether too many diseases, both reflex and organic, to troubles of the eye. Afterwards, Dr. Henry G. Piffard exhibited a new electric light, the advantages of which were: a lamp of fair constancy and a portable battery (six cells), at moderate expense. The apparatus was made by the Galvano-Faradic Company, of Fourth Avenue, New York.

— Dr. Ludwig R. Sattler, the veterinary, who was the last of the Newark patients who went to Paris to be inoculated for rabies by Pasteur, returned on the Eider, which arrived February 28th. He states that the report published in the newspapers that M. Pasteur refused to treat him because he could not produce satisfactory evidence of having been bitten by a rabid dog was false. As soon as he arrived in Paris, he went to the laboratory, where he was courteously received and allowed to inspect the processes of preparing the virus for use in the human subject. He was inoculated nine times in all.

— The fifth annual meeting of the New York Medical Missionary Society was held at the Broadway Tabernacle, March 2d, Dr. C. R. Agnew presiding. Dr. George D. Dowkontt, Medical Superintendent of the Society, gave an account of its work during the past year, and addresses were made by several medical missionaries, as well as by Dr. Agnew. There are now nine young men in course of training, under the auspices of the Home Institute of the Society, which has for its object the maintenance of students preparing for medical missionary work, and some fifty applicants have been refused for lack of the funds necessary to pay for their education. Mr. Cornelius Vanderbilt has given $600, and his brother George, $300, for the expenses of the current year.

— A striking commentary on the report of State Engineer Gardiner, in regard to the sewerage and general sanitary condition of the new capitol building at Albany, which was recently presented to the State Board of Health, was afforded on March 11th, when a violent explosion in front of the building caused no little excitement among its occupants. It was supposed at first that dynamiters had been at work, but an examination of the premises showed that the detonation and upheaval were due to an explosion of sewer-gas in the large receiving basins below the building; heavy stones three and five inches thick, which covered the basins, being shattered into a thousand pieces and hurled through the air. The accident is said to have been the direct result of the imperfect system of sewerage and ventilation, to which the State Board of Health has called the attention of the Legislature.

—Dr. Charles H. Phelps has been nominated by Governor Hill for the position of Health Officer of the Port of New York, and the appointment is generally considered a most excellent one. Dr. Phelps is a well-known surgeon, who has filled with ability a number of responsible positions, and is at present an attending surgeon to Bellevue and St. Vincent's Hospitals, as well as President of the Medical Board of Bellevue and of the Board of Police Surgeons, of which he has been a member for a considerable time. Although a Democrat in politics, there is little doubt that Dr. Phelps will be confirmed by the State Senate in which there is a Republican majority. The Governor has also appointed one of the Commissioners of Quarantine, Dr. John H. Douglass, well known by his connection with the case of Gen. Grant, the other two commissioners appointed being prominent and highly-respected business men, Messrs. Marshall B. Blake and Charles S. Higgins.

— The State Charities Aid Association have recently had introduced into the Legislature a bill providing for the establishment of municipal lodging-houses, on the plan of the Wayfarers' Lodge opened by the Overseers of the Poor, in coöperation with the Police Department, which has been in successful operation in Boston since 1879. This act authorizes the Commissioners of Charities and Correction to hire or purchase the necessary buildings, subject to the approval of the Board of Estimate and Apportionment. The houses once established, it will be unlawful to shelter any persons but women, children or aged or infirm men in police stations. The lodging-houses will receive all other applicants, subject to proper conditions, and provide them with meals and a night's lodging, in return for which they will be expected to perform a reasonable amount of labor in the morning; and in case any lodger refuses to do this he will be subject to prosecution as a vagrant. Each applicant will also be compelled to take a bath and have his clothes disinfected. It is estimated that four lodging-houses will be required in all; but provision has been made in the bill for the experimental opening of a single one. As there are over two hundred thousand lodgings given in the city's police stations each year, two-thirds of the lodgers being almost constant in their applications, it is believed by its promoters that the adoption of the proposed plan will effect much good in New York, especially in the reduction of the number of professional tramps.

— Dr. S. Oakley Vanderpoel, of New York, died March 12th, at the Arlington Hotel, Washington, where he had stopped for a week on his way South. He came of a distinguished family, and was born February 22, 1824, at Kinderhook, Columbia County, N. Y., where his father, who was also a physician, carried on an extensive practice. He was graduated from the Jefferson Medical College, Philadelphia, in 1845, and in 1847 he went to Europe, where he remained till 1850, when he returned to this country and settled in Albany. He was appointed by Governor King Surgeon-General of the State in 1857, and was appointed again to the same position by Governor Morgan in 1861, when the duties of the office were extremely onerous and exacting. He served in this capacity with distinguished ability throughout the war, winning the public thanks of the Governor and the Legislature, and then once more returned to private practice. In 1860, he was chosen President of the Albany County Medical Society; in 1867, Professor of General Pathology and Clinical Medicine in the Albany Medical College; and in 1870, President of the New York State Medical Society. From 1872 to 1880, he filled the position of Health Officer of the Port of New York in the most admirable manner, during which time he lectured on hygiene at the College of Physicians and Surgeons, New York, and (in 1876), was appointed to the Chair of Theory and Practice in the Albany Medical College. After his term as Health Officer, he returned to Albany for a year; but in 1881, came back to New York and engaged in private practice. In 1883, he was appointed Professor of Public Hygiene in the Medical Department of the University of the City of New York; and in 1884, received the degree of LL. D. from that institution. Dr. Vanderpoel was for a long time prominent in the directorate of the St. Nicholas Society, at whose gatherings his genial presence was always most highly esteemed. Personally, he was a man of great force of character, and his warm heart and kindly disposition won him hosts of staunch and devoted friends. Of his three sons, two are practising physicians in New York.

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Miscellany.

A SECOND FLORENCE NIGHTINGALE.

The great assistance rendered to Senator Hawley in his official work by his late wife has been generally remarked upon since her death, but there was an interesting chapter in her life in connection with hospital service during the late war, which is perhaps not so well known, and which illustrates a strong and remarkable character. We make the following extracts from an obituary notice in the *Hartford Courant*:

In the fall of 1862, she joined her husband, then Colonel Hawley, of the Seventh Regiment, at Beaufort, S. C. From this time to the close of the war, she remained in active service as a hospital visitor. Many a soldier now living will forever bless her memory, and the last hours of many were consoled by her sweet ministrations. She devoted such time as her health would permit to the work at Fernandina, St. Helena, Hilton Head, and finally, in charge of a ward in Armory-square Hospital, in Washington, a position to try the nerve and exhaust the vitality of the strongest nature. Mrs. Hawley reached this hospital the morning after the wounded began to arrive from the battles of the Wilderness. Her ward was one of the largest, containing at one time ninety-seven patients, and to add to its horror, there was no separate operating room. In one day during that terrible April, forty-eight patients died. The hospital, which was designed for 900 patients, was at this time compelled to receive and care for 1400.

Surrounded by such scenes, Mrs. Hawley lived in the hospital in charge of the ward assigned her for four long months — months of the severest labor, taxing her utmost strength, and drawing upon her deepest sympathies. In September her health failed, and she was obliged to relinquish the charge, returning, however, in November, and remaining until March, 1865.

After the capture of Wilmington, N. C., General Hawley was assigned to the command of a department with headquarters at that city. Here Mrs. Hawley joined him, and here she had a new experience of the horrors of war, in the reception of nine thousand Union prisoners from Andersonville and Florence. The city was in a filthy condition, fever broke out, prostrating hundreds, and the deaths were by the score. The chief of the medical staff died; of five professional lady nurses from the North, three sickened and two died; and among the detailed soldier nurses, the fatality was worse than in a battle. Mrs. Hawley exerted herself to the utmost to afford relief. She organized the women who volunteered to help, superintended the making of garments, visited the hospitals, and shunned no danger.

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TWO CASES OF NEPHRITIS VARICELLOSA.

Nephritis is well known as a sequela of scarlatina, and occasionally of measles, but it is only within the last year or two that it has been observed to follow varicella, and very few cases have been as yet recorded. These two cases were observed at the Children's Hospital at Buda-Pesth, by Dr. Högyes, and are summarized in the *Edinburgh Medical Journal* from the *Jahrbuch der Kinderheilk*, Band xxiii, Heft 3, 1805. Case I, a boy, two and a half years of age, was admitted to the hospital for eczema of eyelids, on 14th October, 1884. On the 25th, he had a mild attack of varicella, contracted from another child in the hospital. On the 15th November, his face was observed to be puffy, and his urine was found to be scanty, and to contain albumen. He had a severe attack of nephritis, and died in three days. Post-mortem showed parenchymatous nephritis, and œdema of lungs. Case II, a girl of seven years, came into hospital with varicella on 28th October; a moderately severe attack. On the 21st November, she was observed to have face and feet swollen, and the urine was found to contain albumen. She had a short, but sharp attack of nephritis, but recovered, and was well by the 12th of December. She had suffered from no other disease, and the nephritis could only be referred to the varicella. The first symptoms of the kidney disorder appeared in each case from the nineteenth to twenty-first day after the first appearance of the exanthema.

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UNPLEASANT EFFECTS FOLLOWING ANTIPYRINE.

Dr. W. Graham reports in the *Canada Lancet*, a case in which very unpleasant results followed the administration of antipyrine. On the 7th of October he was called to Mrs. B., aged forty-five, a patient in the fourth week of typhoid, whom he had been attending, and considered convalescent. Her temperature was 103.6°, pulse 120, respiration 30; fine crepitation throughout the lower portion of both lungs. He thought antipyrine the best selection as an antipyretic, judging that it would produce less depression than either quinine or salicylate of soda. He happened to have with him just one drachm, and divided it into five equal powders of twelve grains each, of which he ordered one every three hours. Next morning early, a messenger was sent with the unwelcome news that the patient was dying. On his arrival, he found her in a state of severe collapse. Cold perspiration stood in drops over her face and parts of her body, cold hands and feet, temperature, 95°; pulse feeble and flickering; impossible to count it. He was, indeed, alarmed, and expected to lose his patient. He immediately gave her ammon. carb. and digitalis, with whiskey at short intervals, and applied artificial heat around the body, and was very much pleased to find that this treatment counteracted the unpleasant symptoms, and she ultimately recovered. Two or three days afterwards, her daughter drew his attention to a patch of purpuric maculæ about the size of the palm of the hand, on the back, just below the seventh cervical vertebra. This was, no doubt, the characteristic eruption that results from the use of antipyrine, but it was not observed on any other part of the body.

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A CASE OF RETRACTION OF THE PENIS.

We find in the *London Medical Record* (February 15), the following remarkable case which is recorded in the *Vratch*, No. 26, 1885, page 423, by Dr. A. A. Ivanoff, of Büzülük, Samara Government. A strongly built, generally healthy, married peasant, aged twenty-three, came to a local hospital, evidently laboring under some mental trouble, and stated that "something had broked down below" with him. On stripping the patient a string came to light, one end of which encircled the retroglandular sulcus of the penis, while another end was fastened round the lower part of the left thigh, the member being thus kept down in a tightly stretched state. The patient did not allow the author to touch the arrangement, and himself untied the femoral end of the string. On gradual relaxation of the latter, the penis slowly retracted, and ultimately disappeared altogether under the pubic arch, leaving only a navel-like depression. The part could be got back only by traction on the string. According to the patient's narrative, everything had been in due order up to five days previously, when having got up to micturate on a dark night, he was utterly frightened at being unable to find any trace of his penis. Having managed somehow to pass urine, he, after prolonged manipulations, was able at last to get it back, and to retain in the way mentioned. Except slight perineal pain, no other symptoms, and no possible cause whatever for the retraction could be detected. To allay the pain and the patient's distress, bromide of potassium, in ten-grain doses every three hours, was given. On the next day the penis remained unretracted for an hour or more. Six days later, retraction disappeared, and did not return. Dr. Ivanoff has not been able to find any other similar instance in literature.

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A MODE OF CONCEALING THE TASTE OF QUININE.

The *Medical and Surgical Reporter* (Feb. 27) mentions editorially, a new method of masking the bitter taste of this drug, which was accidentally discovered by Professor Hugo Engel. He had been in the habit of prescribing in the moist stage of bronchitis, equal parts of muriate of ammonia and powdered extract of glycyrrhiza, and on one occasion, while prescribing this powder, to fulfil a special indication in the case, added four grains of quinine to each forty grains of the powder. He told the patient, who had previously taken the powder alone, of the bitter taste he had to expect, and was not a little surprised when the patient informed him that he detected no such taste whatever. Since then, Dr. Engel has tried the same combination in a number of cases, and also induced some colleagues to make use of it, and all agree that it is the best method yet discovered to conceal the bitter taste of quinine. Children usually like licorice, and as a small dose of muriate of ammonia probably never can do harm when quinine is indicated, we possess now the means of administering quinine to young children without the trouble formerly connected with this remedy. The following combination seems to be the best for the purpose:

℞ Quiniæ sulphatis,
Ammoniæ muriatis, āā gr. j.
Pulv. extracti glycyrrhizæ, gr. iv.
M.—Ft. pulvis. S.

In the same proportion, larger doses may be given, but it does not seem to be necessary to take more than ten grains each of powdered extract of licorice-root and muriate of ammonia to ten grains of quinine, so that probably after a certain quantity of quinine, that of licorice need not be increased in the same ratio as has to be the case with smaller doses.

Persons with a sensitive palate, about two minutes after they have taken this compound quinine-powder, have a slightly bitter taste, which, however, soon ceases; besides in children, it is the main point to conceal the taste of the drug at the time they are taking it, so that if greater experience should demonstrate the fact that a few minutes after the dose has been swallowed a bitter taste appears, we still would have gained a valuable addition to our corrigents.

The muriate of ammonia and the powdered extract of licorice-root must be finely powdered and intimately mixed, and kept in a dry and warm place. There should also be first added only a little water, the same as we do in the case of flour when we wish to make a paste, otherwise the licorice swims in the form of little balls in the water, and is then difficult to dissolve. As soon as the whole — the muriate of ammonia, the powdered extract of licorice-root, the quinine, and the water — forms a homogeneous mass of syrup-like consistence, the remainder of the water, about half a tumblerful for twenty grains of the muriate of ammonia — otherwise the latter may cause griping — may be added.

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INTRAVENOUS INJECTION OF SALINE SOLUTION.

Dr. Dmitry O. Ott, of St. Petersburgh, has written an *Inaugural Dissertation*, which embodies the results of his extensive and prolonged experiments carried out at the respective laboratories of Professor Kronecker, Cohnheim, F. Hofmann, Kries, and J. P. Tarkhanoff. It consists of three parts, the first of which treats the question of intravenous injection of common salt; the second, that of injection of blood-serum, and defibrinated and whole blood; and the third, that of auto-transfusion (from the left carotid into the left jugular vein of the same animal). The experiments will be of interest to our readers in view of the interesting case recently recorded in the Journal, in which salt solution was injected with happy effect. We make room for Dr. Ott's conclusions which are thus given in the *London Medical Record* (February 15):

From all the experiments with blood, the author draws the following general conclusion. On transfusing blood — defibrinated or whole, taken from the same animal, or from another — we cannot possibly expect that it may be inoculated to the anæmiated receiver.

On the contrary, we must regard the blood transfused as a dead body, destined for elimination out of the system in course of time. "The blood transfused dies under the influence of contact with the dead tube of the transfusion-apparatus. It is possible, however, that in future there will be invented a technical contrivance for the transfusion, under which the blood transfused will preserve its full vitality — such as the use of excised blood-vessels, instead of India-rubber or glass tubes, etc." It is not difficult to foresee the practical general corollary drawn by Dr. Ott from all his interesting experiments. "The danger from hæmorrhage," the author says, "when the loss does not exceed two-thirds of the whole mass of the animal's blood, consists in establishing a disproportion between the capacity of the bloodvessels and their contents. This danger may be obviated by introducing a certain amount of fluid, and that with pretty equal success, whether the fluid contain albumen and blood corpuscles or not. It is necessary only that it possess indifferent properties, and that it be harmless to the system. The regeneration of the anæmiated organism, and the return of the latter to its original normal condition, take place at the expense of the organism itself, since an organic fluid or morphological elements, introduced into the vessels by means of transfusion, undergo destruction, and are eliminated out of the system. However, in consequence of the fact that the destruction and elimination of all other fluids proceed more slowly than when a saline solution is used, the regeneration of the organism under the injection of common salt is attained more rapidly and more completely than under the transfusion of albuminous fluids, especially under that of blood." Accordingly, the author emphatically recommends the treatment of acute anæmia by intravenous injection of an 0.6 per cent. solution of common salt. It is only natural that he discards also injection of egg-albumen, milk, peptones, etc.

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A PROPOSED INTERNATIONAL CONGRESS OF HYDROLOGY AND CLIMATOLOGY.

THE Society of Letters, Arts and Sciences of Biarritz, France, has issued invitations to a proposed International Congress of Hydrology and Climatology to be held at Biarritz during the first week in October, 1886, under the presidency of the Minister of Commerce, and assisted by the Medical Hydrological Society of Paris and the Meteorological Society of France.

The aim of this Congress is to bring together in a country rich in thermal and sanitary stations, the learned men of all countries, who would study in common the questions bearing on hydrology and climatology. All societies and scientific associations, all learned men in France and abroad, are invited to take part in this meeting.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 6, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	747	295	18.07	14.44	1.34	8.19	3.64
Philadelphia	927,995	400	128	11.25	—	2.00	4.75	.25
Brooklyn	644,526	337	131	17.40	14.50	2.90	10.73	.87
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	54	8.40	22.20	1.20	3.60	.60
Baltimore	408,520	140	51	9.94	19.88	—	3.55	.71
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	118	37	13.60	19.55	.85	2 55	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	88	27	9.09	19.31	1.14	3.42	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	30	11	6.66	20.00	6.66	—	—
Charleston	52,286	30	13	10.00	20.00	—	3.33	6.66
Worcester	68,383	23	9	—	17.34	—	—	—
Lowell	64,051	34	15	20.30	11.60	—	14.50	2.90
Cambridge	59,660	18	1	11.11	16.66	—	—	—
Fall River	56,863	18	7	11.11	22.22	11.11	—	—
Lynn	45,861	20	4	—	5.00	—	—	—
Lawrence	38,825	10	3	—	30.00	—	—	—
Springfield	37,577	13	4	15.38	7.69	—	—	—
New Bedford	33,393	15	4	—	26.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	0	—	40.00	—	—	—
Holyoke	27,894	11	6	45.45	18.18	—	27.27	—
Chelsea	25,709	11	4	18.18	18.18	—	—	9.09
Taunton	23,674	9	0	—	—	—	—	—
Haverhill	21,795	14	5	28.56	28.56	—	14.28	—
Gloucester	21,713	6	1	16.66	—	16.66	—	—
Brockton	20,783	5	2	20.00	—	20.00	—	—
Newton	19,759	3	0	—	33.33	—	—	—
Malden	16,407	4	1	25.00	—	—	25.00	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	3	1	—	33.33	—	—	—
Newburyport	13,716	3	0	—	33.33	—	—	—
Northampton	12,896	4	0	—	50.00	—	—	—
92 Massachusetts Towns	—	56	7	36.00	9.00	1.80	1.80	—

Deaths reported 2,349; under five years of age 821; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 329, consumption 323, lung diseases 332, diphtheria and croup 145, scarlet fever 44, whooping-cough 38, typhoid fever 26, diarrhœal diseases 21, malarial fever 20, cerebro-spinal meningitis 14, erysipelas eight, measles six, puerperal fever four, typhus fever three. From typhoid fever, Philadelphia 15, New York five, Cincinnati three, Boston, Lowell and Cambridge one each. From diarrhœal diseases, New York nine, Cincinnati four, Brooklyn and Boston three each, District of Columbia and Chelsea one each. From cerebro-spinal meningitis, New York five, Holyoke three, Nashville two, Boston, Cincinnati, Springfield and Haverhill one each. From erysipelas, New York three, Brooklyn two, Baltimore, Cincinnati and Holyoke one each. From measles, Baltimore five, New York one. From puerperal fever, District of Columbia three, Springfield one. From typhus fever, New York three.

In 114 cities and towns of Massachusetts, with a population of 1,376,736 (population of the State 1,941,465), the total death-rate for the week was 17.35 against 14.83 and 15.96 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 20th the death-rate was 24.4. Deaths reported 4,253: infants under one year of age 999; acute diseases of the respiratory organs (London) 639, whooping-cough 197, measles 79, diarrhœa 43, diphtheria 39, scarlet fever 31, fever 33, small-pox (Liverpool) three.

The death-rates ranged from 15.3 in Birkenhead to 39.1 in Blackburn; Birmingham 25.2; Brighton 19.3; Bristol 18.4; Hull 18.8; Leeds 23.51 Leicester 16.4; Liverpool 26.0; London 25.6; Manchester 28.4; Nottingham 24.9; Sheffield 18.1; Sunderland 30.7.

In Edinburgh 17.4; Glasgow 24.9; Dublin 31.8.

For the week ending February 20th in the Swiss towns, there were 38 deaths from consumption, lung diseases 30, diarrhœal diseases 11, whooping-cough seven, typhoid fever six, small-pox four, diphtheria and croup four, measles two, erysipelas one.

The death-rates were: at Zurich 21.0; Geneva 19.2; Basle 17.0; Berne 38.5.

The meteorological record for week ending March 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 6, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...28	29.712	14.5	23.2	7.4	52.0	44.0	46.0	47.3	N.W.	N.W.	N.W.	31	38	29	C.	C.	C.	—	—
Monday,.. 1	29.694	4.4	11.9	–1.2	48.0	46.0	88.0	60.7	N.W.	N.W.	N.W.	20	35	29	C.	C.	N.	—	—
Tuesday,.. 2	29.445	14.4	20.3	–0.2	63.0	49.0	65.0	59.0	N.W.	N.W.	N.W.	32	28	22	O.	C.	O.	—	—
Wednes.,. 3	29.699	24.9	31.8	15.3	59.0	52.0	73.0	61.3	N.W.	N.W.	N.W.	22	20	11	O.	F.	O.	—	—
Thursday, 4	29.834	32.5	41.1	22.0	48.0	42.0	72.0	54.0	N.W.	N.W.	N.W.	20	18	17	C.	C.	C.	—	—
Friday,... 5	29.803	30.7	38.7	25.8	62.0	48.0	64.0	58.0	N.W.	N.W.	N.W.	12	13	13	C.	O.	C.	—	—
Saturday,. 6	29.816	27.5	39.0	24.3	67.0	41.0	66.0	58.0	N.W.	N.W.	N.W.	12	23	18	C.	C.	C.	7.0	0.1
Mean, the Week.	22.572	21.3	29.4	12.3				56.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; K., sleeting; N., snow.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 13, 1886.

Woods, George W., surgeon. Ordered to Navy Yard, Mare Island, to relieve Surgeon W. K. Scofield, April 1.

Scofield, W. K., surgeon. Detached from Navy Yard, Mare Island, and wait orders.

TO THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

The rates given to the Delegates to the American Medical Association meeting, May 4, in St. Louis, have been fixed by the different Railroad Committees of the country, at one and one-third fares for the round trip. Delegates must pay full fare coming, and will receive on application, from the agent at starting point, a certificate, which when signed by the Chairman of the Local Committee of Arrangements will entitle them to the reduced return rate.

No reduced return ticket will be issued unless the purchaser can show a certificate issued by the Agent from whom he purchased the going ticket, and signed by the Chairman of the Committee of Arrangements. Le Grand Atwood,

Chairman Committee of Arrangements.

SOCIETY NOTICE.

New York State Medical Association, Fifth District Branch. — The third special meeting of the Fifth District Branch will be held in the Common Council Chamber, Yonkers, at 2 P.M., on Tuesday, March 23, 1886. The following scientific papers will be read: "The Physician and the Pharmacist — their Relative Duties," by J. P. Garrish, M.D. "A Case of Meningeal Extravasation with Curious Localization of Nerve-Symptoms," by A. L. Carroll, M.D. "Sacculation and Perforation of the Bladder as Consequences of Chronic Retention of Urine," by J. W. S. Gouley, M.D. J. G. Porteous, M.D., *President.*
E. H. Squibb, M.D., *Secretary.*

DEATHS.

Died at Wayland, Mass., March 9, 1886, John McLean Hayward, M.D., M.M.S.S., aged forty-nine years.

Died in New York City, March 13, 1886, Austin Flint, M.D., aged seventy-four years. An honorary member of Massachusetts Medical Society.

BOOKS AND PAMPHLETS RECEIVED.

Ague, or Intermittent Fever. By M. D. O'Connell, M.D., M. Ch., L.M., Surgeon-Major Medical Staff. Calcutta, 1885.

Progress of Electrolysis in Surgery. By Robert Newman, M.D. Surgeon to N. W. Dispensary, New York. Read at the First Annual Meeting of the Fifth District Branch of the New York State Medical Association, Oct. 13, 1885. (Reprint from December number of Gaillard's Medical Journal, 1885.)

Report of the Commissioner of Education for the Year 1883–84. Washington Government Printing Office. 1885.

Illustrations of Unconscious Memory in Disease including a Theory of Alterations. By Charles Creighton, M.D. New York: J. H. Vail & Co. 1886.

Circulars of Information of the Bureau of Education. No. 4, 1885. Education in Japan. Washington Government Printing Office, 1885.

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Original Articles.

PNEUMONIA AND ITS TREATMENT.[1]

BY C. W. STOCKMAN, M.D., ANNISQUAM.

I have selected for a subject to bring before you for discussion to-night, pneumonia, not with the hope or expectation of adding anything new to what has been written, but because a great change has occurred within the last two or three decades, in the views held by a majority of the profession, concerning its pathology, and consequently its treatment. The modern treatment of pneumonia, based upon expectancy, support and stimulation, appears to me to rest upon a tripod. First, the alleged discovery that the disease, instead of being the simple inflammation of the lung, attended by fever, that our fathers supposed it to be, is really a constitutional and as some would have it, an infectious and contagious disease, with a local manifestation in the lung; secondly, the assertion that the human constitution has changed within the last thirty or forty years, and will not bear depletion as it would once, and thirdly, the statement that venesection cannot cut short, or favorably modify the disease. Concerning the first of these propositions, although most of our modern text-books and teachers tell us that pneumonia is a constitutional disease, I have as yet seen only the assertion, without proof or reason being offered, and I am far from being convinced that the statement is correct. As regards the second, although I do not deny that some change may have taken place in our physical being, in the last few decades, still I am satisfied in my own mind that many of our patients might not only bear venesection without injury, but in some cases very greatly to their advantage. As regards the third proposition, I feel convinced, not only by the statements of others, but by my own limited experience, that venesection, properly applied as to time and amount, is capable not only of aborting certain cases of pneumonia and other inflammatory diseases, but that it will in some instances save the life of the patient, when nothing else will. The opponents of venesection are to be found almost wholly among those who have commenced practice in the last twenty, or at the most thirty years, and what proportion of the number, I ask, have ever bled a patient for any reason? What proportion have ever seen a person bled, or have any personal knowledge of the effect produced by venesection. They tell us that they do not bleed for fear of so weakening the patient that he will not be able to stand the exhaustion of the last stage, the stage of purulent infiltration. What proportion of the fifty thousand physicians, more or less, practising in the United States to-day, have ever once given this powerful remedy a trial to ascertain for themselves if it will so weaken the patient; if it will not rather, in many cases, cut short, or so modify the disease that it will never reach the dreaded third stage? Although there are at present many different methods of treating pneumonia, a majority perhaps of the modern school aim to reduce the pulse by veratum viride or aconite, the heat of the body by large doses of quinine, and to maintain the strength of the patient by the early, continuous, and even copious use of beef tea, milk, brandy or whiskey, and whatever else of the most nourishing food the patient can be induced to take, and all this is done in the hope that the patient will be able to bear up until all the stages have been gone through.

Says Flint in his "Clinical Medicine," "The taking of solid food should be encouraged and it should be prepared with a view to tempt the appetite; for the question is, what can the patient be induced to eat, rather than what articles of diet are allowable." Now what are the different stages, or in other words, what is this disease? Ziemssen and other foreign authors give the same description that we find in our own text books. The works upon practice for the last fifty years all give the same account of its invasion, progress and termination. First stage, congestion or inflammatory engorgement. But what is inflammatory engorgement? What is the condition of the lungs? Juergensen says: "The lungs in that stage are of a dark-red color, heavy, firm, and retain the depression caused by the pressure of the finger, showing that they contain little, or no air, but fluid; on section, the substance is found to be dense, the result of swelling of the tissue, and infiltration with a bloody serous fluid. Next comes the second stage, hepatization, marked by a very adhesive, viscous, reddish-brown, secreted fluid. This second stage is the one which is very generally present when the physician is first called, marked by a viscous, bloody, and rust-colored expectoration. Juergensen thus describes it: "The lung is now, internally and externally, of a dark, brownish-red color, solid, but easily torn; it no longer crepitates: on being cut, there usually exudes — only on pressure — a brownish-red, opaque, bloody, serous fluid. This condition, known as red hepatization, soon changes into the third stage proper, that of purulent infiltration. The cut surface is now of a straw-yellow color, and from it exudes in large quantity, a very viscid, purulent fluid, of a faint odor. It is the exhaustion of this purulent stage that the physicians who follow what they call the supporting plan, and who oppose venesection, dread.

They believe that the disease must go through its course of three stages, and therefore, instead of attempting to arrest its course, to cut it short, they limit their efforts to feeding, stimulating, watching and waiting; they do nothing to prevent the congestion which of course occupied but a small part of the lung for the first few hours —from being extended to other portions of it, or if they have not seen the case until the inflammatory engorgement has already occupied a great part, or all of the lung, do nothing to arrest its passage into the third stage — a stage from which the patient rarely recovers.

Professor Loomis in Pepper's valuable "System of Medicine" uses the following decided language: "If it is remembered in the treatment of pneumonia that the pneumonic lung no more requires treatment than do the intestinal ulcers in typhoid fever, and that we are to be governed by the patient's general condition, and not by the physical changes in the lung, as indicated by the physical signs, it is evident that all those measures which have been employed for the arrest of a local inflammatory process, have no place in our therapeutics." This *may* be the correct view. It is not for me to attempt to deny a statement made by a physician of Professor Loomis' great knowledge and experience, nevertheless, were I the subject of pneumonia, I should much prefer that measures should be taken to *attempt*, at least, to limit and control the acute inflammation going on in the lung. He continues: "It is for this reason that venesection, which at one time had its stronghold in the treatment of pneumonia has now fallen into disuse. Now the principle upon which this theory is based appears to be that the disease, like small-pox, will run a prescribed course, always the same in point of time, differing only in degrees of mildness or severity, and it is the physician's duty not to attempt to arrest its course, but to keep up the strength so as to enable the patient to bear the suppuration going on in the whole of one lung."

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[1] Read before the Essex South District Medical Society.

Loomis defines croupous pneumonia as an acute general disease, with a characteristic local pulmonary lesion. "Anatomically considered," he says, "it is an acute inflammation of the vesicular structure of the lungs, resulting in infiltration of the alveoli with inflammatory products, which renders them impervious to air."

Dr. Hiram Corson, of Pennsylvania, from whose articles upon this subject I have freely quoted, says: "I regard pneumonia as simply an inflammation of the lung tissue, and I don't worry myself to distinguish between catarrhal pneumonia and croupous pneumonia, for it makes no difference, so far as treatment is concerned, which it is; and because, too, neither myself nor any one else can tell which it is during that time when treatment is so indispensable."

Juergensen says: "It will be found very difficult and perhaps impossible to draw the distinction between a case of catarrhal and one of croupous pneumonia, if one does not see the case until consolidation is complete." When is consolidation complete? Why, in the first stage. He says of the lungs then, in the first stage: "They are of a dark-red color, heavy, firm, and contain little or no air."

Juergensen thus defines the disease; "Croupous pneumonia, anatomically considered, is an acute inflammation of the alveoli and bronchioles, in which a fibrinous exudation is poured out on the free surface of the mucous membrane and there coagulates." Says Dr. Corson, after a minute description of pneumonia "I am almost ashamed to have taken up so much space with a description of this disease, which, after all, is simply *an inflammation of the substance of the lung.*" and I would ask, is there anything in this description or in any other description of pneumonia, which we meet with, to lead one to look upon it as anything more or less than an inflammation of the substance of the lung?

Now, how ought the subject of such an inflammation to be treated? Professor Loomis says: "A summary of the arguments against venesection seems to be conclusive." He tells us that indiscriminate bleeding immensely increases the mortality of the disease, and that it is especially fatal in old people and in young children, in patients of exhausted constitutions, and in those suffering from chronic diseases, and particularly from Bright's disease. No doubt, but can Professor Loomis find a physician at the present time, who advocates indiscriminate bleeding, or who would bleed a patient under the circumstances he enumerates? He further says, that it is absolutely unnecessary in the majority of cases of young adults, and also young children. I am not disposed to differ much with this statement, but when he says that in the majority of cases, it has no influence whatever, either in cutting short the disease, in lessening its duration, or in diminishing the pyrexia, though occasionally, these results *appear* to follow from its use when practised early; I should give more weight to the assertion if I could know that Professor Loomis has given venesection a fair and impartial trial. Although he further states that in the majority of cases it hinders the critical fall of temperature, and delays convalescence, and that recovery is equally, if not more rapid, when it is not practised, still he admits that in a few cases, a moderate venesection may be necessary in the early stages, to avert immediate danger of death from asphyxia.

Now, if Professor Loomis's views are correct regarding venesection, then, some of the most able and experienced physicians of the present day, who have had abundant opportunities of testing and comparing both methods of treatment, have deceived themselves in their estimate of the safety and value of this powerful remedial agent. Among the physicians of our own time, who advocate and practise bleeding, may be mentioned Drs. John Atlee, Traill Green, Austin Flint, H. I. Bowditch, J. F. Meigs, Alonzo Clark, Fordyce Barker, W. Pepper, Henry Hartshorne, and the late Professors S. D. Gross and George B. Wood; while in Great Britain, may be mentioned the late Professors Alison, Watson, Christison, Copeland, Laurence, Chambers, Parkes, C. West, Gairdner, Symonds, F. Winslow, Aitken, Markham, Handfield Jones, Dyce, of Aberdeen, Sutton, George Johnson, B. W. Richardson, and others. These are men whose opinions are entitled to great consideration, and be it remembered that, unlike most of its opponents, they have fully tested this measure, and know whereof they affirm.

Professor Hartshorne says, in relation to the treatment of pneumonia: "I am convinced by experience that prompt and moderate antiphlogistic treatment may greatly lessen the danger of pneumonia, if not shorten its duration. Probably nine cases in ten would recover without the abstraction of blood; the tenth might die for want of it." The opponents of blood-letting assert that more cases of pneumonia recover under the present system of treatment. Professor Hartshorne says: "I believe that the mortality of pneumonia has increased in Philadelphia, and elsewhere, since blood-letting has been so generally abandoned." Professor Gross, and most, if not all, of those whose names I have mentioned, have expressed the same opinion. In the same connection, Hartshorne further says: "The late Dr. L. P. Gebhard, of Philadelphia, informed me that in a large practice of more than half a century, he had never lost a case of *simple* pneumonia; his treatment being (according to cases), 'moderately antiphlogistic,'" as above described. Those who object to venesection in *all* cases of pneumonia, do so, almost invariably, on theoretical grounds, *without having tried it.* Its occasional use is justified with almost equal unanimity by those who have had experience with it. This was well brought out in a discussion of the subject at Richmond, Va., in 1881, the "net result" of which was thus expressed by Dr. Martin, of Boston: "I trust that it may go out to the world, that the American Medical Association sanctions the occasional use of the lancet, at least."

But let us return to Professor Loomis, who is one of the latest exponents of the modern treatment of pneumonia. He continues: "A careful study of the pathology of pneumonia, not only leads one to the conviction that venesection must do harm, but it strongly contraindicates the employment of all those remedial agents which have been used to arrest a simple pulmonary inflammation." Hence, he condemns tartar emetic, veratrum viride, aconite, and all other cardiac sedatives; also calomel and antimony. Of expectorants, he says: "They have no place in the treatment of pneumonia." Counter irritation by blisters or other irritants, he condemns as of doubtful utility, though he admits that occasionally, blisters may be applied during the *third* stage, to hasten the process of resolution, and promote the absorption of plastic exudation. Carbonate of ammonia he mentions but to condemn, and digitalis, he thinks, does more harm than good; camphor and musk he pronounces inferior to alcohol, but advises champagne as a diffusible stimulant. Having thus condemned almost *in toto* the method of treatment heretofore in use, let us see what Professor Loomis recommends to take its place. He has given us the key-note to his system of treatment in the following sentence: "In all severe types of croupous pneumonia, there are two prominent sources of danger, heart insufficiency and high temperature." There are consequently, two prominent indications for treatment, namely, to sustain the heart, and reduce temperature. The essential part of the treatment itself is comprised in three words: food, stimulants, and quinine, to which he adds the administration of opium during the first four days, and the necessity of complete rest.

Those of the profession, and I believe there are many still living, who have witnessed the great and immediate relief to the pain and difficult breathing by free blood-letting at the onset, or in some cases, by the use of wet-cups only; those who have seen more than one case of pneumonia cut short, aborted in its first stage by a timely venesection, those who have watched the cough become looser and less in frequency under the exhibition of small and repeated doses of ipecac, or Dover's powder; those who, later in the disease, have noted the expectoration become freer and easier under the administration of ammonium carbonate, would scarcely be satisfied with the above line of treatment, or feel that they were doing justice to their patients.

You will ask, perhaps, what treatment I would advocate in this disease, for I do not always treat the patient as I would. In some cases, he will absolutely refuse to be bled, when his physician advises it. Again, in some cases, the patient, or his friends, will yield their consent so reluctantly, if at all; they will be so fearful of the measure, that I feel confident that if venesection is practised, and the patient ultimately dies, his death will be attributed solely to the loss of blood. But I firmly believe that in a great majority of cases, if we see and recognize the disease in its first stage — the stage of congestion — we can, and ought to arrest it. At this time, the congestion is hourly spreading further and further through the lung, and advancing to the stage of red hepatization, and I believe that prompt venesection. and that alone, will cut short the disease in many cases; nor have I, in a great majority of cases, the great fear of after-prostration, and heart failure and insufficiency, that so disturbs Professor Loomis, Dr. Reynolds, and others. In many cases, at this stage, the pulse is full, hard, and firm, and in some cases, at least, where it has lost in some degree, its force and hardness, I believe the weakness to be more apparent than real, the immediate and direct effect of a severe inflammatory disease upon a vital organ; and as the result of prompt blood-letting, such a pulse will often acquire more volume and power. It is a well-known fact that men, strong, robust, and apparently healthy, will, in two or three days after the commencement of an attack of acute pneumonia, pleurisy, or peritonitis, exhibit indications of decided weakness, depression, or rather oppression, and debility. What has dissipated their strength so suddenly? The disease has not continued long enough to cause exhaustion, and, if we can arrest it at this point, the patient will, in a few days, be as strong as before; but if we let this disease go on unchecked for a week or ten days; if we let it spread over and cripple the greater part, or the whole of one lung; if, in spite of the anorexia and the fact that the patient turns from food with loathing, we assiduously ply him with nourishment, which, in many cases, he cannot digest or assimilate; if we give him stimulants early and often, notwithstanding the fact that the greater part of one lung is engorged with blood, and the patient is the subject of an acute inflammation, with high fever, *then* I think we shall have just cause to fear exhaustion and heart-failure.

To again quote Dr. Hartshorne: "Few if any pathologists will hesitate to admit that a difference, often momentous, exists between the *exhaustion* of a system weakened by the continuance for some time of severe disease, and that *oppressive* debility with which the most robust person may be temporarily affected under the influence of an acute malady such as pneumonia, meningitis, or croup." Again he says: "The mortality of pneumonia in Philadelphia has for some time certainly increased, not in the hospitals, where the average character of the patients has always made them unfavorable subjects for depletion, but in private practice. It is not too bold an assertion, indeed, for one, who without partisanship, maintains his conviction of the occasional importance of venesection and local depletion as remedies, that while uncomplicated pneumonia, under moderate depletory treatment, was, thirty years ago, rarely fatal outside of hospitals, and not frequently so within them, the indiscriminately stimulating method, now often applied to all classes of cases, has increased very considerably the fatality of this and other inflammatory diseases, in private practice." So much for the opinion of Dr. Hartshorne, one of the most learned and accomplished physicians in Philadelphia, and I may safely add, in the whole country.

And now I want to insert a short quotation from Dr. Reynolds, the author of Reynolds's System of Medicine, which should have appeared earlier: "If the general condition be one of weakness, it matters not that the brain, the heart, or the lungs may be in a state of so-called inflammation; *the weakness is the one thing that demands immediate treatment, and to neglect its treatment* is to run the risk of sacrificing the patient to a theory of a compound state, even now but imperfectly understood." It appears to me that such teaching as this, by a man in the position Dr. Reynolds occupies, is calculated to do great harm, by misleading the young practitioner, who has not had the experience to enable him to distinguish between the *apparent* weakness so invariably present in pneumonia, and the real weakness of exhaustion from prolonged disease.

But to return to the subject of treatment. I desire to again quote Dr. Corson, who tells us in one of his articles that he has bled hundreds of patients, of all ages, and has never seen any of the injurious effects, either immediate or remote, which are so dreaded by many of the physicians of our time, nor has he ever had cause to regret using the lancet. He says: "To me it is simply an inflammation, and I would use rapidly, as early as possible, the means which, in the practice of half a century, I have found safe and most efficient in allaying inflammation. Well, here is my patient. He had a chill hours ago; he had some pain in his side, some cough, and he feels very weak; his face is flushed, he is hot and thirsty, his pulse over a hundred and the thermometer rises to 103°; he breathes scarcely at all through the most of one lung; there is a little blood, and viscous fluid, slightly rust-colored, in the basin by the bedside; he knows how he got sick; he 'was down in the iron ore shaft all yesterday at work, came up in the evening to come home, and being in a perspiration, soon, in facing the wind, cooled off too suddenly.' I propose to bleed him, but he objects on account of his great weakness. I tie up his arm, and bleed him twenty ounces, or perhaps he feels faint by the loss of less than that. He expresses himself as being relieved somewhat of his oppression, he can lie more comfortably, he feels relieved of the fulness in the chest, but still he has a little pain in the side, or in the breast, just above the nipple. I order him one-quarter grain of sulphate of morphia; direct that a towel be wrung out of cold water, ice-water, if convenient, be applied over the affected part, to be changed frequently, or instead, a bladder of ice and water. Then ordering a mixture which contains some spirits of nitre, with about the third of a grain of morphia to a teaspoonful every two or three hours, I leave him with an express direction not to worry him by any offer of food. Next day, or even the same day, perhaps, if I find that he is not entirely relieved of the pain, and is still expectorating viscid sputa, I bleed him again freely, and if need be, cup him, and after that he is generally safe. Some one will say, 'that may do very well for your strong, iron-ore diggers, but it would prove fatal to our delicate patients.' Perhaps so, but in my experience, I have found that the weak and frail need to have the same means used to allay a toothache, or a sciatica, a pleurisy or a rheumatism, as the robust. They bear the remedies to cure an ague as well, and need them as greatly as the strongest. I have often bled the infant strangling with croup, with immediate relief; weak women with pleurisy or pneumonia, old men, and aged, very aged women, to relieve affections of the brain, or avert a paralysis."

This is the method of treatment which Dr. Corson has practised for some fifty years, and I believe it to be much nearer right than the practice now so generally adopted.

In conclusion, I would say that I would by no means advocate or practise venesection simply because a patient had pneumonia, pleurisy, peritonitis, or meningitis, but I would use it in those cases only in which I considered it safe, and better adapted than any other measure for the recovery of the patient. Its use requires experience, judgment, and discrimination, but I do believe that the weakest of our patients with primary pneumonia will better bear moderate depletion, than the most robust will bear assiduous feeding and stimulation.

After venesection, I would give to such of the more robust patients as I thought required it, small doses of tartar emetic, carefully watching its effects, but those who required it would be few. In *some* of the less robust cases, I would give small doses of ipecac or Dover's powder, and in all I would, until infiltration became complete, if the case arrived at that stage, administer opium in sufficient doses to tranquilize the nervous system, and procure sleep.

Milk I would give after the first day or two, if the patient did not object, and before that if he requested it, and more nourishing food as soon as he asked for it, but if I found indications of exhaustion coming on, and had reason to believe that he could digest and assimilate food, I should urge him to try its effect before that. If the temperature was excessive, and was not reduced by venesection, I should try to reduce it by cold compresses, or quinia, or both, and I would give my patient stimulants as soon as I felt satisfied that real exhaustion was approaching, with the first indications of failure of the heart, but I would not commence the early use of stimulants to prevent the exhaustion that *might* occur later in the case.

I will not mention other details; they are of less importance, and about which there is less diversity of opinion. In the interest of our patients I sincerely hope that this paper may be the means of inducing some one or more of my brother practitioners to investigate and test for themselves this powerful and too much neglected remedy, and if suitable cases are selected and the remedy used according to correct principles, I feel certain that they will learn to highly value the lancet, and to rely upon it in many cases of inflammatory disease.[2]

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THE STAINING OF THE BACILLUS OF TUBERCLE.

BY E. W. CUSHING, M.D.

Your secretary, gentlemen, has requested me to supplement my last paper before this section, in which I went over the proofs of the infectious nature of tuberculosis, by a practical demonstration of the method of staining suspected sputa for microscopic examination, with reference to bacilli.

I have accepted his invitation, at some risk of wearying you, and perhaps of being considered a bacteriomaniac, since I realize how different it is to read of a practical process, from what it is to see it done. I have still in my note-book copies of descriptions of staining for tubercle bacilli, given in 1883 and 1884, by Ehrlich, Fraenkel, Ernst, and others; but it all seemed far-off, and made no deep impression on me.

I am sure it would have aroused more interest in me, for this important matter, if I had seen it done. It is curious how mythical and difficult strange chemicals seem, until one has handled them; methyl-violet seems transcendental, and vesuvin portentous, even dangerous. But when handled and used they are as commonplace as hectograph ink, or easter-egg stains.

There are many ways in which tubercle bacilli may be stained, and several in which they may be so stained as to be differentiated from all other bacilli. Some methods are easy and simple, others more complicated. In this, as in many other things, however, the easiest way is not always the best way, for it is not now a question of showing their presence when they are abundant, that is easy enough in any way: the difficulty is in finding them when very few and far between, or in feeling certain that they are *absent* in a suspicious case. For this we must use the surest method, one well proved and most likely to show *all* the bacilli present.

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[2] The writer also desires to express his obligation to the article by Joseph Stubbs, M.D., entitled "Pneumonia treated by Venesection," printed in the *Philadelphia Medical and Surgical Reporter*, July 8, 1882, No. 2 of volume 47.

The orthodox method for rapid staining which is usually sufficient, and which I described in my last paper, is that with aniline-oil water, methyl-violet (or fuchsin) and nitric acid, followed by vesuvin (or methylene-blue), and of this I will show you all the steps, afterwards showing another way of making a permanent test solution of fuchsin, to be used with methylene-blue as a contrast.

The only objection to the first method is that the solution is not permanent, it does not keep well. Koch says that it will keep about ten days, in a well-stoppered bottle, probably meaning in a laboratory where it is in daily and frequent use; I have tried keeping a solution in a dark bottle, excluding the light, and found it to keep very well for over a month.

Now first as to the materials. Aniline oil is a brown liquid which when fresh is colorless, but seems to be just as good when brown. It is a product of the destructive distillation of coal, a by-product of gas manufacture, or is made on a large scale by the action of reducing agents on nitrobenzol. The formula of aniline oil is $C_6 H_7 N$, and it may be considered as a phenyl ammonia $(C_6 H_5, H, H) N$., and like ammonia it forms salts with various acids.

As it was observed that bacteria took aniline dyes better when in alkaline solutions, and as in fact Koch first stained the tubercle bacilli with a solution of methylene-blue containing caustic potash, it occurred to Ehrlich to try the effect of using a solution of aniline oil instead of potash or ammonia, as the solutions of fuchsin and methyl-violet do not work well with the latter alkalies.

The results were highly satisfactory, and with some unimportant modifications Ehrlich's process has come into general use, and Koch in his last publication,[1] issued in 1885, says that he always uses it and most emphatically recommends it.

Besides aniline or aniline oil there is a similar body formed in the same way from toluol $(C_7 H_8)$ that aniline is formed from benzol $(C_6 H_6)$. This is called toluoidine, and may be mixed with water, filtered and used precisely like aniline.

From mixtures of these two substances various compound salts are obtained of most remarkable colors, giving the so-called aniline dyes. These are divided by Ehrlich into acid and basic, according to whether the acid or the color-base is the coloring principle, as far as concerns the election of certain tissues or microbes for the color. The so-called acid dye-stuffs, like eosine, picric acid, alizarin, etc., do not concern us here. For staining tubercle bacilli we use exclusively the basic aniline colors.

Among these are methyl-violet (chloride of trimethyl-rosaniline) in crystals and in alcoholic solution; in the last case it is very like hectograph ink, if not identical with it. The latter fluid is said to be an excellent material for staining tubercle bacilli when it is added to water to saturation. Fuchsin (chloride of rosaniline) in small crystals, and in solution, is readily recognized as one of the dyes commonly sold to stain Easter eggs. The peculiar shining bronzed appearance of either of the above when dried from an alcoholic solution is very beautiful. They both have the property of losing their color instantly when in the presence of a strong acid, as may be seen by putting some nitric or hydrochloric acid in a watch-glass which has been deeply stained by them; in fact this is the way in which the stains of these coloring agents must be removed from glasses or from the fingers.

Methylene-blue is a dark powder, and is used in solution of 10 gr. to ℥ i. in water. The color is intense, and is not acted on by acids. The same is true of the brown powder and solution of vesuvin.

Other aniline colors there are, many and beautiful, some of which are used for staining various bacteria or for double staining, such as eosine, dahlia-violet, etc., but these we need not now consider.

To prepare our tubercle stain we shake aniline oil ʒ ss, with distilled water ʒ x; a sort of unstable emulsion is formed, but part of the oil is really dissolved, and the turbid mixture is next filtered. To make it clear a double thickness of paper should be used, not forgetting to wet it thoroughly first, preferably in hot distilled water, in order to swell the paper. If it does not come through clear at first, or if little drops form in the filtrate, it must be run through the filter again. To this clear filtrate is added ʒi $\frac{1}{10}$ of a saturated solution of methyl-violet (or fuchsin) in absolute alcohol, and ʒi of absolute alcohol.

Aniline oil	ʒ ss.
Aq. dist.	ʒ x.
Shake well and filter thoroughly. Add	
Sat. alcoholic sol. methyl-violet (fuchsin) . .	ʒ j. 1-10.
Absolute alcohol	ʒ i.
Keep in well-stoppered bottle, preferably away from light.	

The proportion in any amount of the ingredients is 5, 20, 11, 10. Any apothecary can learn to make the solution, although the gravity of the diagnosis involved makes it very prudent for the careful man to make his staining solutions himself.

The other stains necessary are a solution of vesuvin (or methylene-blue) in distilled water 10 gr. to ℥i.

All these should be filtered on every occasion when they are used, in order to be sure that whatever bacteria we find were in the substance examined, and not in the reagents employed. For discharging the color of the first stain used, nitric acid one part, water two parts, is employed, from half a minute to three minutes, and this apparently takes out all the color, but under the microscope it is found that the tubercle bacilli have the very remarkable power of retaining their stain even when exposed to the acid. No other bacteria which can be confounded with them in practice have this power, and thus the diagnosis is made with all the precision of a chemical test.

I will say, parenthetically, that polished office tables, or those with enameled leather tops, as well as Sunday clothes, show the same remarkable tenacity for aniline colors.

The cover glasses to be used should be new, for, if used previously in looking for bacteria, it is very likely that some of the previous material will adhere to them. If old ones are to be cleaned, they should be put in strong sulphuric acid, which burns off all organic matter found on them.

A very little of the sputa is taken with a wire loop or pincers which have been first heated and then cooled, selecting especially any minute white lumps, which may be pure masses of bacilli. The little drop so taken is laid between two cover-glasses, which are then rubbed together until the drop is quite evenly distributed. The glasses are then slid apart, not lifted from each other, but separated by sliding them in parallel opposite directions. They are then turned wet side up and allowed to dry thoroughly; they should meanwhile be protected from dust.

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[1] Communications, Germ. Imp. Health Office, for 1884.

After this, one must remember which is the side with the sputum, for it is very hard sometimes to distinguish by sight the prepared side from the clean one. If necessary, the distinction is made by observing, when the glass begins to dry, which side is dull and lustreless and which is bright when so held as to reflect the light. The clean side will act like a mirror.

When dry and not sooner, the cover is to be passed three times, with the clean side down, through the flame of a Bunsen burner or spirit lamp, not too fast, nor yet slowly enough to scorch it. This bakes on the sputum, so that it will not wash off. Then it is laid in a watch-glass swimming clean side up on some of the first stain, here methyl-violet, and heated by passing back and forth through the flame, until little bubbles form under the cover-glass. That is the auspicious moment to stop the heat; in a moment it will boil up in a way that shocks the nerves, and the agitated hand scatters the stain over table and trousers, or the glass cracks, spreading dismay and sometimes causing profanity,— I would advise beginners to get a little porcelain dish, and, supporting that on a stand, to move the lamp back and forth under it; when the crisis comes, nervousness is less disastrous. The dish is now left to cool for some ten minutes — or, instead of the above heating of the fluid, the cover-glass may be left overnight to swim on the staining-fluid, without heating, say for twenty-four hours, and this is how sections of tissues are treated, because they cannot endure boiling; sections cut in celloidine must have the latter removed by ether and alcohol before staining for bacilli. For a negative diagnosis, that is, when no bacilli are found by the first process, and it is desired to make sure that none are present, it is well to leave some cover-glasses floating on the unheated staining solution from one day to another; also, when there is no hurry, this method saves trouble.

Next the cover-glass is taken up with forceps, not forgetting which is the prepared side, and, after rinsing in water, or preferably in 60 per cent. alcohol, is put in the nitric acid.

Instantly the color changes, it becomes light yellowish-brown and mostly disappears; when the color is nearly gone the glass is washed in pure water; here it will again become faintly violet, and if the color is feeble it is well; if, however, it is strong, the glass must be dipped in the acid again. After washing, the glass is made to swim on the solution of vesuvin, (or if fuchsin has first been used, methylene-blue is the proper contrast) for about five minutes. This removes the remaining violet color from everything except the tubercle bacilli, and stains the pus cells and any other bacteria present in the contrasting color.

The glass is now washed in water, and may be examined in water, or dried and examined in cedar oil, or dried and mounted in Canada balsam. The latter must contain no chloroform, and is best used warm, so that when cool the preparation is firm, and will not move when rubbed to remove the oil used with the immersion lens. No oil of cloves must be used, as this will discharge the color from the bacilli; this is not important for sputa, for here the cover may be simply dried and put up in balsam; but in sections of tissues it is important to use cedar oil instead of oil of cloves for clearing up the tissues. The balsam must not be heated too hot; if necessary it can be thinned with oil of turpentine or xylol.

This, then, is the full and orthodox method, as successively improved by Ehrlich, Weigert, and Koch. Fraenkel puts the acid into the vesuvin (or blue) solution, thus making two steps instead of three; it is not found to be a practical advantage, however.

Of course there has been a strong desire to have a permanent solution, and it occurred to Ziel to use carbolic acid (or phenyl alcohol $(C_6 H_5) H O$, instead of aniline oil (or phenyl ammonia).

His formula is as follows:

5 per cent. aqueous sol. of carbolic acid	100 ccm.
Fuchsin	gram. 1.
Absolute alcohol	10 ccm.

Mix and filter well.

For discharging the color, muriatic acid one part, water two parts, is used. This fuchsin solution is quite permanent. I have used one solution for five months. I filtered it yesterday, but there was no sediment. It is used precisely as above, and gives excellent results. I show you specimens made last July with Liel's method, at the pathological institute in Vienna, where the energy of Professor Kundrat and the zeal of his accomplished assistants, Drs. Paltauf and Kolisko, both carry on a great amount of valuable work in bacteriology and offer great facilities for post-graduate study. The specimens have not faded at all as yet, and except for difficult diagnosis or cases where it is especially desirable to show that no bacilli are present, I can recommend the latter formula, which is quite in favor at the pathological institute in Vienna.

It is possible, but by no means certain that it is not so sure of finding isolated and rare bacilli, but, if found, the chemical reaction and diagnosis is just as perfect as by the first method given. There are other methods, but, as this is meant to be a practical demonstration and not an exhaustive paper, I will say nothing more about them.

A word as to microscopes. I have brought two, one with the ordinary system of lenses and illumination, including a small sub-stage bull's eye condensor. The other with oil immersion and Abbé condensor. You can observe the great superiority of the latter, and yet with the former and with a power of 400, which most microscopes give, the tubercle bacilli can be recognized.

It is fortunate that they are comparatively large, so that it is not necessary for recognizing them to have a special microscope, however desirable it may be. For those who expect to buy a microscope, for this or any other purpose, however, I would strongly recommend such a one as I show you, with a 1-12 wide angle oil immersion and an Abbé condensor; the latter is a bull's eye, flat above, about one inch in diameter, placed below the stage. It receives the light from a very large plane mirror and throws it from all sides on the highly colored bacteria, giving plenty of light with the highest powers, and, when used without diaphragms, abolishing all shadows in tissues, so that they become semi-transparent, and the bacilli can be seen below the surface of the tissue, or of the layer of sputum. With suitable diaphragms the Abbé condensor can be used for ordinary histological work. The ordinary size can only be adapted to microscopes with a large stage, and plenty of room, but Klonne and Müller of Berlin, (Prinzen Strasse) have arranged a system to put on common microscopes, which works very well for most purposes, and is quite sufficient for finding tubercle bacilli. The cost of a 1-12 oil immersion, like this, made by Leitz of Wetzlar, is in Germany twenty-five dollars. An Abbè condensor costs half as much; you will observe that the whole system of condensor and diaphragms can be slid up and down, by which the focus can be altered so as to give the best definition for different sources of light, objectives, or oculars; usually the upper surface of the condensor should just touch the lower surface of the slide. The oil used with the immersion is equal parts of Ol. Ricini and Ol. Fœniculi, this, being of about the same angle of refraction as glass, renders correction for thickness of cover-glass unnecessary.

Perhaps it is not superfluous to say that oil, if used with water immersion lenses, will spoil them by soaking between the glasses. The specimen which I have here stained is pus from the lung of the patient whose tuberculous larynx has just been shown you by Dr. Gannett, to whose courtesy I am indebted for the specimen of lung.

The preparation is now ready, and as the Canada balsam was warm, it is already firm, now that it is cold. With a power of 400 you can see a large number of the bacilli, stained bright violet, on a yellowish-brown ground. With addition of a drop of oil and under the highest power of the immersion 1-12, and No. 3 ocular, we get an amplification of 1,000 diameters. You can see that many of the bacilli contain spores, which appear white, as they do not take the color.

Under the next microscope is a preparation of tubercle bacilli from a specimen of sputum brought me by Dr. H. I. Bowditch.

As you see, they are very distinct, and in this place there are four or five close together, although there are only a few on each slide. One slide had none, one about ten, and one perhaps twenty. The patient was a boy, who after undergoing an attack of pulmonary disease some years ago, had had now for four weeks frothy expectoration, cough and suspicious symptoms. The results of physical examination were not sufficient, in the opinion of Dr. Bowditch, to warrant a diagnosis. There was some rough respiration in right front of chest, and an obscure and uncertain dulness, with slight bronchial respiration and crepitant râle, in lower half of same lung. Altogether, however, Dr. Bowditch felt that the physical and other symptoms were so indistinct that no positive diagnosis could have been made except by finding the bacilli.

I have also here a similar preparation from sputum, sent me by Dr. Marcy, of a gentleman whose rational and physical symptoms were too equivocal to warrant a diagnosis. There was little expectoration, once slightly tinged with blood: he was in middle life, not emaciated, very active and vigorous, and attending to his business. There was a slight diminution of respiratory force at the right apex; expiration slightly prolonged; no crepitant râles.

The bacilli, though infrequent, are very distinct, and the decision by the microscope has caused the patient, by the advice of Dr. Marcy, to decide to make arrangements to go and live for a long period in a more favorable climate.

Per contra, in a specimen sent me by Dr. Knight, from a patient whose symptoms, though indefinite, were very suspicious — particularly an erosion of each vocal chord, forming in each a deep notch — I was unable to find any bacilli.

Dr. Knight stated that these deep erosions or nicks in the chords were, in his experience, seldom found, except in cases where tuberculosis was present, but here the examination of the chest gave no diagnosis, although the expectoration and the condition of the chords gave ground for anxiety.

The patient's condition improved for a time, but three months after the above examination he grew worse, with high temperatures, etc., but no clear physical signs. I now found plenty of bacilli in the sputa. He died a few weeks later.

In this bottle I have sputum sent me by Dr. Clarke, of Cambridge, from a case similar to the one of Dr. Marcy's above mentioned, where the principal symptom is profuse expectoration in a gentleman who is able to attend to his business, and has no physical symptoms from which a diagnosis can be made, although his general condition is sufficient to cause some anxiety. Here a very few bacilli are to be found, two or three on each cover-glass.

The above cases are fair samples of others which I could mention, showing the advantage of microscopic examination of the expectorations of patients even suspected of being consumptive. Of course, in well-developed cases, the disease can be readily recognized by other means of examination, such as auscultation and percussion. But in some cases, it is certain that the diagnosis can be made by the microscope several, or many, months before the disease is sufficiently developed to be diagnosticated in any other way. Who shall measure the advantages of an early discovery of such a fatal disease, in those who, by a change of climate, occupation, etc., are able to put themselves under the best conditions for getting well?

It is for this reason that I insist on the importance for practical physicians, of this method of diagnosis. I wish to compare it, in importance and usefulness, with the examination of the urine for casts in Bright's disease. Some cases of Bright's do not show casts during considerable periods; in some cases, the diagnosis can be made pretty surely without the microscope. Not every one can easily tell a cast from a roll of mucus with cells in it. But yet no one would say that he had made a real and proper examination of a patient with suspicious symptoms, until the urine had been well searched for casts.

Now, *mutatis mutandis*, all this is true of phthisis pulmonum, and my contention is that it is the duty of a physician who undertakes to make a diagnosis of the presence or absence of consumption, to examine the sputa for bacilli, except in cases so far advanced that there is no difficulty whatever by ordinary methods. It is not so very long since ordinary methods, namely, auscultation and percussion, were considered new-fangled and unnecessary; in proof, the funny verses of our venerable poet-physician, who, I believe, brought one of the first stethoscopes to Boston, at a time when the lights of those times could, as they thought, make a diagnosis easily enough from the general symptoms.

The examination of sputa by the microscope for bacilli is now taught to the students at Harvard; it is learned by those who go abroad, where they see it used, as a matter of course, in the hospitals in all cases suspected of consumption.

Sometimes the diagnosis is difficult; careless work, or poor instruments, may make it erroneous; but the same is true of Bright's disease, and in fact, of most other diseases.

The method is not a mere craze; it has come to stay, and any one of the profession who wishes to be *teres, totus atque rotundus*, to do his very best by his cases, ought to take it up, learn it, and use it. I shall be very glad if I have here been of any service to such.

As a matter of convenience, in recording an approximate estimate of the number of bacilli found, in the average of slides examined in any case, I subjoin the scale given by Gaffky, in the Communications of the German Imperial Health Office, 1884. He divides the numbers of bacilli found on one cover-glass, prepared as above, into ten grades, as follows (it being understood that the field visible at any one time is that seen with objective 1-12 oil immersion, ocular II, giving a power of 800 diameters; the area seen is about 1-4 millimeter, or 1-100 inch in diameter):

1. In the whole amount on a cover-glass, 1-4 bacilli.
2. In several microscopic fields of view together, only 1 bacillus.
3. In every microscopic field of view, on the average, about 1 bacillus.
4. “ “ “ “ “ “ 2–3 bacilli.
5. “ “ “ “ “ “ 4-6 “
6. “ “ “ “ “ “ 7-12 “
7. “ “ “ “ “ a good many “
8. “ “ “ “ “ numerous “
9. “ “ “ “ “ very numerous “
10. “ “ “ “ “ enormous numbers of bacilli.

I think this scale convenient, and as nearly accurate as any method of recording or comparing can be, and, if generally adopted and understood, it will be found useful in recording examinations, and in comparing the condition of the patient at different times.

It is not necessary that the sputa be examined at once when collected. The bacilli stand ordinary putrefactive changes in their environment very well. The sputa may be kept or sent from one place to another either in a vial, or by being dried and baked on to cover-glasses, as I have showed you to-night. The addition of a weak solution of carbolic acid does not interfere with the coloring, but is not necessary, except to prevent unpleasant odors.

In reply to the question as to what amount of examination seems necessary in order to say that the bacilli are *not* present, I would say that, in a doubtful case, I think it sufficient to prepare three pairs of cover-glasses, using the quick method with two pairs, and leaving the other two glasses to swim, until the next day, on the unheated staining fluid. If no bacilli are found in the six glasses thus examined, another examination, or even two, should be made at intervals, just as is customary in searching for casts in Bright's disease.

If still no bacilli are found, it is pretty safe to infer that the patient has not, at that time, pulmonary tuberculosis (unless it be acute miliary), although theoretically, it is possible that the bacilli may be in the lungs, and have no access to the bronchi; but for ordinary phthisis, or consumption, the diagnosis can be made with practical accuracy.

Hotel Pelham, Boston.

— Russia has 33,400 physicians, of whom 380 are females. There are 2,100 persons licensed to practice veterinary surgery. 500 are enrolled as dentists and "oculists."

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

ARSENIC.

In cases of suspected arsenical poisoning, it is sometimes a question whether any poison found was taken into the body during life or was introduced after death. This question arose in a case which was tried a few years since in Michigan.[1] A lady died with symptoms which strongly suggested irritant poisoning. The body was exhumed one hundred and five days after death. Prof. A. B. Prescott found about twenty grains of arsenious oxide in the stomach and rectum together, and he calculated from an analysis, that the whole liver contained from six to fifteen grains, according to the size of the organ. The body was again exhumed later, and the brain and a portion of the muscles of the calf of the leg examined; in these no arsenic was found. The husband claimed to have injected arsenious oxide suspended in water into the mouth and rectum for the purpose of preserving the body. The six experts in the case were equally divided on the question "granting that the arsenic was injected into the mouth and rectum in the manner claimed, could it reach the liver and other organs outside the alimentary canal?"

Drs. Vaughan and Dawson made some experiments at this time, which showed that, when arsenious oxide was injected into the mouth and rectum after death, it was so far diffused that at the end of twenty-five days it could be detected in the liver, heart, spleen, kidneys and brain.

More recently, Mr. Frank S. Sutton has made a series of experiments on this subject in the laboratory of Professor Wormley, the bodies of dogs killed with chloroform being employed.[2] In each case three grammes of arsenious oxide suspended in fifty cc. of water were injected into the stomach, and an equal quantity of the oxide in ten cc. of water into the rectum. The body was then buried in the earth. In four cases, in which the injections were made in from twenty-three to twenty-six and one-half hours after death, and the bodies exhumed at the end of one hundred and two, seventy-four, forty-four and eighteen days respectively, arsenic was found in the liver, kidneys and brain. The quantity of arsenic was larger the longer after the introduction of the poison the body had been buried. In the most protracted case ten milligrammes of arsenious oxide were found in the liver.

Even when the injection was made ten minutes after death and the body examined at the end of three days, the final solution from the brain gave a well-marked stain in the reduction-tube of a Marsh apparatus, and satisfactory evidence of the presence of the metal in the liver and kidneys was obtained. But when the injection was made twenty-four hours after death and the body examined at the end of three days, the final solution from the brain furnished only the faintest trace of arsenic. The metal was present in very minute quantity in the liver, but it seemed to be entirely absent from the kidneys. These experiments show that, when the injection is made very soon after death, the diffusion takes place more readily than when the injection is not made until some hours after death.

This question of the *post-mortem* diffusion of arsenic is of great importance and is liable to arise in any case of suspected arsenical poisoning. Embalming fluids containing arsenious oxide are employed very frequently by undertakers for preserving bodies after death. These fluids are injected into the mouth and rectum and sometimes into the abdominal and pleural cavities. Experiments thus far made justify the conclusion that chemical analysis, even of the most remote organs, as the brain, will not enable the expert to say that the arsenic found was introduced into the body before death.

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[1] American Journal of Medical Sciences, October, 1883, page 599.

[2] Wormley's Micro Chemistry of Poisons, Second Edition, page 311.

MM. Brouardel and G. Pouchet[3] have made a series of experiments relative to the elimination of arsenic through the milk. They gave to nursing mothers Fowler's solution, in doses of two drops gradually increased to twelve drops daily. No bad symptoms followed in any case, but an appreciable quantity of arsenic was always detected in the milk. The milk of one woman who took twelve drops of Fowler's solution daily for six days contained one milligramme of arsenic in each one hundred grammes. Experiments on animals gave similar results. Their young in many cases died, and analysis showed the presence of arsenic in their bodies. The conclusion is reached that it is not prudent to administer arsenic to nursing mothers except in cases of absolute necessity.

These investigations were suggested by a case of suspected arsenical poisoning. A man was accused of having attempted to poison his wife by administering to her arsenious oxide. The attempt was unsuccessful, but her nursing child, two months old, was attacked with vomiting and diarrhœa, and died in forty-eight hours. The body of the child was exhumed after the lapse of several months and was found almost wholly converted into adipocere. The skin was intact. The whole body, which weighed only two kilogrammes, was subjected to analysis, and was found to contain a relatively large quantity (five milligrammes) of arsenic. The experts considered it possible that the arsenic was introduced into the child's system through the milk of the mother.

Schlagdenhauffen and Garnier[4] have made some investigations, the results of which confirm those obtained by Orfila in 1847, and prove that bodies buried in an arsenical soil cannot receive any arsenic through the medium of rain water percolating through the soil. Arsenic is found in many soils, especially in red sandy soils, in which it probably exists as ferric arseniate. This compound is slightly soluble in boiling water, but is quite insoluble in cold water, and cannot be extracted by rain water percolating through the soil. If an aqueous solution of any compound of arsenic is left in contact with a clayey soil containing lime or iron at the ordinary temperature, the arsenic is gradually converted into insoluble compounds which are retained by the soil. Any arsenical compound introduced into such a soil, and subjected to continual infiltration of rain, if originally insoluble, remains insoluble; but if soluble, it gradually becomes insoluble, and at a depth of 0.6 — 0.9 m. from the point at which the arsenic is introduced, no arsenic can be detected in the infiltered water, even after fourteen months.

STRYCHNINE.

P. C. Plugge[5] contributes an interesting article on the elimination of strychnine. The author sometime since obtained from strychnine, by the action of potassium permanganate, an amorphous oxidation product, which has the properties of an acid and to which the name strychnine acid (strychninsäure) is given. The present investigation was undertaken for the purpose of ascertaining whether this oxidation product is also formed from strychnine in the system. Incidentally, however, several other questions were considered. The paper is of such length that we can give only the more important results of the author's investigations:

(1) Sonnenschein's reagent is the most delicate for both strychnine and strychnine acid.

(2) Chloroform is to be preferred to benzol for removing strychnine or the acid from aqueous solutions or from urine.

(3) Strychnine acid passes through the system in whole or in great part without undergoing any change. It can be detected in the urine passed two hours after the administration of two milligrammes of the acid.

(4) Strychnine passes through the system in great part without undergoing change. It can be detected in the urine passed two hours after the administration of one milligramme of strychnine sulphate.

(5) As a result of the exceedingly poisonous character of strychnine and the small doses which must necessarily be administered to avoid a fatal result, it is not possible at present, that is, until we have at our disposal more delicate analytical processes and tests, to show whether all the strychnine passes through the body unchanged, or whether a portion is decomposed.

(6) The elimination of strychnine takes place relatively slowly; traces of the alkaloid can be detected in the urine eight days after the administration of a single dose. This fact should not be forgotten in prescribing strychnine. When the administration of small medicinal doses is continued for a considerable time the alkaloid accumulates in the system and symptoms of poisoning follow.

SULPHURETTED HYDROGEN.

P. Brouardel and P. Loye[6] have made experiments for the purpose of discovering, if possible, the cause of the variation in the symptoms observed in cases of poisoning by sulphuretted hydrogen. Dogs were allowed to breathe mixtures of air and sulphuretted hydrogen containing 2 per cent. and 0.5 per cent. of the latter gas. In the first case, death usually took place in two or three minutes; in the second case in from 17 to 50 minutes. The authors conclude that there are two forms of sulphuretted hydrogen poisoning. In one, death is sudden, and is due to action on the nervous centres; in the other death takes place slowly, and is due to asphyxia combined with action on the nervous system. The poisonous action is influenced more by the tension of the gas in the air than by the absolute quantity. A dog died in two minutes after breathing 5 litres of a 2 per cent. mixture; a second dog lived forty-five minutes after breathing 100 litres of a 0.5 per cent. mixture.

Dr. G. A. Smirnoff has made extended experimental researches on the action of sulphuretted hydrogen on the animal system. A summary of the results of his investigations may be found in the *London Medical Record*, November 16, 1885, page 472.

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[3] Journal de Pharmacie et de Chimie, 1885, page 363, from Ann. d'hygiéne publ., 1885, page 73.

[4] Journal of the Chemical Society, London, September, 1885, page 1009, from Compt. rend., 100, 1388.

[5] Archiv der Pharmacie, November, 1885, page 833.

[6] Compt. rend., 101, page 401.

POTASSIUM CHLORATE.

Schack[7] recommends the following process for the quantitative estimation of this salt in urine. The urine is completely precipitated with basic acetate of lead; the filtrate is freed from lead by means of sulphuretted hydrogen, again filtered, and warmed until the excess of sulphuretted hydrogen is removed. Upon evaporating the resulting colorless liquid to the point of crystallization, a small amount of the salt separates. The mother-liquor is diluted with water up to twenty-five cubic centimetres and five cubic centimetres are titrated with deci-normal silver solution. To another five cubic-centimetres, a few drops of solution of sodic carbonate are added; the solution is then evaporated to dryness, gently ignited, and extracted with water; in this solution, after neutralization with nitric acid and addition of potassium chromate, the chlorine is estimated with deci-normal silver solution. From the difference in the amount of chlorine obtained by the two titrations, the amount of potassium chlorate contained in the mother-liquor can be calculated. The salt could not be detected in blood which had undergone putrefaction.

J. v. Mering[8] confirms Marchand's view that potassium chlorate converts the hæmoglobin in the blood into metahæmoglobin, thus rendering the blood useless for the process of respiration. This action is dependent on the amount of chloric acid present, which has just the same effect as the salt.

THE POISONOUS CHARACTER OF URINE.

Considerable attention has been given to this subject during the past few years, and many attempts have been made to determine the constituent of urine to which its toxic effect is due. Bouchard[9] found that it required much more urea to kill an animal than was contained in a poisonous dose of urine; that uric acid was nearly harmless, as were also the extractive matters; that the potassium salts, though poisonous, were not so in the small quantities contained in the urine injected; that the urine lost half its toxic power when decolorized with animal charcoal, and that the poison was not volatile. Lépine and Aubert[10] have recently studied the relative toxic effect of the organic and saline constituents of the urine. Two dogs of the same species and as nearly as possible the same size were taken, and into the femoral vein of one of them a quantity of urine was injected just sufficient to cause death. A second larger quantity of urine was evaporated to dryness, the residue incinerated, the ash dissolved in a volume of water equal to the volume of the original urine, and this solution injected into the femoral vein of the second dog until death resulted. With normal urine, if 60 cc. per kilo. of the dog's weight were sufficient to cause death, a slightly larger quantity, about 65 cc. of the solution of the ash was sufficient to produce the same result; in other words, in normal urine, 85 per cent. of the total toxic effect is due to the saline constituents. With febrile urine, however, the results were very different. If 25 cc. of urine per kilo. were sufficient to cause death, a much larger quantity, about 40 cc. of the solution of the ash was required to bring about the same effect; in febrile urine, therefore, only 55 per cent. of the toxic effect is due to the inorganic salts. The symptoms produced by febrile urine are different from those produced by normal urine; the former may produce violent clonic convulsions, whilst the latter always kills by stopping the action of the heart.

ALKALOIDS IN URINE.

According to Bouchard and Ponchet, normal urine contains substances of an alkaloidal nature. Villiers,[11] however, maintains that alkaloids are not present in normal urine, but that they are constantly present in the urine of persons suffering from certain diseases and even in the urine of persons suffering from slight indisposition only. They have been found in the urine of various acute diseases: for example, typhoid fever, pneumonia, rubeola, diphtheria, cholera. They are probably formed in some of the organs of the body and passing from these into the circulation, are eliminated through the kidneys. Villiers suggests that they may be the cause of death in certain cases, owing to the fact that they are formed more rapidly than they are eliminated; and he considers that the ingestion of large amounts of water may in many cases prove beneficial by facilitating the elimination of these alkaloids.

Hospital Practice and Clinical Memoranda.

AN ANALYSIS OF 412 CASES OF LOBAR PNEUMONIA, OCCURRING AT THE MASSACHUSETTS GENERAL HOSPITAL BETWEEN JANUARY 1, 1870, AND DECEMBER 31, 1885.[1]

BY CHARLES W. TOWNSEND, M.D., LATE MEDICAL HOUSE OFFICER.

The following analysis has been made from the records of the hospital for the last fifteen years, excluding only those cases dying within twelve hours of entrance. Fractions in the percentage figures have generally been omitted, everything above one-half counting for an additional unit, everything below one-half being neglected.

Hospital statistics on disease are objected to[2] as not giving on some points a true picture of the disease such as would be found in statistics from private practice, which include all classes of society. Thus hospital mortality is increased by the fact that severe cases are more likely to be sent there, and cases whose destitution or intemperate habits have left them without other refuge than the hospital, while the more thrifty are cared for at their homes. But on the other hand many rapidly fatal cases are debarred from the hospital from their very rapidity. That the age of young adults is the most common age for this disease in the hospital may be partly explained by the fact that at this age men in the lower classes are frequently without homes and depend on their daily labor, and are hence sent to the hospital in severe illness. Younger men and children are still taken care of by their parents, while older men may have made homes for themselves unless they are thriftless, which generally means intemperate, and this latter fact may partly account for the great mortality in the older men. Bearing in mind these limitations, the following statistics are given for what they are worth.

Of the 412 cases, 311, or 75½ per cent., recovered, and 101, or 24½ per cent., died. The mortality found by the British Collective Investigative Committee[3] on 1,066 collected from private practice in the British Isles is a little over 18 per cent.

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[7] Archiv der Pharmacie, August, 1885, page 596, from Pharm. Ztg., No. 48.

[8] Journal of the Chemical Society, London, September, 1885, page 1002, from Chem. Centr. 1885, page 249.

[9] British Medical Journal, July 4, 1885.

[10] Journal of the Chemical Society, London, October, 1885, page 1085, from Compt. rend., 101, page 90.

[11] Journal de Pharmacie et de Chimie, 1885, page 246.

[1] The hospital records were examined with the permission of the late resident physician Dr. Whittemore.

[2] Juergensen Croup. Pneumonia, in Ziemssen's Cyclop. American trans. Vol. v.

In the following table the number who recovered and died at different ages is shown, those under ten years being omitted, as there were only two, of whom one recovered and one died.

Age.	Recovered.	Died.	Total.	Death per ct.
10-19	40	5	45	11
20-29	114	25	139	18—
30-39	81	18	99	18+
40-49	46	19	65	29
50-59	18	20	38	53
60-69	7	8	15	56
Above 70	3	5	8	63

This would show that the age of greatest frequency is in the young adult from which point the frequency steadily diminishes while the rate of mortality increases as age advances. The following charts show at a glance these facts.

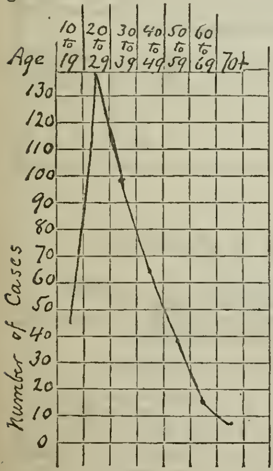

Fig. 1.

As to sex 217 males recovered and 71 died, mortality 25— per cent., and 88 females recovered and 28 died, mortality 24+ per cent. The much larger number of males (more than twice as many) may be partly due to the fact that they are more likely to be taken to a hospital than females, but the British Statistics[4] from outside practices show a nearly equal preponderance of male, namely, 704 males to 356 females. The mortality, which is usually stated to be higher in females, here practically the same in the two sexes, in the British Statistics the male mortality being 14.2, the female 09.9.

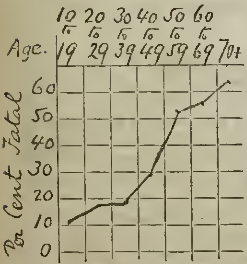

Fig. 2.

The previous condition of patients as to health and alcoholic habits were unfortunately often passed over in silence in the records, but the following table includes those cases where these points are mentioned.

Previous Condition.	Recovered.	Died.	Total.	Death per ct.
Good Health . .	201	37	238	16
Delicate	45	21	66	32
Temperate . . .	35	6	41	15
Intemperate . .	25	17	42	40

Of the "delicate" who recovered, 1 had heart disease, 4, phthisis, and 1, Bright's disease; of those who died, 3 had heart disease, 1, phthisis, 3, Bright's disease, 4, asthma, 1, marked lateral curvature, 1, Pott's disease, and 1 was an idiot.

Of 205 cases, 138 were said to follow exposure, and 67 occurred without known exposure; in the other cases no mention is made of this point, and it seemed probable that a majority of these were without exposure, because patients are generally extremely anxious to state the ætiology in a disease supposed by them to be due to catching cold.

The prevalence in different months is shown as follows.

Month.	Recovered.	Died.	Total.	Death per. ct.
January	38	9	47	19
February . . .	27	11	38	29
March	34	19	53	36
April	58	15	73	21
May	42	5	47	11
June	7	9	16	56
July	12	3	15	20
August	6	2	8	25
September . . .	14	0	14	0
October	17	6	23	26
November . . .	31	9	40	23
December . . .	27	10	37	27

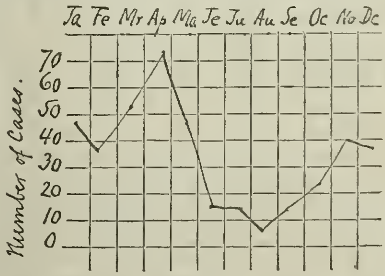

Fig. 3.

In the following table portions of the lung are arranged in the order of the frequency with which they are affected by the disease.

Seat.	Recovered.	Died.	Total.	Death per ct.
Lower right lobe .	112	13	125	10
Lower left lobe .	68	7	75	9
Both lungs . . .	38	27	65	42
Whole right lung	34	22	56	39
Upper right lobe .	34	10	44	23
Whole left lung .	12	11	23	48
Upper left lobe .	10	7	17	41

This agrees almost exactly as far as the order of frequency is concerned, with the English analysis, the only difference being that portions of both lungs as shown by that analysis are more frequently affected than the lower left lobe. The relative fatality of the different portions of the lung affected is of much less value, owing to the small number of cases. This is shown by comparison with the English list arranging the tables in order of fatality.

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[3] Collec. Invest. Rec., Vol. II.

[4] Loc. cit., page 30.

Mass. General Hospital.		
Whole left lung,	48	per cent.
Both lungs,	42	"
Upper left lobe,	41	"
Whole right lung,	39	"
Upper right lobe,	23	"
Lower right lobe,	10	"
Lower left lobe,	9	"

Collective Investigation.		
Both lungs,	30	per cent.
Whole right lung,	28	"
Whole left lung,	17+	"
Lower left lobe,	17—	"
Upper right lobe,	12+	"
Lower right lobe,	12—	"
Upper left lobe,	12—	"

Both analyses agree in making affections of both lungs, the whole of either or the left apex most fatal, while the right apex and the two bases are much less fatal.

An examination of the records as regards symptoms show that of 325 cases in which mention was made, 207 had a marked chill or rigor, 61 chilly sensations only, and 57 were stated to have had neither. Of 374 cases, in 366 thoracic pain was present at some time in the disease; in 8 it was absent. Cough was mentioned in 399 records, stated to be absent in 3, and present in 396; in 106 of the latter it was noted as slight. Expectoration was absent in 21 of 383 cases and present in 362; in 121 of the latter it was said to be slight. Of 341 cases in which the character of the expectoration was noted, in 278 it was bloody or rusty, and in 63 blood was absent. In 343 cases there was a record of the temperature, in 333 of the pulse, and in 307 of the respiration, and an analysis of these give the following results:

		Recovered.	Died.	Total.	Death per ct.
Temp.	Below 102°	56	12	68	18
	102°–104°	133	37	170	22
	Above 104°	68	37	105	35
Pulse	Below 100	55	2	57	4—
	100-120	126	15	141	11
	120–140	61	28	89	31
	Above 140	6	40	46	87
Resp.	Below 40	141	13	154	8
	40–60	79	56	135	41
	Above 60	7	11	18	61

For value in prognosis the table shows the small mortality when the pulse does not exceed 120 beats in a minute, the mortality slightly exceeding the average with a pulse between 120 and 140, and the enormous mortality with a pulse above 140. With a respiration below 40 in a minute the mortality was small, above that, large.

The termination of the disease was in 128 cases by crisis, in 84 by lysis. The 8th day was the one during which crisis most frequently occurred, this being the fact in 24 cases. In 22, the crisis came on the 9th day; in 16, on the 7th day; 12 on the 10th day; 11 on the 12th day; 9 on the 6th day; 8 on the 11th day; 6 on the 5th day; 4 on the 13th day, and 1 on the 14th day; in 5 crisis took place in the 3d week, and in 5 during the 4th week.

The favorite time for lysis was in the 3d week, 13 taking place then; 7 reached normal by lysis in the 4th week and also on the 11th day; 6 on the 9th and 13th day; 6 on the 12th day; 4 on the 8th day, and also in the sixth week; 3 on the 10th day, and also in the 5th week; 2 on the 7th day, and in the 7th week, and 1 each on the 14th day and 9th week.

In 74 cases in which the day of death was found, in 11 it occurred on the 8th day; in 9 on the 9th day; 7 on the 11th day; 6 on the 10th, and also on the 14th day; 5 on the 6th day; 4 on the 7th day; 3 each on the 12th, 13th, 15th, 16th and 17th days; 2 on the 5th and 25th days, and 1 on the 18th, 19th, 20th, 24th, 30th, 35th, and 60th days.

A thorough examination of the treatment was not attempted. Stimulants, generally in the form of whiskey or brandy were given in nearly 200 cases, including nearly all the fatal ones. A nourishing liquid diet, given more systematically in late years. Bleeding in not more than 4 or 5 cases; squills and tartrate of antimony in a very few cases; ipecac in small doses in a moderate number. In a word, the treatment, more especially of late years, was sustaining and expectant.

Complications: 23 cases were complicated with a well marked pleural effusion; of these three died. 8 had also typhoid fever, of whom 3 died. 12 were complicated with delirium tremens and 3 died. 2 had acute rheumatism and 1 died. 2 had pericarditis and 1 died; 1 empyema and died: 1 peritonitis, and 1 intermittent fever, both recovering. The chronic diseases complicating the cases have already been mentioned.

There are records of 29 autopsies, and the following table shows the condition of the spleen, liver and kidneys as regards granular degeneration.

	Gran. degen.	Normal.	No mention, or doubtful.
Spleen	17	10	2
Liver	9	11	9
Kidneys	11	10	8

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

February 10th, 1886. The meeting was called to order at 8 o'clock, by Dr. F. I. Knight, Chairman. The records of the last meeting were omitted. The chairman announced that the committee on the finances of the Section, which was to have been appointed at the last meeting, had been chosen after the meeting, and consisted of the following gentlemen: Dr. Henry C. Haven, Dr. Vincent Y. Bowditch, and Dr. Albert N. Blodgett.

The Chairman announced that Dr. W. W. Gannett would exhibit some interesting pathological specimens before the Section, previous to the reading of the regular papers. Dr. Gannett then showed the heart of a patient with the following outline history. The patient had died from some cause not connected with the heart, but on opening that organ the following unusual conditions were observed. The aortic orifice was the seat of obstruction, by which its calibre was greatly reduced. Probably not more than one-fourth of its normal lumen was patent. This was produced by the fusion of the adjacent borders of the cusps of the aortic valves, in such a way that only a central orifice large enough to admit a lead pencil existed in which the blood could reach the aorta. An unusual feature about the case was the fact that the left ventricle was not the seat of hypertrophy as would naturally be expected under these conditions. The ventricle usually becomes hypertrophied from the increased labor required to force the blood through the obstructed orifice, and the heart thus performs its function by the expenditure of an abnormal amount of force. When the heart has reached the limit of compensatory hypertrophy, its ventricle begins to yield to the strain, and we have dilatation in conjunction with the hypertrophy. Here, however, no dilatation is to be observed. This is due to the fact that there is also a concomitant disease of the mitral valve, by which the blood was allowed to regurgitate in part back into the left auricle, upon each contraction of the left ventricle. This condition was due to the thickening of the substance of the mitral valve, and to a shortening of the chordæ tendinæ, so that the mitral valve could not completely close the auriculo-ventricular orifice, and consequently a portion of the blood in the ventricle was with each pulsation allowed to return into the auricle. Thus the unusual condition arose, of extensive stenosis of the aortic orifice, with all the objective phenomena of obstruction at this point, but unaccompanied by the usually associated hypertrophy of the left ventricle. There was, however, marked dilatation of the right ventricle due to the backing of the blood from the left auricle, owing to the defective condition of the mitral valve. The case presents many interesting features, as it comprises in one specimen the conditions of stenosis of the mitral and of the aortic orifices, without hypertrophy of the left cavities of the heart, but accompanied by dilatation of the right ventricle.

Dr. Gannett also showed a specimen of fluid taken from the abdominal cavity of a female patient who died at the City Hospital. The case was interesting from the fact that the fluid bore a great resemblance to milk, both in color, consistence, and in the fact that it held in suspension a large quantity of fat in small globules. There has been no decomposition in the fluid though several months have elapsed since it was removed. The characters of the fluid are those of chyle, and the attention is at once directed to the distribution of the chylous channels as a possible key to the existence of so singular an effusion. It must be borne in mind that the lymph and chyle from the lower limbs and from the abdomen as well as from the left thoracic cavity is collected by the lymphatics of the thoracic duct, which empties into the left subclavian vein; while the lymph from the right side of the thorax and from the head empties into the right subclavian vein by a separate duct. The indications, therefore, were those of some obstruction to the flow of the chyle through the thoracic duct of the left side. Upon investigation there was found to be a thick and resistent projection into the lumen of the innominate vein, whereby the calibre of the vein was reduced to less than half its normal size, and the flow of blood must have been impeded to this degree, through this vessel. At a point just beyond the point of obstruction was observed a thrombus, situated at the junction of the internal jugular vein and the innominate vein. The thrombus occupied the entire lumen of the vein and extended beyond the point of entrance of the thoracic duct, thus entirely occluding its calibre. The chyle, therefore, was effused into the abdomen, into the left thoracic cavity, and occasioned disturbance in the nutrition of the lower extremities. The cases of obstruction of the thoracic duct which had been reported have been mostly associated with some form of skin diseases, generally scleroderma, which has thus come to be regarded as one of the indications of this condition, and strangely enough, the patient from whom the present specimen was derived entered the hospital on account of ulceration of the right leg.

In cases, therefore, in which an effusion occurs in the tissues of the lower limbs, in the abdomen and in the left pleural cavity, the possible existence of an effusion of chyle from obstruction of the thoracic duct should not be forgotten, this increases; to almost certainty, if on aspiration the fluid is found to be milky and to contain fat in suspension.

Dr. Edes asked if "chylous urine" existed in this case. Dr. Gannett stated that this feature had not been noticed.

Dr. Gannett then showed the larynx from a patient who had recently died in the hospital, in which an extensive tubercular ulceration had occurred. The disease was bilateral, almost symmetrical, and had extended from the tip of the epiglottis through the entire body of the larynx and to a depth of 6 cm. into the trachea. Over this entire area the mucous membrane was destroyed, the vocal cords had partially disappeared and the surface was composed of a grayish tissue, upon the surface of which, and in the substance of which could be seen numerous small grayish or grayish-yellow prominences. These were situated upon an irregular eroded surface, in which numerous ragged depressions existed where the loss of substance was even more extensive than elsewhere. . . . The patient had been aphonic for some time before death. The case was made more interesting by a preparation of a microscopic specimen of tubercle of the larynx, which was examined under a microscope in the hall. The bacilli were abundant, and were plainly visible to all present.

Dr. Blodgett asked if there was any extension of the disease into the structures surrounding the larynx and trachea? He had seen one case in which the sterno-mastoid muscles and the connective tissue adjacent had become infiltrated by tubercle, but he had never seen a case in which the local changes due to tuberculosis were so extensive or so striking. Dr. Gannett stated that the extra laryngeal tissues were not noticeably invaded though the primary seat of the disease was the pulmonary tissue, and there was extensive destruction of the lung structure from its ravages.

THE STAINING OF THE BACILLUS OF TUBERCLE.[1]

Dr. E. W. Cushing gave a detailed and careful description of the method employed by Koch in the detection of the bacillus of tuberculosis.

Dr. Cushing stated that the cover glasses should be new or that the same covers should not be used a second time, owing to the difficulty in cleaning them, as it is quite easy for some of the previous specimens to adhere to the covers, where it cannot be easily observed; if covers are to be cleaned they should be immersed in strong sulphuric acid, which effectually oxydizes all organic matters and renders the glasses chemically clean. . . . In the examination of suspected sputum, a small portion of the adherent mass, preferably a small fragment of the lumpy part of the expectoration should be placed upon a thin cover glass and another cover should then be firmly pressed upon it so that the sputum is confined between the two covers.

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[1] See page 265 of Journal.

The covers should now be slid one upon the other, until the sputum has been evenly pressed smooth and in an exceedingly thin layer between them. The glasses must be dried thoroughly, at a gentle heat. The cover is then to be passed three times slowly through the flame of an alcohol lamp or through that of a gas burner in order to coagulate any albumenoid matters, and remove any traces of moisture. The cover is then allowed to swim upon a small quantity of the color, (in this case methyl-violet in aniline oil was used), and the specimen is left for twenty-four hours to become impregnated with the tint. Or the coloring may be hastened by heating the solution to nearly the boiling point, when small bubbles may be seen forming upon the lower side of the cover-glass, which is the indication that the heat must be removed. The cover should then be quickly washed in distilled water, and placed in a mixture of one part of strong nitric acid in two of water, where the specimen should be left only so long a time as is sufficient to discharge the color from the slide. This is generally a matter of a few seconds, and the cover should again be washed. The specimen is then allowed to swim upon a solution of vasuvine (or if fuchsin was employed as the first tint, then methyl-blue is used as the contrast). Again, after rinsing, the slide may be placed under a microscope with nothing but water, or it may be dehydrated by alcohol, and then treated with cedar oil to clear it, when it is ready to be mounted in balsam. The balsam must be pure, and free from dilution, especially with chloroform or with oil of cloves, as these discharge the color from the bacilli. The bacilli then appear as small "stæbchen" of the color of the first solution, while the field is tinted with the second color. The best results are undoubtedly obtained by using an "Abbé condensor" and a one-twelfth oil immersion objective.

The importance of the detection of the bacilli of tuberculosis in cases of pulmonary disease, especially in those early stages in which the existing physical signs afford no positive indication of the nature of the lesion, cannot be overestimated. The examination of the sputum in cases of any pathological process affecting the respiratory passages is now a recognized feature of clinical investigation with many of the most eminent practitioners abroad, and should certainly be made an integral part of the instruction of those who are to have the care of the sick. The bacillus now occupies the same position in regard to pulmonary disease that casts hold in relation to disease of the kidneys, or that auscultation and percussion hold to phthisis. This is taught in the medical colleges, but the profession is not yet familiar with it as an element of every day experience in the investigation of clinical conditions. There can no longer be any doubt that it forms a most useful "control" in weighing the value of other clinical phenomena from the aggregate of which a scientific diagnosis is reached. It is true that tubercles may exist in certain cavities which may not communicate with the bronchi, but in the vast majority of cases the expectoration in pulmonary tuberculosis may be said to offer a key to the character of the disease which has produced it.

Upon one point in respect to tubercle there is yet a great deal of confusion, and this is in relation to the estimation of the gravity of the prognosis to be given, from the relative number of bacilli observed. Professor Gaffky has made a table, by which a scale of the relative abundance of the bacilli is shown in a graded frequency from one to ten.

It is desirable that some standard of relative frequency should be adopted for general use in bacillary examinations, and that of Gaffky seems the best one which has yet been proposed.

DR. H. C. ERNST, of Jamaica Plain, stated that he had been an interested listener to the paper of Dr. Cushing, and that while he agreed with the main part of the essay there were some points in which he must differ from the reader. He said that Dr. Cushing has very properly called attention to the fact that it is a necessity that the physician should be able to examine suspected sputum or other material as a regular part of the clinical investigation of disease, at the bedside, or in his own office. The first requisite to successful work in this direction is a microscope adapted to this particular and special kind of investigation. Not every microscope will do this, and to do it well any microscope requires certain particular and unusual accessory apparatus, adapted to procure effects not heretofore considered requisite or desirable. This fact was recently illustrated at a scientific meeting in another State, at which an exhibition of the bacilli of tuberculosis was announced, as a part of the programme. The members had made sections and found bacilli, using the Hartnack microscope without sub-stage illumination as is now thought necessary by means of the Abbé condensor. The president of the Society afterwards brought the specimens to Dr. Ernst for corroborative examination, who failed to detect the bacillus in any of them. The error in observation was due to the fact that crystals were present in the specimens, and these were mistaken for bacilli. These existed in the aniline oil that was used, which had not been previously filtered. The best microscope is not adapted to the examination of bacilli without a sub-stage condensor. This is the "sine qua non" of the study of bacilli. The examination may be a matter on which hangs the life or death of the patient, and should not be undertaken without all the necessary apparatus to insure accuracy of results. The technique of staining may be varied in many ways. The value of this proceeding consists in the fact that the bacillus of tuberculosis retains the color of the staining substance in the presence of nitric acid, while the other parts of the specimen become clear by the discharge of the stain from the action of the acid. . . . The diagnosis in respect to the bacillus tuberculosis depends entirely on the color, and the microscope is the only means of forming a diagnosis. . . . The short method of staining is not reliable, especially in test cases, for it is subject to errors which are avoided in the longer exposure of the suspected material to the coloring agent. By the quicker method, some cases will unavoidably escape detection, which might be an accident of the most tremendous importance to the patient. It is unquestionably better to leave all specimens in the staining fluid for twenty-four hours.

In regard to the preparation of the color-reagents, Dr. Koch told the speaker a short time ago that the watery solution of fuchsin is equally effective with the alcoholic solution, and that is the form in which this color is now used in the laboratory of that distinguished observer. The solution of nitric acid in concentration of one part to two of water is too strong for purposes of decoloration, a suitable action is obtained from a concentration of one part of acid to four or five of water. If the tint is not all discharged by this treatment, wash the specimen in alcohol until it is clear, and then stain in methyl-blue as a contrast color. These two tints seem to give the best results for general purposes, though some other combinations are excellent for certain special objects. The violet and brown combination is not so easy of study to the average eye as those just mentioned; though to a skilled observer a single bacillus is more clearly defined for purpose of positive and difficult diagnosis.

Dr. Gannett said that he had examined sputa from a patient under the care of Dr. H. I. Bowditch, in which were numerous bacilli, and a very guarded and doubtful prognosis was given, but the patient has since made a perfect and apparently lasting recovery from the tubercular, or at least from the bacillary disease. . . . It is manifestly wrong to draw positive conclusions from the number of bacillary organisms found in the sputum. The examination of the sputum is very important, but it is to be regarded only as another means of judging the patient's condition, and not as a positive and absolute foundation for prognosis.

Dr. Edes asked the number of specimens it is necessary to examine in order to form an accurate diagnosis?

Dr. Ernst said that it might often be necessary to refer difficult cases to an expert in the study of bacilliary organisms. The absence of bacilli under a Hartnack microscope, without substage accessory illumination is not conclusive as to the presence or absence of bacilli.

The chairman asked if Dr. Ernst wishes to be understood as expressing the opinion that the activity of the disease, or its degree of danger and rapidity cannot be accurately judged by the number of bacilli detected in the sputum?

Dr. Ernst replied that this is precisely the opinion he now holds upon this important point. He does not consider it possible to judge the activity of the disease or its extent, or the probabilities for the patient with any degree of certainty from the number of bacilli observed in the expectoration.

Dr. C. E. Wing, of Jamaica Plain, then gave a narrative account of a trip through the greater part of North Carolina during the past summer. He said that the journey took him through the section of country which was the seat of an epidemic of severe character, which raged extensively and was of almost universally fatal character.

The region invaded by the disease is in a section of country near Statesville, and extended far into the surrounding districts. The centre of the epidemic was about one hundred miles from the mountains. The chief symptom was a flux, or as we should say, a profuse and persisting diarrhœa, which exhausted the strength of the patient, and usually resisted all treatment which had been instituted, and generally proved fatal in a very few days. Dr. Wing's observation of the disease commenced by a call to the brother of a prominent citizen of the town, a store-keeper, who was widely known, and had already suffered from dysentery for some weeks at the time of Dr. Wing's first visit. The previous treatment of the case had embraced almost every therapeutic agent known to medical science, and the great wonder to Dr. Wing's mind was, that the patient had survived the treatment, even if the powers of the system had been able to combat the disease.

Throughout this entire district of country, the people have the most implicit belief in the efficacy of turpentine, employed in large doses internally. They take it in large amounts, repeat the dose at frequent intervals, and consider the remedy as applicable to all kinds of maladies. If the turpentine alone is not sufficient to effect a cure, they are accustomed to repeat the same dose, with the added influence of a liberal portion of castor oil. This is also repeated, if the first dose is not followed by an amelioration of the symptoms. The patient to whom Dr. Wing was called had taken this combination every four hours for some days. Dr. Wing suggested a trial of opium, as the former treatment had not been followed by any good effect. The suggestion was not, however, regarded kindly by the attending physician, who seemed to fear some fatal accident from any change of medication. He stated that if the patient should unfortunately die, the surviving friends would "be down" on the doctor. As all the cases, however, had died up to this time, and this patient also gave unmistakable indications of a gradual tendency to follow the example set by a long list of former respectable patients of the same physician, the change to an anodyne treatment was urged, and finally adopted.

This case recovered, and the extensive circle of friends and acquaintances of the distinguished patient were soon aware that the treatment formerly followed had been changed not only without detriment, but with positively beneficial results. From this time Dr. Wing's services were in constant demand, and he had some difficulty in explaining to importunate patients that he had no desire to practise, and that they must employ their ordinary medical adviser. One man came to implore Dr. Wing's services in the case of his daughter, who said that both turpentine alone, and in combination with castor oil, had been faithfully tried, but with no good result, and the father feared she must die. In this gloomy view Dr. Wing fully coincided; but the father wished that one more effort might be made to save his child's life. At length Dr. Wing gave the father a quantity of tincture of opium and a lump of tannic acid, which had become moistened on the journey was transformed into a solid mass. The treatment was followed by marked improvement, and the father came again after some days, to obtain another "hunk" of that new medicine. From that time, the treatment by tannin and opium was followed in this place, and no more fatal results are known to have occurred. To show how thoughtless the people are in the most essential measures for the care of the sick, the following case was related: Painter John was sick, and Dr. Wing saw him and gave him a "hunk" of the medicine, with careful directions as to a restricted diet. He got no better, and on making inquiries, it was learned that he had taken large quantities of water, string-beans, watermelon, and sheep. There is reason to fear that the old treatment by turpentine and castor oil has been again resumed since Dr. Wing's return.

Great value is placed upon certain indigenous herbs, which are estimated from somewhat different points of view than is customary in other parts. Thus an old and intelligent citizen designated a low plant by its local name, and descanted upon its great usefulness for cattle, assuring his auditors that this plant would surely kill or cure. He had tried it on a calf, and the animal was dead in fifteen minutes, so that he knew the plant possessed rare virtues.

DR. GANNETT asked the character of the urine in the cases treated by turpentine. A case had recently died in the hospital, in which acute nephritis had been caused by the inordinate use of turpentine.

DR. OTIS asked the character of the food, to which Dr. Wing replied that it was simply damnable.

The Secretary exhibited a number of the later additions to the list of synthetical and other drugs, and described in a few words, their most prominent characteristics.

Among those shown were Lanoline, the oily matter found in the fleece-wool of sheep. This is recommended as a valuable basis for ointments, as it seems to possess the property of passing easily through the skin, and thus forms a valuable means of securing the immediate therapeutical effect of the medicinal substance by inunction. Iodol, the reputed rival of iodoform as a disinfectant, said to contain ninety per cent. of iodone, is a grayish powder, but the speaker was unable to express an opinion of its value, as he had not yet employed it. Hypnone, the new hypnotic, obtained by the distillation of the acetate of calcium with the benzoate of calcium, is a limpid fluid, which is said to possess true hypnotic powers, without any unpleasant after-effects. It is probably yet too early to assert definitely what the full effect of this new drug may be. If the first impression in regard to its action should prove to be true, it will form a valuable addition to our resources in anodyne medication. Terebine and terpine are two derivatives obtained by the fractional distillation of turpentine, which are thought to possess a special tendency to relieve inflammatory conditions of the bronchial mucous membranes, as well as to act in the way peculiar to turpentine upon the renal organs. Two samples of iodoform were shown, in which the offensive odor of this valuable disinfectant was quite removed, and the substance rendered acceptable to the most delicate nostril by the addition of four per cent. of koumarin to the iodoform. This combination seems to possess all the disinfectant properties of the iodoform, and is a most acceptable mode of antiseptic dressing or disinfectant application.

DR. REYNOLDS said he was highly pleased to see a preparation of this drug which could be employed without the presence of the unpleasant and penetrating odor of the iodoform. This substance is now recognized as a valuable dressing, but its smell often prevents its use in proper cases.

The Secretary also showed a new "hospital inhaler," for which certain marked advantages are claimed. It is of earthen or pottery ware, and has a capacity of about one liter. The vessel is filled to a certain height with hot water (about 140°), and the medicinal substance is added. These are composed of the various volatile drugs, the vapor of which is inhaled through an appropriate mouth-piece. There is also a thermometer with the instrument, which is kept in a tube communicating with the contents of the vessel, so that the temperature may be kept at a uniform standard. The chief additional recommendation for this form of inhaler is that the temperature is preserved at a high point for a long time, owing to the material of which the instrument is made, and that the inhaler is not attacked by any of the substances which may be employed.

The Section then adjourned to the hall above, where a simple collation had been provided, to which ample justice was done.

Recent Literature.

Practical Human Anatomy; a Working Guide for Students of Medicine and a Ready Reference for Surgeons and Physicians. By FANEUIL D. WEISSE, M.D., Emeritus Professor of Surgery and Surgical Anatomy, Medical Department of the University of the City of New York, etc. New York: Wm. Wood & Co. 1886.

The book before us is evidently the work of an eminently practical anatomist who by long experience knows well what he wants to show and how to show it. The directions for exposing successive layers are admirable in their simplicity. At the beginning of the account of each region the preliminary incisions are shown on wood-cuts. The structures of each layer are concisely described and the descriptions illustrated by full series of excellent plates. Black lines in the plates show where many of the structures should be cut in the progress of the dissection, and full directions are given in special paragraphs. The idea is a good one, and it is well carried out. It seems to us that the regions exposed at once are too large. It is recommended, for instance, to reflect the skin of the chest and upper arm at the same time. It may be that this plan was adopted to avoid doubling the number of plates, already very large, and it will be possible for the student to use the book with profit while working on smaller areas. We are at a loss to see why the posterior aspect of the lower extremity should be dissected in the reverse order, that is to say, beginning with the sole of the foot.

We think the author has, except on one point, shown great discretion in what he has omitted. Superficial attempts at histology mar books intended for the dissecting room. We are glad that the subject is wholly ignored. We agree that the study of the eyeball and of the auditory apparatus does not come within the scope of the work. We agree also that it was wise to omit all applied anatomy, but we feel that the topography of the thoracic and abdominal organs deserves more notice than it has received. The only error that we have observed is the description of the *parieto-occipital* fissure, in which it is taught that it runs on the convexity of the brain from the longitudinal fissure to the inferior border. In fact, though very deep on the median surface, this fissure runs but a very short distance on the convexity, so as often to be hardly recognizable when seen from above. Perhaps the cause of this error is to be found in a similar one in Gray, Fig. 376, page 625, to which, we believe, we have already called attention.

The text is very clear and concise. We must protest, however, against the constantly recurring verb to "section" for which we know no authority, and which is in no way better than "to cut." The plates are 221 in number, almost all drawn from nature, and deserve great praise. The series showing the layers of the perineum is very satisfactory. We congratulate Dr. Weisse on the success of his work, which we believe will be a favorite with students. T. D.

— The Hospital Cottages for children, at Baldwinville, Mass., are to erect a building this spring, for the care and treatment of epileptic children. It is to be completed in June, and will accommodate thirty-five patients.

Medical and Surgical Journal.

THURSDAY, MARCH 25, 1886.

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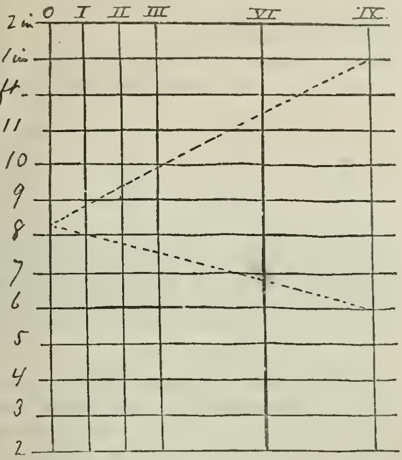
HEREDITARY STATURE.

At the meeting last Autumn, of the British Association for the advancement of science at Aberdeen, Mr. Francis Galton, the president of the Anthropological Section, based his address upon a portion of the subject of Hereditary Stature. Since that time he has extended his inquiries and reached certain conclusions which he has laid before the Royal Society and which will soon appear in full in its proceedings. Meantime in his presidential address to the Anthropological Institute on January 26, Mr. Galton stated in a more popular form the results of his observation. This address is contained in a recent number of *Nature.*

The problem, while relating primarily to the subject of stature, is, he believes, representative of other and more important qualities. But even when restricted to the field of physical height it is a question of interest. The question substantially is this: given a group of men of the same stature, whatever it may be, required to predict as to their brothers, sons, nephews and grandchildren respectively; *first,* what will be their average height? *secondly,* what percentage of those kinsman will be of stature ranging between any two given figures? But whatever is statistically *certain* in an average based on a large number of cases, is *probable* in any given case. Hence we may judge of the probable average height of the kinsmen in the various degrees just specified of any individual of given height.

The results of a large number of observations carefully corrected have enabled Mr. Galton to give a simple, and as he claims, a complete solution of this problem. This solution is most readily shown by the following diagram, which is drawn on a scale of one-quarter that which he suggests.



The horizontal lines represent feet and inches, the average height of the race being indicated at the point of five feet, eight and one-quarter inches. The vertical lines are drawn, as shown by the numerals at the tops, at one, two, three, six and nine units from the zero line. Now let the height of any given man be marked on the line IX, as for instance, at six feet one inch, or at five feet six inches. Let a line be drawn from the given point on IX to the normal average point on 0, cutting the other vertical lines. Then will the intersection of that line with VI indicate the probable average height of the brothers of the individual in question. Its intersection with III, the height of his sons; with II, that of his nephews; with I, that of his grandchildren. The same line indicates the stature of the male kinsman in the converse direction. VI, that of brothers, obviously; III, of father; II, of uncles; I, of grandfather.

The *regressive* tendency in all the kinsmen toward the average height of sixty-eight and one-fourth inches is thus vividly shown, the ratio of regression being one-ninth in grandchildren, one-third in children and two-thirds in brothers. It is somewhat remarkable that just this latter ratio also obtains between the "mid-parent" and the son; the "mid-parental" height being an average of two statures: (1) the height of the father, (2) the transmuted height of the mother. We may mention here that it has been found by Mr. Galton that the stature of kinswomen may be transmuted to that of their male equivalents by multiplying the height of the women in inches by 1.08.

The variability above and below the mean is shown by the graphic method as follows:—If the diagram given above be produced in its full scale (one inch between the horizontal lines) the limits of variability in any given case may be shown as follows. A set of four scales is prepared, one for each of the vertical lines. These scales are to be applied on their respective vertical lines both upward and downward from the point of intersection with the movable dotted line and the respective per cents. indicated by the scale of all individuals in the given degree of kinship will fall within the specified number of inches above and below the mean.

The following table shows the divisions on the respective scales, which are accurate except for the extreme upper and lower limits.

Per cents. of included statures.	Divisions upwards and downwards from centre of scales, in inches.		
	VI.	III.	II. & I.
10	0.5	0.6	0.6
20	1.0	1.3	1.3
30	1.6	2.0	2.1
40	2.4	3.0	3.1
45	3 1	3.9	4.0
49.5	4.8	6.1	6.3

For example, in line VI, eighty per cent. of all the brothers (forty above and forty below) will come within 2.4 inches of the average mean, while on line I, (grandchildren) eighty per cent. will come within 3.1 inches of the mean.

As a consequence it follows that, given a father of say six feet five inches in height, there are only seven chances in a thousand that his son will equal or exceed his height. But as the father's height diminishes towards and to the normal average of sixty-eight and one-quarter inches the chance of a son exceeding it increase towards and to a maximum of fifty per cent.

These views are applicable to other inherited traits besides stature. Mr. Galton (as is well known) has believed for a long time that intellectual men select, as a rule, wives of more than average ability, so that the average regression of the son of a gifted man would be less than one-third. Applying this principle to the consideration of a hypothetical problem, namely, the basis of qualification in a proposed hereditary body from which a legislative upper house is to be elected, he suggests that the hereditary qualifications should not be transmitted to an indefinite posterity but should lapse after the grandchildren of the ennobled person;that all the sons and daughters should stand on an equal footing as to the transmission of the hereditary qualifications; that brothers and sisters and the descendants of these should possess the hereditary qualifications, nephews, for instance, being twice as near of kin as grandsons and possessing twice the reversion-ratio of the latter.

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THE SIGNING OF PETITIONS.

We are told that a gentleman in a neighboring State, desiring to illustrate to himself and to others the value of petitions, prepared one for the summary hanging of two individuals and got many signatures to it, including the names of the two persons whose suspension by the neck was asked for. We are quite prepared to believe the story and venture the opinion that the signers were clergymen and doctors.

The Banning petition can hardly have been forgotten in this community, and yet another has appeared on the scene equally unwise, although it is too early to speak of the comparative harm done by the two. The petition in question respectfully suggested and urged upon the Boston Board of Health "the necessity for maintaining the present regulations regarding the admission of old rags." The petition was carried about by the treasurer of a company pecuniarily interested that the present regulations should be maintained, and a prominent lawyer was employed (by whom we know not) to represent the eminent petitioning doctors.

A commission of six expert physicians, appointed by the Board of Health, had unanimously declared against the present regulations, and there was upon the petition a conspicuous absence of the names of those physicians whose opinions would naturally be asked in questions regarding the public health. These points, however, we will pass over for the present. The fact to which we now wish to call attention is that, as we are credibly informed, a large portion of the gentlemen giving the weight of their names to the petition apparently did so because the bearer of it was a gentleman and a good fellow, and did not, at the time of signing it, know what the existing regulations are; or, in other words, these gentlemen did not know for what they were petitioning, and were without the guarantee, in all cases, even as to who the bearer of the petition was — a curious psychological phenomenon which we commend to the notice of the Society for Psychical Research.

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SANITATION IN WORKSHOPS AND FACTORIES.

The increased attention which is being demanded by and paid to the rights of labor at the present time should reasonably be extended to a field of which little is known by the laborers themselves, but wherein important interests are at stake for them, as in some of the more obvious and perhaps more tangible ameliorations of their lot for which they are contending. We refer to protection of those employed in workshops and factories against the neglect or violation of sanitary precautions on the part of the employers. Mr. Gerhard, C. E., of New York, has recently published an article in *Mechanics* in which some of those remediable dangers are referred to. He speaks of the ordinary injurious trades, involving work in poisonous chemical compounds, in extremes of heat and cold, in exposure to dangerous machinery, etc. Here, of course, the danger cannot be wholly removed and men should so understand it. By the appointment of skilled inspectors, however, it can be seen that all available precautions are taken by the employers. Dangerous parts of machinery can be guarded by railings and wire nettings. Workrooms may be inspected with reference to the ventilation, warming, etc. The number and conditions of water-closets and urinals is a matter that will admit of more careful overlooking in many of the large factories, though the foul condition sometimes existing is doubtless due to the carelessness of the workmen themselves. Still, the innocent should not be made to suffer for the hygienic sins of the guilty.

The securing of good drinking water, facilities for escape in case of fire, precautions against explosions, safeguards in the use of elevators, the protection of surrounding air or water from pollution by noxious chemical vapors or poisons — these and many other subjects would be legitimate work for a hygienic inspector who might be appointed by the State in the interest of the employed, but whom it might also be worth the while of the manufacturer himself to pay, as a measure of self interest as well as of humanity.

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MEDICAL NOTES.

— The *Therapeutic Gazette*, speaking of the proper spelling of antipyrin, says that as an alkaloid it deserves the termination "ine," but on the other hand, as an acid that termination is repulsive to its nature. In this dilemma, it favors following the authority of its discoverer, who when he patented it, named it antipyrin. A parent surely has a right to the naming of his child. The German journals as a rule, spell it without the e, but most of the English and American add the final letter.

— The Duchess of Connaught, who on a former occasion was confined at Bagshot Park, experienced symptoms of septic poisoning which caused her medical attendants considerable anxiety and induced them to have her removed very soon after the confinement to Winsor castle, the risk of transportation being considered less than that of remaining at Bagshot. A subsequent examination showed the drains of the latter house to be defective. In spite of a careful repair of these drains it has been decided to have her go again to Windsor to undergo an approaching confinement.

— Dr. H. C. Wood, in a recent clinical lecture on monomania, speaking of the relation between genius and this form of insanity, says: "One of the best examples of the relation between great imaginative power and monomania is John Bunyan, the author of 'The Pilgrim's Progress,' which, according to any standard that we have a right to set up, is one of the five or six greatest books in the English language. It is certainly more read than any other book, with the exception of the Bible. No one who reads the history of Bunyan's life can doubt for a moment that he suffered from monomania with depressing delusions. He, however, finally recovered."

— M. Bedoin stated to the Belgian Royal Academy of Medicine, according to the *London Medical Record*, that he believes he has found a simple, portable, inexpensive, antiseptic method of dressing wounds suitable for the wounded on battle-fields. He recommends the unglazed paper used for filtration. This is disinfected by being placed on a stove at 120° C. (248 F.), and immediately afterwards steeped in an antiseptic substance, then slowly dried. Seven or eight sheets of the filter paper are superposed on the surface of the wound, and then lightly bandaged. This dressing weighs about forty grammes, so that every soldier can carry one in his knapsack.

— The Philadelphia Polyclinic and College for Graduates in Medicine has established a hospital for operative and other cases at the College building, Broad and Lombard Streets, Philadelphia. A number of ward patients have already been treated in the new hospital.

— The *Medical Press and Circular* gives, on the authority of a private letter from Port Elizabeth, an account of a man, who, while bathing from off a pier projecting eight hundred yards into the sea, had his leg bitten off by a shark just below the knee, but who apparently lost hardly a drop of blood in the terrible struggle that took place. The laceration caused by the jagged teeth and the hæmostatic action of the salt water, are referred to as causes of the slight hæmorrhage. Amputation above the knee was forthwith performed, and a good result obtained.

— Dr. W. Thornton Parker, of Newport, R. I., from his experience on the Western prairies, considers the bite of the skunk more to be dreaded than that of the rattlesnake. He says hydrophobia exists to a considerable extent among these pests. He has known several cases where the skunk has invaded tents and corn-houses, and inflicted bites not always in anger, but in searching for food, and thus gnawing the hands or face of sleepers. He does not say that under the latter circumstances hydrophobia is communicated, but says there is a general impression that the skunk's bite is dangerous, and believes that the danger is usually from hydrophobia.

— An old member of the medical profession in Chicago tells the *News*, of that city, a story which he says, Dr. J. Adams Allen told him many years ago. Dr. Allen, as the story goes, was just beginning his practice when, one winter day, seated in a car, muffled to the ears, he overheard the following conversation between two passengers who were sitting where they could not see his face — "Say, George," said one, "what kind of a doctor is this young Allen?" "All I know about him is that he snatched my aunt from the grave last summer, that is, I shall always think he did." "Did he, indeed?" said the other; "well, he must be a pretty good doctor then. What was the matter with your aunt?" "Oh, she was dead and buried, you know."

— As to just what sort of a surgical operation has recently been performed on Lieutenant Greely, of Arctic fame, we are in ignorance, but whatever it was, he is much more to be pitied for having to undergo it in the daily papers than upon the operating table. We are told that he "has had the nerves at the base of the spine severed, and the flesh and muscles separated — a severe surgical operation." Any operation which involves the separation of the flesh and muscles must indeed be severe; and to one who has suffered this radical dissection, the "searing of the spine with a red-hot iron, similar to the operation which —— —— underwent in Paris a few years ago," and which appeals to the reportorial mind as the acme of horror, must appear as really a rather tame proceeding.

— A correspondent of the *Medical and Surgical Reporter*, writing apropos of a paper read at the late meeting of the New York Medical Society, by Dr. Hamlin, of Auburn, on "Emission of Semen as a Means of Diagnosis of Death by Hanging," says that he has had opportunity of verifying Dr. Hamlin's observations. At Fort Smith, Ark., there are hung annually, a dozen or more criminals, and in every instance there has been emission. The late Dr. J. E. Bennett called attention to it in 1880, and the writer's observations extend from that to the present. Dr. Bennett, who was United States jail physician at that time, and many years previously, said that he never knew a case of hanging in which the emission was not present, and as a means of diagnosis of death, it was certain.

— If contributors who sometimes, and not without reason, feel aggrieved at the occasional typographical errors in their articles which will contrive to elude observation, could see some of the threatened disasters of that nature from which they are mercifully delivered, their feelings would be merged in one of deep thanksgiving. For instance, a gentleman held in the highest esteem by his contemporaries, professional and social, made the remark before a medical society, that "he had himself at one time considered cirrhosis the usual result of excessive alcoholic indulgence," which was printed "he had himself, at one time, considerable cirrhosis, the usual result," etc. Equally narrow was the escape of the gentleman whose remarks on the "Etiology of Rabies" were in the proof perverted to the Etiology of "Babies."

BOSTON.

— The Bill for separating the Massachusetts Board of Health from Lunacy and Charity has become a law.

— Governor Robinson has also signed the bill prohibiting the sale or gift of tobacco to boys under the age of sixteen.

— The health of the "flooded district" is not injuriously affected. The number of cases of typhoid fever reported from this locality since January is four — not more than last year, and the health of the entire city is as good as at the corresponding time last year.

— Mrs. Clara T. Leonard, of Springfield, who was appointed to the State Board of Health, Lunacy and Charity by Governor Long in 1880, and has served ever since, has sent in her resignation to the Governor, on account of ill health. Her term of service would regularly have expired June 7, 1890.

— Within the last fortnight, two hearings have been held by the Committee on Health of the City Government, on a petition by the paper manufacturers for the abrogation of the present requirement of the local Board of Health for the disinfection of rags brought to this port. The contract for disinfection is held by the Boston Disinfecting Company, which charges five dollars per ton for fumigating the rags. This expense, and the trouble otherwise caused by the regulation has, the petitioners claim, led manufacturers to land most of their rags at other ports where consular certificates from the ports of shipment are accepted as evidence of the safety of the rags.

— An evening dispensary at St. Andrew's Church, 27 Chambers Street, has been established under the charitable auspices of Trinity Church, for the benefit of the many workingwomen who, reluctant to lose their half-day's pay, or to incur the displeasure of their employer by absence, neglect their health and become seriously ill, when the advice of a physician might save them many days of suffering. It is under the charge of two female physicians, both members of the Massachusetts Medical Society, and earnestly interested in the welfare of working girls. At present, the Dispensary is to be open Tuesday and Friday evenings, and it is thought that other evenings may be required to be added later.

NEW YORK.

— Two brothers, candy dealers on Chambers Street, have each been fined $100 for selling "rock and rye" drops, which on analysis by Prof. Elwin Waller, of the Health Board, were found to contain fusel oil.

The Trustees of the College of the City of New York have appointed William Stratford, M.D., Ph.D., to the chair of Professor of Natural History, Physiology and Hygiene, made vacant by the death of the late Dr. John C. Draper.

— The twenty-fifth annual commencement of Bellevue Hospital Medical College was held on the evening of March 15th, in the Carnegie Laboratory, which was elaborately draped in mourning in consequence of the death of Professor Austin Flint. The degree of M.D., was conferred upon one hundred and thirty-nine graduates, by the president, Dr. Isaac E. Taylor, and the address to the class was made by Dr. John C. Dalton, President of the College of Physicians and Surgeons, who in it paid a most touching and eloquent tribute to the memory of Dr. Flint.

— The funeral services of Dr. Vanderpoel were held at his late residence in 39th Street on the afternoon of March 15th, and was largely attended by the profession. Among the pall-bearers were Drs. Alfred L. Loomis, C. R. Agnew, John C. Dalton, Fordyce Barker, C. F. Chandler, D. B. St. John Roosa, and Albert Vander Veer, of Albany. On the morning of the funeral a special meeting of the Charity Organization Society, for the formulating of whose constitution Dr. Vanderpoel was one of the citizens selected by the State Board of Charities, was held for the purpose of taking action in regard to his death.

— The funeral of Dr. Flint was held on Tuesday, March 16th, at Christ Church, in which gathered an immense number of physicians, including all the most noted men of the profession in New York, as well as a number from various other cities. The services were very simple, and there were no pall-bearers. On Sunday, the day following his death, special meetings of the Faculty of Bellevue College and of the Executive Committee of the New York County Medical Association were held, at which appropriate resolutions in regard to the sad event were adopted. At the meeting of the Academy of Medicine held March 18th, the President, Dr. A. Jacobi, announced that he would himself claim the privilege of pronouncing before the Academy the eulogy of his illustrious predecessor in the office.

—The Hospital Saturday and Sunday Association met in the Mayor's office on March 18th, and made the following distribution of the undesignated contributions received in aid of the institutions belonging to the Association :—

Mount Sinai Hospital	$5,013.80
St. Luke's Hospital	3,693.26
Society for the Relief of the Ruptured and Crippled	3,586.86
German Hospital	3,385.87
Presbyterian Hospital	1,659.82
St. Mary's Free Hospital for Children . . .	1,283.49
Woman's Hospital of the State of New York .	1,208.01
House of Rest for Consumptives . . .	1,072.27
Home for Incurables	1,035 64
Home of the Holy Comforter	1,051.47
New York Infirmary for Women and Children .	843.75
New York Orthopædic Hospital	770.26
New York Eye and Ear Infirmary	775.34
French Hospital	755 76
Hahnemann Hospital	659.98
Manhattan Eye and Ear Hospital	611.78
New York Ophthalmic Institute	636.82
New York College and Hospital for Women . .	537.34
Ophthalmic and Aural Institution	499.53
New York Skin and Cancer Hospital . . .	496 03
Home for Convalescents	425.09

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Miscellany.

A CASE OF PERFORATING ULCER OF THE STOMACH, OPENING INTO THE LEFT VENTRICLE OF THE HEART, AND CAUSING DEATH BY HÆMORRHAGE.

At the meeting of the Pathological Section of the Academy of Medicine, reported in the *Medical Press and Circular* (March 3, 1886), Dr. Finny exhibited an extremely rare specimen of an oval ulcer (1 by ½ in.) of the stomach, situated on its anterior wall two and a half inches from the cardiac, and two from the lesser curvature, leading up to and perforating the heart. The floor of the ulcer was the muscular structure of the under surface of the left ventricle, about one inch from the apex; and the ulcer, after perforating the stomach, had eaten through the diaphragm and the pericardium. The stomach was adherent to the diaphragm through the ulcer, but the adhesions were very slight, and of recent date. The pericardial sac had been obliterated by adhesive inflammation, and over the whole of the left ventricle the adhesions were very dense. Through the larger of several interstices, between the exposed muscular tissue of the apex, a probe could be passed upwards, and was found to enter the left ventricle behind a musculus papillaris attached to the posterior mitral curtain. The patient from whom the morbid specimen was removed had died of syncope on December 9th, 1885, preceded by the passage of blood from the bowels. Strange to say, there was no hæmatemesis. At the autopsy, the stomach and the whole intestinal canal were found full of liquid blood, and the stomach alone contained two quarts. The source of the blood was the left ventricle, and it is probable the blood escaped into the stomach during both systole and diastole.

The clinical history of the patient was as follows :—

A farm laborer, aged nineteen, was admitted, under Dr. Finny's care, into Sir Patrick Dun's Hospital, at the end of October, 1885, suffering from articular rheumatism of a subacute type, of a month's duration, and presenting the signs of pericarditis in the stage of lymph-exudation. In a few days the friction disappeared, while there was no subsequent effusion, and all the other symptoms of rheumatism passed away. There were no symptoms pointing to disease of the stomach, with the exception of pain referable to the sixth rib, about the usual seat of cardiac impulse, and which was also referred to the right coracoid process. This pain was stated to have been present, off and on, for nearly five years, to be of an intermitting nature, and at times of great severity. During the patient's stay in hospital there were about four such exacerbations, which required morphia for their relief. This pain was never felt in the epigastrium or back; was not induced or relieved by the introduction of food or change of posture, nor did it bring on any nausea or vomiting. From this latter symptom he never suffered, and even during the fatal bleeding there was no hæmatemesis. For seven days before death the pain had greatly abated. During the night of December 8–9, the patient had but little sleep, and in the morning, about 8 A.M., he passed blood from the bowels, and very soon after died in syncope.

The autopsy revealed the conditions described above.

The fatal steps in the pathological history of the case were: 1st, Ulcer of the stomach of unknown duration; 2d, Rheumatic pericarditis and adhesions of the left ventricle to the diaphragm, with obliteration of the sac; 3d, Recent activity in the ulcer, perforating into the muscle of the heart.

The general muscular structure of the heart under the microscope was perfectly normal, and free from fatty degeneration, except the fibres at the floor of the perforation, which were granular and broken down, though free from all fat.

Dr. Finny referred to the anatomical relations of the liver and stomach to the diaphragm, and stated, by observations made, that while, in the majority of instances, the liver, by its left lobe, entirely separates the stomach from the portion of the diaphragm to which the pericardium is applied, there are exceptional specimens where the left lobe of the liver is small and pointed, where a small triangular portion of the extreme front of the pericardial aspect exactly corresponds to the anterior wall of the stomach in the very position of the ulcer present in this case. This he further illustrated by reference to Braune's topographical plate taken from the frozen subject. Dr. Finny pointed out the extreme rarity of such cases, and when he first discovered its peculiar features, he thought it was unique inasmuch as no such specimen was to be found in the pathological museums of Dublin or London, and no record of such a case was to be met with in the Pathological Transactions, or in any of the books devoted to the subject of gastric ulcer, nor could he obtain any reference to any reported instance in the medical literature of Great Britain and Ireland.

Further research, however, showed him that it was not unique, as there are three similar cases recorded in Vienna — the first by H. Chiari in 1880, the second by F. Brenner, and the third by Oser in 1881; and each of these latter observers seemed to have been unaware of the other reported cases. He thought the fact of a chamber having been formed between the heart and the pericardium showed that probably a gastric ulcer first formed the abscess, and that it opened from the stomach, forming a smaller one underneath the diaphragm, and from thence reached the pericardium. Having regard to the slight character of the adhesion between the outer surface of the stomach and the diaphragm, he did not think that the passing of the ulcer through the diaphragm could have set up such a pericarditis as was found in the case. He thought that pericarditis was due to a rheumatic attack, which had preceded the perforation of the diaphragm by the ulcer from the stomach. Nor did he see any difficulty about the solution of the muscles of the heart by the gastric juice.

The base of the ulcer and the muscular tissue of the heart were turned into a granular *débris*, which was the result of the solution. The rest of the heart was perfectly healthy, and showed no sign of fatty degeneration whatever. Nor did he see why the heart should not have suffered from the action of the gastric juice, when they saw that the tendinous portion of the diaphragm, which opposed the progress of the ulcer, was dissolved by the gastric juice at the floor of the ulcer. Having thus gone through the diaphragm, which was of its full thickness, the gastric juice might have acted in a similar way on the muscular tissue of the heart.

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RESOLUTIONS OF THE MEDICAL BOARD OF THE MASSACHUSETTS GENERAL HOSPITAL IN MEMORY OF DR. J. H. WHITTEMORE, THE LATE SUPERINTENDENT.

At the annual meeting of the Medical Board of the Massachusetts General Hospital, the following resolutions of respect to the memory of Dr. Whittemore, the late Superintendent, were passed:

This, our annual meeting, the first meeting of the Medical Board of the Hospital since the death of Dr. James Henry Whittemore, Resident Physician and Superintendent, affords us the first opportunity of placing upon our records a tribute to his memory, in the expression of the high appreciation of the distinguished services he rendered to the Hospital, and all the varied interests committed to his charge.

He was pre-eminently a representative of the dignity, the honor, and the magnitude of so great and so charitable a trust; he brought to bear upon the executive department of this institution, sound methods, ripened judgment, and a keen, clear insight, and applied to the complex questions of immediate necessities, and prospective and more remote requirements, the happiest combinations of foresight and wisdom.

To him, especially, the Hospital owes its great reputation in this community as an effective power, working for the good of the deserving poor; and to him, more than to any other, its widespread name as the representative of the American hospital system.

Men rarely demonstrate as he did, daily in our sight, the inflexible will and the superb qualities, which enable a man to do his whole duty, so long as life lasts. Maimed and helpless, racked and torn by pain, he completed the task he had assigned himself, and dying, left no unfinished work. He needs no eulogy, for of him, also, it may justly be spoken :—"*Si monumentum quæris circumspice.*"

To the Staff and to the individual member he sustained a nearer relationship. He was our friend. The lines governing his conduct were firmly fixed, and led straight to a constant goal — duty; but no path was so well-worn, or bore such marks of his frequent footsteps, as that which led to the altar of friendship; its fires never smouldered, but burned brightly, fed by many and fresh sacrifices; for, "he who will have shown himself in all cases as regards friendship, worthy, constant, and steadfast, such a one we ought to esteem of a class of persons extremely rare — nay, almost God-like." Unswerving fidelity to duty and to friendship were his distinguishing traits.

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THE PREVENTION OF MAMMARY ABSCESS.

In a recent number of the *Therapeutic Gazette*, reference was made to the method of prevention of mammary abscess recommended by Dr. Edis, by the use of support by means of a bandage or towel. Dr. Edis appears to have used this method after every delivery, and, by beginning it before lactation was established, with assured success. Occasionally, however, one is called to cases where abscess is on the point of forming, either from neglect or injudicious treatment, and where, consequently, something more is required. Under such circumstances, Mr. Philip Miall (*British Medical Journal*, November 21, 1885,) states that he has repeatedly seen all the symptoms of a hot, heavy, inflamed breast, with redness of skin, throbbing and deep-seated pain, pulse being one hundred and twenty in the minute, all disappear in the course of a few hours under fomentation of hot water and ammonia. An ounce of carbonate of ammonia is dissolved in a pint of boiling water, and when solution is affected the temperature will scarcely be too high for fomentation with cloths dipped in the liquid. These must be assiduously applied for half an hour at least, and repeated for two or three hours if necessary. It is well to protect the nipples, though Mr. Miall states that he has never known them to be injured. Relief is immediate, and more than three applications are seldom required. According to Mr. Miall, unless applied too late or improperly, or some foolish rubbing or drawing with the breast-pump be used, this remedy may be thoroughly relied upon.

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OBITUARY. AUSTIN FLINT, M.D.

Dr. Austin Flint whose sudden death on the 13th inst. from apoplexy, has already been announced to our readers, was descended from an eminent medical ancestry. First in the distinguished line was Dr. Edward Flint, his great-grandfather, a physician of note in Shrewsbury, Mass.; then came Dr. Austin Flint, of Leicester, the grandfather, who was a surgeon in the Revolutionary Army; then the father, Dr. Joseph Henshaw Flint, one of the most noted physicians and surgeons that the Connecticut Valley has ever had. Dr. Austin Flint was born at Petersham in Worcester County, October 20, 1812. He studied at Amherst and Harvard, and was graduated from the University Medical School in 1833. He practised at Northampton for a time, then in Boston, and in 1836 went to Buffalo, where he was settled until 1844; he was then called to a professorship in the Rush Medical College at Chicago, which he filled for a year, returning to Buffalo, where he established the *Medical Journal*, which be continued for ten years; he was one of the founders of the Buffalo Medical College, where he was professor until 1852; for four years thereafter he was professor in the Louisville University, and then returned to another professorship at Buffalo; for three winters from 1859 he was professor of clinical medicine in the medical school at New Orleans. In 1861 Dr. Flint made his home in New York city, where he became one of the physicians to Bellevue Hospital, and was appointed to two professorships — the principles and practice of medicine and clinical medicine at Bellevue, and pathology and practical medicine at the Long Island College Hospital. From the latter institution other duties forced him to sever his connection in 1868. In 1876 he was a delegate to the International Medical Congress at Philadelphia, where he delivered a notable address on "Medicine." During the past winter he received an invitation to deliver an address on the same subject at the coming meeting of the British Medical Association. This honor he had accepted. He attended the Congress at London in 1881 and at Copenhagen in 1884, and had been chosen president of the next Congress, to be held at Washington in 1887.

He was president of the New York Academy of Medicine in 1872 and of the American Medical Association in 1884. He was also a member of a very large number of learned societies in this country and Europe.

As an author Dr. Flint attained perhaps his widest fame. His "Treatise upon the Principles and Practice of Medicine," published in 1866, ran through seven editions. He was engaged during the past winter in revising it for another edition. The sales of this book are said to have reached nearly 40,000 copies. A work on "Clinical Study on Heart Sounds in Health and Disease," which he wrote in 1852, received the first prizes of the American Medical Association in 1852 and 1859. His work on "Phthisis," and his "Manual of Percussion, etc.," have long been standard works.

A strong constitution and perfect health had enabled Dr. Flint to keep up his active labors as teacher, writer, and practitioner to the last days of his life. The fact that his selection as president of the Medical Congress of 1887 had proved acceptable to both parties in the controversy, may make his removal another bar to the success of that undertaking — already so beset with difficulties.

Correspondence.

CO-EXISTENCE OF SCARLET-FEVER AND MEASLES.

Windham, Me, March 22, 1886.

Mr. Editor, — The case of "Co-existence of Scarlet-fever and Measles," reported in the Journal of 11th inst., by Francis F. Brown, M.D., reminds me of a similar case occurring in my own practice, in the year 1875, during quite an epidemic of these eruptive fevers.

Jennie B., aged seven years, had suffered for several days before I saw her, from the usual precursory symptoms of measles, and at the time of my visit, the eruption had made its appearance on the face and chest. It was well-marked, and there was no mistaking the nature of the disease. At my next visit, twenty-four hours later, an entirely new state of affairs existed. Instead of measles, we had before us a typical case of scarlet-fever with all the accompanying symptoms.

Unlike Dr. Brown's case, the eruption of measles had disappeared, save a trace on the forehead, and a bright scarlet rash covered the entire body with all the characteristic symptoms of scarlet-fever, which continued for five or six days, and on its disappearance, the eruption of measles returned, and having had "one day out" it began to fade from the face on the third day, instead of the fourth, as is the rule. Convalescence was slow but the patient made a good recovery.

There can be no doubt as to the co-existence of the two diseases in this case, and although the measles got the start of the scarlet-fever in point of time, yet in point of intensity, the scarlatina had the better of its antagonist.

Very truly yours, B. F. Dunn, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 13, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrh'al Diseases.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	776	290	15.87	16.64	.90	8.19	2.43
Philadelphia	927,995	377	138	15.12	15.39	.81	5.13	1.08
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	169	55	11.21	17.11	1.77	5.31	.59
St. Louis	408,520	—	—	—	—	—	—	—
Baltimore	400,000	145	48	1.40	19.60	—	1.40	—
Cincinnati	272,490	113	33	21.12	14.08	3.52	5.24	1.76
New Orleans	234,000	135	33	8.88	14.80	2.22	2.22	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	6	8.70	13.05	—	4.35	4 35
Charleston	52,286	16	4	25.00	18.75	—	6.25	—
Worcester	68,383	18	9	11.11	11.11	—	5 55	—
Lowell	64,051	38	13	26.32	7.89	2.63	13.15	2.63
Cambridge	59,660	25	6	12.00	8.00	—	8.00	—
Fall River	56,863	20	7	10.00	5.00	—	5.00	5.00
Lynn	45,861	8	1	25.00	50 00	—	—	12.50
Lawrence	38,825	20	—	5.00	30.00	—	—	—
Springfield	37,577	14	2	14.56	7.28	—	7.28	—
New Bedford	33,393	18	6	5.55	16.66	5.55	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	3	9 09	—	—	9.09	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	1	8.33	25.00	—	8.33	—
Taunton	23,674	9	3	22.22	33.33	—	11.11	11.11
Haverhill	21,795	8	4	50.00	—	25.00	25.00	—
Gloucester	21,713	8	4	—	12.50	—	—	—
Brockton	20,783	9	2	—	11.11	—	—	—
Newton	19,759	6	0	16.66	16.66	—	—	—
Malden	16,407	—	0	—	—	—	—	—
Fitchburg	15,375	5	2	20.00	40.00	—	—	—
Waltham	14,609	2	0	50.00	—	—	—	—
Newburyport	13,716	3	0	66.66	—	—	33.33	—
Northampton	12,896	3	0	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,024: under five years of age 682; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 276, consumption 327, lung diseases 306, diphtheria and croup 121, whooping-cough 31, diarrhœal diseases 24, typhoid fever 27, cerebro-spinal meningitis 18, scarlet fever 26, malarial fever 13, erysipelas ten, puerperal fever two. small-pox two, typhoid fever one. From typhoid fever, Philadelphia nine, New York and Cincinnati six each, Lowell two, Boston, Cambridge, Lynn and Lawrence one each. From scarlet fever, Philadelphia 12, New York seven, Cincinnati four, Boston, Lowell, and Newburyport one each. From cerebro-spinal meningitis, Philadelphia six, New York four, New Orleans three, Boston, Cincinnati, Worcester, Fitchburg, and Waltham one each. From malarial fevers, New York nine, New Orleans two, Philadelphia and Nashville one each. From erysipelas, New York five, Boston two, Philadelphia. Cincinnati and Springfield one each. From puerperal fever, Philadelphia and Boston one each. From small-pox, New York two. From typhus fever, New Orleans one.

In 111 cities and towns of Massachusetts, with a population of 1,376,736 (population of the State 1,941,465), the total death-rate for the week was 17.41 against 17.35 and 14.83 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 27th the death-rate was 24.2. Deaths reported 4,217: infants under one year of age 932; acute diseases of the respiratory organs (London) 647, whooping-cough 161, measles 91, scarlet fever 34, diphtheria 33, fever 33, diarrhœa 32, small-pox (Liverpool) one.

The death-rates ranged from 13.1 in Derby to 30.5 in Blackburn; Birmingham 21.7; Bradford 18.1; Hull 19.6; Leeds 25.5; Leicester 17.9; Liverpool 22.6; London 25.0; Manchester 28.9; Nottingham 26.6; Sheffield 22.1; Sunderland 22.1.

In Dublin 30.4.

For the week ending February 27th in the Swiss towns, there were 34 deaths from lung diseases, consumption 33, small-pox seven, whooping-cough five, measles, scarlet fever and typhoid fever each three, puerperal fever two, diphtheria and croup one.

The death-rates were: at Zurich 24.8; Geneva 20.2; Basle 15.5; Berne 26.7.

The meteorological record for week ending March 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 13, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 7	29.938	27.1	34.7	20.9	61.0	52.0	57.6	56.7	N.W.	N.W.	N.W.	12	22	4	C.	C.	C.	—	—
Monday,.. 8	29.843	30.5	38.4	22.4	51.0	73.0	93.0	72.3	S.E.	E.	S.	2	13	8	O.	O.	N.	—	—
Tuesday,.. 9	29.838	24.6	34.2	17.2	93.0	73.0	71.0	79.0	N.	N.	N.	18	17	8	N.	O.	C.	—	—
Wednes., .10	29.951	27.6	36.3	16.9	57.0	63.0	53.0	57.7	N.	N.	W.	11	3	9	O.	C.	C.	—	—
Thursday, 11	29.926	36.1	46.4	22.4	52.0	24.0	42.0	39.3	N.W.	W.	S.W.	10	20	12	C.	C.	C.	—	—
Friday, ...12	29.540	40.2	46.5	34.8	46.0	50.0	84.0	60.0	S.W.	S.W.	S.W.	10	17	14	O.	T.	C.	—	—
Saturday, .13	29 307	38.6	43.0	34.1	88.0	81.0	85.0	84.7	S.W.	N.W.	W.	4	7	1	O.	R.	C.	28	.33
Mean, the Week.	29.763	32.1	39.9	24.1				64.2											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 13, 1886, TO MARCH 19, 1886.

Hoff, Jno. Van R., captain and assistant surgeon. Ordered from Department California to Department Missouri. S. O. 60, A. G. O, March 13, 1886.

Robertson, R. L., first lieutenant and assistant surgeon. Granted leave of absence for one month. (Fort Ringgold, Tex.) S O. 29, Department Texas, March 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING MARCH 13, 1886.

Benson, J. A, passed assistant surgeon. Resignation accepted to take effect April 6, 1886, and leave of absence granted until that time, March 10, 1886.

CIRCULAR. REVOKING REGULATIONS ISSUED OCTOBER 1885, FOR THE MAINTENANCE OF QUARANTINE INSPECTIONS ON THE NORTHERN FRONTIER OF THE UNITED STATES.

Treasury Department,
Office Supervising Surgeon-General,
U. S Marine-Hospital Service,
Washington, D.C., March 17, 1886.

To the Medical Officers of the Marine-Hospital Service,
Customs Officers, and others concerned:

Official information having been received that the small-pox which recently prevailed as an epidemic in certain provinces of the Dominion of Canada, is now under control; therefore the Regulations issued October 10, 1885, for the maintenance of quarantine inspections on the northern frontier of the United States, are hereby revoked.

John B. Hamilton,
Supervising Surgeon General.

DEATH.

Died in Roslindale, Mass., March 19, 1886, Robert Mendnm Otis, M.D., M.M.S.S., aged forty-two years.

SOCIETY NOTICE.

Norfolk District Medical Society.—A meeting for Scientific Improvement will be held at Room 7, Palladio-Hall Building, corner of Warren and Dudley Streets, Roxbury, March 30th, at 7.45 P.M. Communications: I. "A Case of Gangrene of the Lung," C. E. Stedman, M.D. The discussion will be opened by Jos. H. Streeter, M D. II. "The Treatment of Synovitis by Aspiration and Martin's Bandage," E. P. Gerry, M.D. The discussion will be opened by Chas. F. Withington, M.D. Members of other Districts are invited to be present and participate in the discussions.

S. Allen Potter, M.D., *Secretary.*

APPOINTMENT.

Dr. Frederick C. Shattuck has been appointed Visiting Physician to the Massachusetts General Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Official Register of Physicians and Midwives now in Practice to whom Certificates have been issued by the late Board of Health of Illinois, 1877–1886. Springfield, Ill.: State Printers. 1886.

Results of Enquiries conducted by the Health Department of the State Board of Health, Lunacy and Charity, relative to the Quality of Milk as produced in Massachusetts. State Printers. 1886.

Western Reserve Medical Department, Cleveland, Ohio. Announcement, 1886–87.

What is Medicine? Annual Address delivered before the American Academy of Medicine at New York, October 28, 1885. By Albert L. Gihon, A.M., M.D., Medical Director of the United States Navy, President of the Academy.

Note-Book for Cases of Ovarian and other Abdominal Tumors. Adapted from the Note-Books of Sir Spencer Wells and the Sanitarian Hospital, London. By John Homans, M.D., Clinical Instructor in Harvard College on the Diagnosis and Treatment of Ovarian Tumors. Cupples, Upham & Co., Publishers, Boston.

Twenty-first Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati. For the Fiscal Year ending Dec. 31, 1885. H. M. Jones, Superintendent, 1886.

Original Articles.

A MEDIASTINAL TUMOR.

BY F. N. WHITTIER, M.D.
Visiting Physician Massachusetts General Hospital.

The condition of a patient recently under observation has suggested the topic of this paper: for the case illustrates the distinguishing features of the disease, in the obscurity of the earlier symptoms, and the etiology; later, in the evidences of rapid growth shown by external signs, and by local mechanical interference with the functions of the thoracic organs, and at last, in the conclusive proofs of extreme malignancy.

A man, forty-three years of age, of good family history, free from taint, without signs or history of rheumatism, alcoholism, syphilis, or Bright's disease; by occupation a teamster, and by this subjected to much exposure and heavy exertion, had complained for two months of attacks of difficulty in breathing: attacks of such severity, and so wholly without warning or assignable cause, that he had given up work of late. Even slight changes of position in bed, from lateral to dorsal decubitus, seemed to cause dyspnœa, and exertion of any kind was rendered difficult, and dreaded, by reason of suffocative attacks.

Further questioning brought out the fact of some obscure intra-thoracic disturbance eight years ago, disabling him for two months, and said by his physician to have been caused by some over-exertion in lifting: this, the patient insisted, had been fully recovered from, and never since, the source of any trouble whatever.

Paroxysms of coughing had been frequent of late, and an expectoration, at first mucous, white, and frothy, had become thinner, watery, and sometimes tinged with blood. Pain has not been a source of complaint, nor had there been palpitation nor the usual rational signs of cardiac disturbance; the voice had been unchanged, and there had been no swelling of extremities.

When first seen, three weeks previous to my later observations, the following additional facts were the only ones obtainable: At times, the face, and particularly its right side and the right side of the neck, seemed to enlarge, and he grew livid, dusky, and even purple; the veins were ready to burst, and his hands and feet, in fact, his whole body would be cold and wet, with clammy moisture, and there was great laboring for air, and constant expressions of apprehensions of impending death.

The physical signs in part corroborated his statements, and in addition, there was found swelling and slight œdema above the clavicles, and increased resistance to palpation, with irregularities on deep pressure, suggesting glandular enlargements. There was less expansion above and below the left clavicle than in corresponding regions on the right side during inspiration, and at the junction of the third or left costal cartilage with the sternum, a limited elevation of the surface could be seen, which transmitted to the fingers a rise and fall, synchronous with the radial pulse; well-marked dulness was found in the elevation and across the median line of the sternum, and from the left apex down to the third intercostal space; while the respiratory sounds were greatly diminished, and modified in the direction of broncho-vesicular, with some exaggeration of voice-sounds. Fine, moist râles were abundant in the remaining portion of both lungs; most marked posteriorly, but there was no pleural effusion on either side. The tumor communicated no thrill, nor was there evidence of lateral expansion, but the left radial was less than the right in force. The pupils were equal. Pulse 104, small, but regular; respiration 36 per minute. No abnormal condition other than these as described, were found.

There were good reasons for the two, and somewhat diverse opinions reached by the attending and consulting physicians at this date. The family physician, weighted with the obscurity of the earlier symptoms, assigning large influence to occupation, and previous history of traumatism, or over-strain, had given an opinion of aneurismal tumor. The consultant, examining without knowledge of this opinion, and without the fatigue and prejudice associated with the tedious uncertainty of the two preceding months, based his opinion largely upon the physical signs, and less upon the possible diagnostic influences of the history of the case.

If we carefully consider the symptoms which challenge careful consideration, we shall be led to regard as the most important of the symptomatic phenomena, those associated with disturbances of respiration. They are, in the order of their value in diagnosis, as follows: Rapid breathing; dyspnœa on exertion; dyspnœa on change of position; dyspnœa, explained by physical signs; orthopnœa; paroxysmal dyspnœa.

For the purposes of eliminative diagnosis, we need to consider more at length the causes of rapid breathing. They are:

Increase of blood	Hyperæmia Passive congestion	Pulmonary
Increase of tissue	Fibroid-Phthisis. Tuberculosis.	
Increase of water	Œdema of lungs. Capillary Bronchitis. Pleurisy with Effusion. Pericarditis.	
Empyema.		
Tumors	Aneurismal. Mediastinal new growths. Malignant diseases of the lungs.	
Pneumothorax	Pyo- Hydro-	
Abscess.		
Gangrene.		
Asthma	Renal. Cardiac.	
Anæmia.		
Disease of Pneumogastric.		

The rules of eliminative diagnosis enable us to throw out as not material to the present discussion, all of the foregoing, excepting œdema of lungs, laryngeal paralysis, and the varieties of tumors embraced under the term mediastinal new growths and aneurismal.

Pressure upon, or disease of, the pneumogastric, caused by enlarged cervical or bronchial glands, intra-thoracic new growths and aneurism, is recognized as an important agent in the production of rapid breathing. The history of this case may be confidently appealed to in confirmation of the existence of one or more of the above causes.

The pulmonary œdema, joined, as it is, with evidences of venous stasis in the face and neck, cannot be wholly referable to influences exerted upon the pneumogastric, and it is only explainable by hindrances to return of blood through the superior vena cava, by causes existing within the thoracic cavity.

I quote the admirable words of Bruen: "When we consider that in the diagnosis of aneurism of the aorta, every sign and symptom has in turn been found to be fallacious in the ever-varying conditions under which aneurisms appear, and that one is forced to say that aneurism has no pathognomonic signs or symptoms, the difficulties in the way of differential diagnosis of intra-thoracic tumors may be recognized. Moreover, the diversity in the peculiarities of each case, the multifarious character of the pressure symptoms and physical signs, and the absence of a precise order of phenomena peculiar to tumors in this situation, may render a positive diagnosis in the early stages very difficult."

In this case, there had been none of the causes predisposing to disease of the coats of the arteries, but there was offsetting this, the history of laborious occupation, of violent exercise, and of obscure traumatism of seven or eight years previously; pain was nearly absent; this, too, in spite of the evidences of a tumor, as shown by the limited prominence in the left sternal region; pulsation and thrill, murmur, and lateral expansion were absent, important diagnostic factors in aneurismal growths, and the recurrent laryngeal gave no direct sign of involvement, neither hoarseness nor aphonia having existed. The variation in the radials implied obstruction, or pressure from some one of several intra-thoracic causes, not from aneurism alone.

Mediastinal new growths, the majority of which are lympho-sarcomatous, oppose in their earlier stages many obstacles to a conclusive diagnosis. Broadly stated, there are no symptoms or physical signs, nor any precise order of phenomena peculiar to, or definitely diagnostic of intra-thoracic new growths.

The wider the departure from the usual concurrent signs of intra-thoracic tumors; the more diffused the signs of obstruction, and of disturbed mechanism referable to the mediastinum (when thoughtfully considered in connection with the history of the case) the firmer the foundation upon which to rest a diagnosis, of the class of intra-thoracic new growths of which one case is typical.

We were, in considering this case, mindful of the fact, that these growths increase from without inwards, that the slight external tumor might be but a surface indication of extensive deposits, an opinion confirmed by the large area of percussion dulness: that the physical signs of collapse of pulmonary lobules, upper left front, and the evidence of venous stasis in face and neck were conjoint witnesses inseparably connected and associated with the cervical glandular enlargements, an aggregation unimpeachable and conclusive.

Let us now turn to the consideration of the later symptoms found in the rapid growth of the tumor, and in the evidences of obstruction, declared by the external signs, and the local mechanical interference with the functions of the thoracic organs.

At an interval of four weeks the following conditions existed: —

The face, neck and left arm were œdematous and dusky: the neck broadening to its base was much enlarged, irregular in surface, and the supra-clavicular depressions were obliterated; anteriorily, from the sternal notch upwards, the growth masked the outlines of the larynx. Respiratory movements in the left upper chest were absent; the heart's apex was displaced downwards and outwards into the seventh interspace, outside the nipple line; to rapid breathing, there had been added orthopnœa, of the most pronounced type, the patient sleeping much of the time with his head bending forward towards his drawn-up knees.

The tumor before noted as a small elevation had so increased in size as to involve the costal cartilages and the ends of the second, third and fourth ribs, and measured three and one-half by four and one-half inches, with an estimated elevation of one and three-fourth inches; it was a firm, resisting, non-heaving, non-expanding mass, free from pain and not tender on palpation or percussion; there was flatness on percussion, from the left apex to the third interspace and thence to the right of the sternum. Vocal fremitus was absent in this region; respiratory murmur other than transmitted could not be heard; the voice sounds were not distinctive; urgent symptoms, referable to obstruction of the trachea, as well as of the superior vena cava, became more constant, and Dr. Porter's opinion was sought, with reference to surgical measures to secure relief. He decided that the growth in front of the larynx and the evidence of obstruction beneath the sternum precluded tracheotomy, and rendered any operation impracticable.

The evidences of extreme malignancy were found in the processes destructive to life, and rapidly advancing during the few days previous to the death of the patient. Briefly these proofs were, glandular enlargements, cervical and axillary, particularly on the left side, causing obstruction and so great increase in size of the left arm that it was nearly twice the size of its fellow; cyanosis of the face and neck, taking the place of the previous lividity and dusky hue; persistent dilatation of the superficial veins of the neck and face; pressure signs referable to the trachea and left primary bronchi, and in the condition of the heart, displaced downwards and outwards, with marked signs of cardiac failure; most significant of all, a tumor, increasing rapidly along the lines of least resistance, and involving, while not destroying, a portion of the anterior chest wall. We easily recognize in these physical signs the classical phenomena of obstruction, from a quickly developing intra-thoracic new growth.

The rational and physical signs accompanying mediastinal tumors, are complex and varying, and modified as such signs must be by reason of the changed anatomical relations of the structures involved, and the inconstant position of new-growths in this region; careful consideration will, nevertheless, reveal the co-existence and close association of diagnostic factors of these three classes, namely, disorders of circulation, disturbances of innervation, respiratory phenomena.

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IMPERFORATE HYMEN WITH RETENTION OF THE MENSTRUAL FLUX.[1]

BY W. H. BAKER, M.D.

From the fact that in the practice of gynæcology for twelve years past I have met with but one case, the report of which I wish to present to you this evening, assures me that as a class, they are infrequent.

We often see cases where there is more or less complete atresia of some part of the vaginal canal, as a result of a severe labor, or following some sloughing of the parts after some of the exhausting fevers; but a complete closure of the outlet of the vagina from a congenital malformation, with a well-formed vagina, uterus, and ovaries, occasioning a distention of either the vagina, uterus, or Fallopian tubes, or of all, is of much more rare occurrence.

The report of the case is as follows: Mrs. A. L. was referred to me by Dr. Towne, of Manchester, N.

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[1] Read before the Obstetrical Society of Boston, February 13, 1886.

H., who had made the above diagnosis, and desired me to operate. She was a Swede, twenty-one years of age, and had been married six months. From the age of fourteen, she had molimina of menstruation, but there had never been any flow. These symptoms varied in intensity, and consisted of pain in the groins, feeling of fulness, and weight in the lower abdomen, sometimes so severe as to render her unconscious for a time. Since her marriage there had been frequent attempts at intercourse, accompanied with pain on her part, and but little satisfaction on the part of her husband. Her general health appeared to be good.

Physical examination showed the external organs of generation well developed, with the exception that the hymen was imperforate, and the meatus urinarius was so much enlarged that it readily admitted the forefinger. It, however, occasioned no incontinence of urine; this latter I also considered a fault of development, rather than a dilatation from the unsuccessful attempts at coition. With one finger in the rectum and one in the bladder, an indistinctly-fluctuating tumor was found to nearly fill the pelvis. By recto-abdominal palpation, no evidence of a distention of the uterus or tubes could be established.

June 24th, 1885. The patient being etherized, and a more careful examination being made, mainly for the purpose of determining whether the tubes were distended, a free incision was made through the hymen, which was about 3-16 of an inch in thickness, and forty ounces of thick, chocolate-colored fluid removed. The uterus and tubes were then found unaffected, and the vagina was thoroughly cleansed with a solution of corrosive sublimate, 1 to 2000. This canal was filled with iodoform gauze, and the patient put to bed.

Subsequently, the temperature was never but once above the normal, which was on the evening of the second day, when it scored 99.5°. The iodoform dressings were changed each second day, which not only insured the cleanliness of the vagina, but promoted the healing of its walls, which were much thickened and granular, bleeding easily, but also in their application and removal, insured against any closing again of the hymen. She returned home in two weeks, and from letters received both from Dr. Towne and her husband, I am assured of her health and happiness. She menstruated but once after the operation, becoming pregnant almost immediately.

By the kindness of the late Dr. J. B. S. Jackson, my attention was called, some years ago, to a most remarkable specimen in the Museum of the Medical Improvement Society, which was removed *post-mortem*, the case having been under his care, and seen by several of the most prominent surgeons of this city practising thirty years ago. Both the uterus and vagina were dilated in this case to such an extent, that the fundus of the uterus reached the umbilicus; the Fallopian tubes also were greatly distended, feeling like sausages on either side of the uterus. Although the condition was recognized by all, yet non-interference was advised, and the patient succumbed to her disease.

In the treatment of the class of cases under consideration, I am sure that it is essential to determine whether the tubes, as well as the uterus and vagina, are distended by the retained menstrual flux, for if so, it will not be safe to make a free incision and empty the uterus and vagina, for either septicæmia will occur from the tubes, or there will be great danger of their rupture occurring from the increased peristalsis of their walls, excited into action by the contracting uterus. If, then, such condition be present, it would be best first to remove the distended tubes by laparotomy, and then make the free incision through the hymen, and empty the uterus and vagina. If, however, the retention of the fluid does not extend to the tubes, the case may be treated simply by evacuating the vagina, or vagina and uterus, and keeping the walls clean and the opposing walls from uniting by adhesive inflammation.

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RECENT PROGRESS IN THE CARE OF THE INSANE.

BY WALTER CHANNING, M.D.

INSANE CRIMINALS.

"The Connection between Crime and Insanity"[1] is the name of a new book by Sander and Richter, reviewed by Dr. Pelman, who remarks that it has been an accepted fact among physicians who care for the insane, that criminals, who become insane while undergoing sentence, are not fit subjects for insane institutions. Nevertheless, in prison they occasion great trouble, and cannot be prevented from outbreaks of insanity. Whatever plans have been proposed for their provision, the opinion has been pretty unanimous to keep them out of asylums.

Dr. Sander, in his book, takes the opposite ground, and says that, in his opinion, special institutions for the criminal insane are not necessary. Dr. Sander's field of labor is at the great asylum at Dalldorf, where the observations embodied in his book have been made, and they certainly demand serious consideration.

From outside observation of affairs at Dalldorf, Pelman thinks the opposite opinion from that of Dr. Sander would be formed. And this would be strengthened by the communication of Sommer, in 1884, which described the trouble that had arisen from bringing insane criminals together at Dalldorf, in consequence of which it had been necessary to obtain the services of two prison officials, who, to a certain extent, acted as overseers of the division devoted to the care of this class.

Dr. Richter, in the first part of Dr. Sander's book, gives a history of 190 criminals treated at Dalldorf from 1880–1883. The number among these who made attempts to escape is considerable, while not a few succeeded, and others misbehaved themselves. The impression made on Pelman by reading the report of these cases, is that they are not fit subjects for a lunatic asylum.

Sander found that 75 per cent. were in an insane condition when they were sentenced. In only thirty-eight cases were the patients' condition discovered at the time of trial, so that the chance of being unfairly sentenced was only one in three. Out of fifteen paralytics, four only were discovered to be such!

There were six times as many persons among the insane in the institutions of Berlin, who had undergone criminal prosecution, as among the generally healthy population of Prussia, which, Sander thinks, demonstrates the close connection between insanity and crime.

Only eight per cent. were more dangerous and troublesome than the ordinary insane, but the women are left out in this estimate.

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[1] Die Beziehungen zwischen Geistesstörung und Verbrechen. Von Dr. W. Sander and Dr. A. Richter, Berlin, 1886. Besprochen, von Dr. Pelman. All. Zeitschrift f. Psychiatrie. 22tes. Band, 4tes Heft.

In the smaller institutions. Sander thinks one or two rooms fitted up more strongly than the others will be sufficient for the criminal insane. In the larger institutions. an annex. or a connected building. or ward especially arranged for this class. will be sufficient.

Be the form of arrangement what it will. it is especially important to consider the question of prophylaxis. or how the production of this class of persons can be prevented. They are punished and kept for years in prison. to be finally sent to insane asylums.

Physicians acquainted with insanity should be present at the examination of the inmates of. at least. the large prisons. The judge should also turn his attention more than has previously been the case, to the mental condition of criminals coming before him. especially in young persons, and he need exercise less care in regard to simulation.

The Trustees of the Worcester Lunatic Hospital again express their very strong disapproval of treating the criminal with the ordinary insane.[2] They say that the first movement toward relieving the overcrowding of the Massachusetts hospitals should be in the direction of separate provision for insane criminals. "That they should be treated upon the same terms as, and allowed to associate with those innocent of criminal act, or thought. is opposed to every sentiment of propriety and justice. . . . No criminal, insane or otherwise. should be sent to serve out his sentence to a hospital designed and constructed for the care and cure of innocent and respectable persons. who are so unfortunate as to be sick in mind."

The Trustees think that there is land enough in connection with all the State insane hospitals, upon which buildings might be erected suitable for the treatment of insane criminals. Such buildings could be large enough for two hundred to two hundred and fifty persons, and need not cost more than $300 or $400 per bed. and they could be supervised and managed by the officers of the general hospital.

At the Maine Insane Hospital,[2] they "suffer very sensibly" from the presence of twenty-eight insane criminals, and the superintendent thinks it would be wise to erect a separate building for them.

Dr. Eugene Grissom. Superintendent of the North Carolina Insane Asylum. is very emphatic in what he says regarding the association of the criminal with the common insane.[2] "The repeated decisions of the courts sending persons accused of grave crimes to this institution upon a verdict of insanity. are gradually filling our wards with cases that are unfit to be associated with the virtuous insane." In his Report for 1872, he referred to the same evil, and now says that it has been steadily growing in magnitude since that time.

He thinks that the establishment of proper quarters for the criminal insane within the limits of the penitentiary, would tend to diminish the burdens of the courts, and make criminals and their friends less anxious for their acquittal on the ground of insanity.

The Morristown, New Jersey. Asylum also has a number of the criminal insane.[2] Of these the Superintendent writes :—"While some of them are undoubtedly persons whose crime is the outgrowth of their insanity, and are not more troublesome than other insane persons of the same class, others properly belong to the criminal class, with all their propensities in full vigor, in some cases, intensified by their insanity. . . . The ordinary wards of an asylum . . . are not fitted by their construction for the detention of such crafty and determined men. For them there should be provided, either in connection with the prison. or with one of the asylums. a ward. or wards of greater strength and security. . . . The need of such provision is also great for such persons as escape conviction from crime on the ground of insanity. . . ."

Dr. Godding. Superintendent of the Government Hospital for the Insane. at Washington. now has forty-three insane criminals under his charge.[3] The hospital has no special department for this class; therefore, they are. of necessity. placed among the ordinary insane. This is all wrong. Dr. Godding thinks. as insanity is not a crime. and should never be regarded as such. The protection of the community makes it necessary that insane criminals should be securely guarded. but "the professional burglar. overtaken by insanity, and sent to the hospital. smiles. in his lucid moments, at the window-guards of the dormitory. as if they could ever be thought to represent confinement for him."

CONGRESS OF CRIMINAL ANTHROPOLOGY, ROME, NOVEMBER, 1885.[4]

Dr. Motet who presented the report says that all the young students of medicine and law in Italy are deeply influenced by Professor Lombroso. author of the "L'Momo delinquente." The Congress called for discussion of the above subject in the new light thrown upon it by him and others in late years. The question resolves itself into two parts — criminal biology and criminal sociology. The former embraces the study of the criminal in his organic and phychical conditions, and the latter considers how society may best protect itself against him who endangers its security or repose.

Criminal biology. Professor Lombroso laid great weight upon atavism, and Professor Benedikt, of Vienna, said that neurasthenia dominates the whole system of the criminal. He considered insanity and crime such close neighbors, that he proposed to replace the expressions, "culpability" and "punishment" by "harmfulness or danger to society" and "the right of prevention or preservation."

Professor Lombroso exhibited a large number of skulls and passed in review the principal anomalies of development which he said were more frequently met with in criminals than elsewhere.

M. Ferri distinguished two classes of criminals; the instinctive criminal and the criminal from passion. He said that the insane criminal belonged to the former class. The instinctive criminal is almost always precocious, but the others almost always commit the first crime between the ages of twenty and thirty. From a social point of view. crime is a more profound degeneracy than insanity, since most of the insane are not dangerous, their moral sense having survived the wreck of intelligence.

Professor Sergi considered the question whether there exists a bio-pathological character which predisposes to crime. Criminals often are found to have disease of the nervous system, particularly of the brain. He took for his guide this maxim, "Every sign of morphological degeneracy is also a sign of functional degeneracy."

Prof. Roméo Taverni insisted on the influence of a well-ordered education in producing a well-balanced mind, and also thought that criminals in prisons should be carefully classed in order to prevent the pernicious effect of placing those charged with milder offences among hardened criminals.

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[2] Annual Report for 1885.

[3] Annual Report, 1885.

[4] Annales Medico-Psychologiques Mars, 1886.

M. Morselli, whose studies on suicide are well known, sustained with great talent a theory which excited many objections. He believes in the antagonism of homicide to suicide. He concludes that if there sometimes is parallelism between the two, there is usually antagonism. It does not seem to us that the statistics of France show this. This question is still a study. (I think this antagonism means that when homicide increases, suicide decreases, and vice versa.)

M. Frigerio said that the born criminal belonged to the epileptic family. The Congress in general did not admit the correctness of this view. The question of simulation led the Congress to express the wish that a special place might be reserved in prisons and asylums where might be kept and observed, every individual suspected of simulating insanity. The Congress also expressed the wish that a museum of criminal anthropology might be formed.

The Congress, without discussion, declared that it was in favor of having measures taken to admit to the penitentiaries professors and students for the study of criminal science.

Professor Lacassague spoke of the expert physician before the courts, and thought it might be well to allow the accused to chose an expert and oppose him to the physician employed by the government.

Dr. Semal, in the preceding Congress at Antwerp, used the following words: "Why hesitate to face this problem, by assuming the hypothesis which gives to crime and insanity a common origin? Especially as the question seems to have arrived at a point where it can be more safely investigated, since we have left the domain of pure theory to enter the more reliable one of clinical experience. From the bosom of every belief, even if pushed to excess, there issue elements of truth destined in future to form a new system of doctrine." We are at the commencement of a great scientific movement and must not mistake its character. Its chief promotors show a vigor and severity in their plans for the protection of society, which have never been displayed before. Nevertheless the individual is not sacrificed, for if he belongs to a certain type, special measures will be adopted for his improvement, but if it is recognized that he can never improve, that he will always be a social danger, he will then be eliminated at once and forever from the society which he menaces.

(*To be continued.*)

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Clinical Memoranda.

A CASE OF FRACTURE OF THE SKULL FOLLOWED BY ABSCESS.

BY ATHERTON P. MASON, M.D., OF FITCHBURG.

The following case, which occurred in the practice of Dr. George Jewett, of this city, is of more than usual interest as regards its nature, course, and favorable termination. Having watched it closely during the several weeks of my connection with it, and considering it a case well worth reporting, I have prepared the following brief account of it. For the early history I am indebted to Dr. Jewett, who kindly furnished me with notes made by him at the time the patient came to his office.

J. M., laborer, a large, stout Irishman, about fifty years old, came to Dr. Jewett's office on the morning of August 30th, 1885. He had upon the left parietal eminence a contused wound about one and a half inches long, and extending to the bone. He said that the wound had been received the night previous, but was very reticent as to how he came by it. The wound was filled with hair which had evidently been cut off by some instrument with a dull edge or moderately sharp corner. After careful cleansing there was found a depression of the skull, scaphoid in shape, one and a half inches long, one-half inch wide, and one-quarter inch deep in its widest and deepest portions. The man made no complaint of head or other symptoms, except of tenderness when the wound was touched, and Dr. Jewett observed no symptoms referable to disturbance of the cerebral functions. The wound was dressed antiseptically, the patient was informed of its dangerous character, and absolute rest enjoined; any unfavorable symptom was to be immediately reported.

Nothing further was heard of him until September 5th, when he came again to Dr. Jewett's office on account of pain in the wound. A bloody, purulent discharge issued from the injured parts. Patient said *he had worked steadily during the week past without inconvenience.* The wound was dressed as before, and he was told to stay in his house, and on no account to work.

September 7th a messenger came in haste to Dr. Jewett's office, and said that the man had "had a fit." When seen a short time afterwards, he had a small, hard pulse of 100, temperature 101°, and slow, stertorous respiration. Was mainly unconscious, but could be partially aroused with difficulty. Nothing particular known of his morning history, except that he was heard to fall heavily while alone in his room. He gradually regained consciousness to a considerable extent, and early in the afternoon of the 7th, Dr. Jewett asked Dr. C. W. Spring and myself to assist him in operating.

After etherizing, which was accomplished with some difficulty, a free crucial incision was made in the scalp, and the site of injury to bone exposed. The depression was found to be quite smooth, except on one side, where the fractured wall was vertical and somewhat fissured. Moderate continuous pressure with an elevator opened a fissure, which furnished a key to the situation. The fractured wall was found to be separated at the diploë. The outer table was easily removed in small fragments, but the inner was much more disturbed, and was removed with difficulty and very cautiously. Two sharp fragments were found driven vertically through the dura mater into the substance of the brain. When these were removed, a current of pus welled up from beneath the dura; considerable arterial hæmorrhage followed, but was soon arrested by the gentle pressure of a carbolized sponge. Marked arterial pulsation was observed in the brain substance. The wound was dressed antiseptically with moderate pressure. Patient came out of the ether well, and was tolerably rational at our departure.

September 8th. Passed a rather wakeful night. Pulse in the morning full, soft, 100, temperature 99°. Some hæmorrhage from wound; some confusion of ideas. Same condition at evening visit.

September 9th. Pulse 80, temperature normal, mind clear, right side of face partially paralyzed, slight aphasia.

During the following week there was some pain in head, slight fever, and gradual increase in paralysis and aphasia. Food accumulated in the right side of the mouth, patient did not seem to possess the power to put out his tongue, right arm and hand became partially paralyzed, and his mind was considerably confused, though there was no delirium at any time. The wound was dressed daily, and preserved a healthy appearance throughout. Moderate secretion of pus. Treatment consisted of tonics and Potass. Bromid. Paralysis and aphasia reached their acme about September 18th, and after that steadily decreased, both being almost entirely gone by the end of the month.

During the last week or ten days of September he had quite an attack of erysipelas, which began in his left ear, and crossed over to the right side. The swelling was considerable, and both his eyes were closed for a day or two. The redness and swelling reached nearly to the margin of the wound, but did not invade it. Glycerine was used locally, and Tr. Fer. chlor., gtt. viii, every four hours, administered internally during the erysipelatous attack, which had the average duration of the simple cutaneous form of the affection. The progress of healing went on favorably in the wound which was completely closed about the middle of October. Just prior to its closure there was necrosis of a portion of the edges of the bone, and several fragments came away. The urine was examined several times during the progress of the case, and always found to be normal.

In the foregoing account the salient points in the case have been briefly described, but no attempt has been made to give a complete record. Two features of the case impressed themselves upon my mind, namely, (1) that this man, having two sharp fragments of bone driven through the dura and into the brain, thereby giving rise to hæmorrhage and the production of pus, could work steadily for a week after the reception of the injury, and displayed no special cerebral symptoms until the eighth day after the injury, at which time cerebral symptoms of a serious nature were apparently suddenly developed. (2) That the erysipelas did not appear in the wound or attack it at all. The erysipelas was severe and exudation rapid as evinced by the appearance of vesicles filled with serum during the progress of the attack. These were most abundant on the ear, the place of beginning.

When last seen in November, the patient was about enjoying life and apparently in as good health and condition as one could desire.

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A CASE OF FRACTURED SKULL, WITH AUTOPSY.

BY W. D. BIDWELL, A.M., M.D., (HARV.), LEAVENWORTH, KAN.

In an altercation between C. H. Young and R. B. Gray at five o'clock in the afternoon of Thursday, February 11th, Young struck Gray in the head three times with his left fist, on the little finger of which was a large seal ring. Shortly afterwards Gray left the house, and after riding home, put up his horse and went to a saloon about a mile distant, where he said he felt dizzy and wanted to lie down. It was then after six o'clock. When the saloon was closed at ten o'clock it was found to be impossible to rouse him and a physician was summoned, who arrived at one o'clock and found him perfectly unconscious and with a temperature of 101°. Cold applications to the head were ordered and the patient kept quiet. The patient being in the same condition at ten o'clock the next morning, (February 12th) his father had him carried home on a bed improvised in an express wagon. He was first seen by the writer at one o'clock, when he presented the following symptoms:

Temperature in the axilla, 102°; respirations, 40 to the minute, pulse 80, breathing stertorous, left pupil dilated, both pupils without reaction to light, some rigidity of the muscles of the extremities and free perspiration. There was a cut about one inch long and a quarter of an inch deep over the left malar bone, a slight bruise on the left forehead close to the hair, a slight contusion of the concha of the left ear, and a bruise with moderate swelling above and behind the left ear. At five o'clock the temperature was 102.8°, respirations, 40 to the minute, and pulse 92 and full. No other change in his condition could be detected. A diagnosis of compression of the brain from hæmorrhage had been made, but the external marks of violence were so slight that the brain injury could not be localized, and it was deemed advisable not to resort to operative measures. At seven o'clock, his position was changed owing to difficulty of breathing, and he died without having regained consciousness.

The autopsy was held the following afternoon at five o'clock. Rigor mortis was present. Between the scalp and the skull there was moderate hæmorrhage which had raised the scalp uniformly over an area extending from the forehead to a point a little behind the left ear and half way up on the parietal bone. Just above the external meatus there was a fracture of the squamous portion of the temporal bone which could only be detected from the inside. There was a firm dark clot four inches long, three and one-half inches wide and one inch thick at the middle, lying between the skull and dura mater, compressing the brain over an area corresponding to the hæmorrhage outside the skull. There was also a bag of serum at the posterior extremity of this clot containing about one ounce of fluid. The fracture was over the middle meningeal artery which had been torn through by a sharp projecting fragment. If there had been positive information that no injury was received Thursday night save the blow on the side of the head, the trephine would have been used, but the history was not obtained till the day following his death, he having gone some distance from the place where the affray occurred before he became unconscious. The bone in which the fracture occurred will be produced at the trial in the District Court in April.

— In the reports of fertility which are just now exciting the admiration of the medical press, the Naples correspondent of the *Paris Register*, quoted in the *New York Medical Abstract*, leaves all rivals several lengths in the rear. He says: "Twenty-five miles from here lives Maddalena Granata, aged forty-seven, who, at twenty-eight, married a peasant of nineteen. She has given birth, dead and alive, to fifty-two children, forty-nine of whom were males; she is healthy and robust, and twenty-four hours after her last accouchement, was ready for her accustomed labor in the field. Fifteen times she gave birth to triplets."

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

February 13, 1886, the President, Dr. A. D. Sinclair, in the chair.

Dr. W. H. Baker reported a case of

IMPERFORATE HYMEN WITH RETENTION OF THE MENSTRUAL FLUX.[1]

Dr. Cotting alluded to a case he had seen thirty years ago, that of an unmarried woman, sixteen years of age, suffering with periodical pain and retention of urine, and reported to be pregnant. He found that the hymen was imperforate and bulging, and there was an abdominal tumor as large as a child's head. The patient entered the Massachusetts General Hospital in the service of Dr. J. Mason Warren, who first drew off the retained menstrual fluid with a trocar and then made a crucial incision through the hymen. The incisions so nearly healed in a few days that it was necessary to remove a circular piece from the hymen to prevent its complete closure. The patient had no trouble afterwards, and the catemenia were regular; but she never became pregnant.

Dr. Strong said that in Dr. Baker's case the condition of the vagina was striking. The enlarged villi bled easily and secreted healthy pus: this secretion gradually diminished, however, and the villi subsided, so that when the patient was discharged there was only slight leucorrhœa. The vulvar orifice remained patent and the speculum caused no pain.

Dr. Blake said that before the day of antiseptics most patients with imperforate hymen died after operation of peritonitis and septicæmia: such cases were therefore much dreaded by surgeons.

Dr. J. G. Dearborn, of Charlestown, reported, by invitation, the following case of

VERMIFORM-APPENDICITIS AND GENERAL PERITONITIS, COMPLICATING THE PUERPERAL PERIOD.

Mrs. G., aged twenty-four, after an unusually rapid labor, was delivered of a healthy female child at 6 p.m., January 17th. This was her second pregnancy. Her health up to the time of this confinement had been good. My next visit was at noon of the following day. She had taken the usual nourishment. There had been a free evacuation of the bowels and she had passed urine twice. Her condition seemed to be in all respects satisfactory. At 10 p.m., I was summoned and found her in great pain. The pains were spasmodic in character and seemed to be located chiefly in the lower part of the abdomen, but sometimes shifted to other portions. Abdomen tympanitic over upper portion, but not swollen nor was the pain increased by pressure. Ordered hot applications to the abdomen, and an enema of warm water. A considerable discharge of gas followed the enema, giving temporary relief. Hot applications were continued and presently another enema was given. This afforded some further relief, but the pain was still quite severe. Morphia was then administered, with directions to repeat the dose until relief was obtained. Tuesday, the 19th, very little pain in the morning. Abdomen not swollen, sensitive to a light touch; but deep pressure caused no increase of pain. Lochia deficient. Warm vaginal douches were given and an enema morning and afternoon. No action of the bowels. Pulse full and regular. Pain returned in the afternoon, but was easily checked by morphia.

During this and the two succeeding days the pulse varied between 88 and 96, and the temperature taken twice daily (in the mouth) was never above 100° F., nor below 99°. Wednesday, the 20th, abdomen sensitive to pressure only over lower portion, tympanitic, but not swollen. Breasts contained some milk, and she began to nurse her child. Lochia still deficient. Severe pain in the afternoon. Morphia as before. At 8 p.m., Dr. F. Minot saw her in consultation. Morphia continued during the night as required, and she had some sleep.

Condition on Thursday, the 21st, substantially unchanged. Very little pain during the day. One-half ounce of castor oil given in the morning. Vomited a small quantity of mucous twice during the day, but was able to retain all articles of food and drink. Friday, the 22d, pulse 96, morning temperature (in axilla) 100.2°, evening 100.7°. Some swelling of abdomen, moderate tenderness on pressure. No secretion of milk. Vomited once about four ounces of liquid tinged with bile. Citrate of magnesia given in the morning: in the afternoon an enema brought away a small quantity of fæcal matter.

At 9.30 p.m., Dr. W. L. Richardson saw her in consultation. With the view of obtaining a thorough action of the bowels five grains of calomel and six grains jalap were administered at 11 p.m. Saturday, the 23d, I was summoned at 5 a.m., and found her restless, but without pain. Pulse 140, small, thready, and at times almost imperceptible. Temperature 97.8°. Facial expression anxious: swelling of abdomen considerably increased, but walls not tense: extremities cold. There had been no action of the bowels. Under the use of stimulants the pulse at 8 a.m., had become stronger and slower, and her general appearance somewhat improved; but at 11 a.m. vomiting began. From this time she sank rapidly and died at 12.30.

Dr. Gannett, who made the autopsy, described the appearances presented:

Death resulted from general peritonitis, occurring in a puerperal woman one week after delivery; but it was not a case of puerperal peritonitis; that is, the source was not the uterus or vagina, but was wholly independent of the generative organs, which showed a normal condition for that period after the birth of the child.

The origin was found in an inflammation of the vermiform appendix, appendicitis. This organ was doubled in diameter: on opening, it was found to contain a grayish, pap-like material; the mucosa was much thickened, reddened, injected, and in parts hæmorrhagic. At the neck there was a constriction: at this point there was a marked loss of substance of the mucosa, the base being black in color. The peritonæum of appendix covered by recent fibrinous false membranes; around it, in the cavity of the pelvis was a small amount of pus.

The cavity of the pelvis was shut off from the rest of the abdominal cavity by the adhesion of the wall of the uterus and folds of intestine to the brim of the pelvis by recent fibrinous false membranes. The lower twenty-four inches of the ileum were contained in the pelvis; the folds of this portion were united by fibrino-purulent material. The remaining portion of small intestine, which was free in the abdominal cavity, was greatly distended with gas and liquid contents. The peritoneal surface showed the presence of a thin fibrinous false membrane, but the coils were not adherent to each other.

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[1] See page 290.

The peritonæum covering the spleen and liver showed a much thicker fibrinous false membrane upon its surface. The heart, kidneys and liver showed evidences of a cloudy swelling: the spleen hyperplastic to a moderate degree.

One has to do in this case with an acute catarrhal-hæmorrhagic inflammation of the mucous membrane of the vermiform appendix with ulceration; the inflammatory process then extending to the peritoneal surface and in turn leading to a general peritonitis.

Dr. W. L. Richardson said that when he saw the case he considered it one of septicæmia, although he could not find evidences of any uterine or ovarian trouble. He was influenced in his opinion by the sudden arrest of the lochia, followed by a rise of temperature and abdominal tenderness. A vaginal examination, however, showed the uterus to be of normal size and not tender, nor was there any evidence of inflammation in the region of the ovaries on examination *per vaginam.* He had closely questioned the patient as to her health prior to the confinement, but could not ascertain that she had been otherwise than in perfect health. After her death her husband had stated that she had been for a week before her confinement complaining of pain in the right iliac region. The doubt in his mind had been whether there might not be some intestinal obstruction; but the fact that she had had free operations from the bowels since the attack, had ruled that out. Although he had considered it a case of septicæmia he had advised against any uterine treatment, inasmuch as he could find no evidence pointing to the uterus as the source of the trouble.

In reply to a question by Dr. Abbott, Dr. Dearborn said that the patient had had a sense of fatigue and weariness in the right iliac fossa for two or three weeks before labor; still she declared she was in good health up to the time of her delivery.

Dr. F. B. Harrington reported, by invitation, a case of

SEVERE HÆMORRHAGE FROM ANTE-PARTUM SEPARATION OF THE PLACENTA, WITH THE INFUSION OF SIXTY-SIX OUNCES OF SALT SOLUTION.[2]

Dr. W. L. Richardson said that he had seen the patient this afternoon. Her pulse was good and her general appearance was that of a patient convalescing from some sickness of moderate severity. He would never have thought that she had so recently suffered from a hæmorrhage which would certainly have proved fatal but for the prompt and skilful treatment which Dr. Harrington had used. The wounds in both arms had perfectly healed.

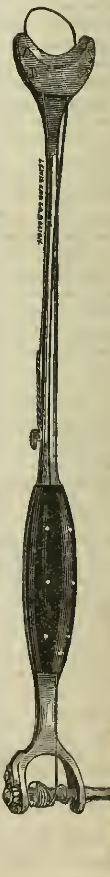
Dr. Reynolds spoke of the great value of electricity in post-partum hæmorrhage, and thought the obstetrican should never go to a case of labor without taking with him a battery in working order. He said it was unsafe to tampon the vaginam *post partum*, unless the uterus was held so as to prevent its filling up with blood.

Dr. Strong said that after the application of the first tampon, the uterus was supported for more than an hour and remained well contracted, and it therefore seemed safe to remove the hand. The post-partum hæmorrhage was not excessive and would have caused no alarm, if the patient had not been so much depleted by the ante-partum hæmorrhage. There was great difficulty in dilating the cervix: the pains had only very slight effect on it, and it seemed just before the cervix tore that it would have to be incised. Comparatively little was known of the value of salt infusion; but in this case the patient would undoubtedly have died, if this treatment had not been promptly resorted to.

A NEW CEPHALOTOME.

Dr. Edward Reynolds, Senior House-Officer of the Boston Lying-in Hospital, exhibited, by invitation, a cephalotome of his invention, and explained its construction and use:—

The object to be aimed at, in the construction of any instrument for decapitation, is two-fold: first, the avoidance of danger to the soft parts of the mother; and second, a rapid and easy division of the neck of the child.



The instrument in question is, in principle, merely a large and powerful écraseur, modified by substituting for the blunt end of the ordinary écraseur, a crescentic knife one and one-half inches wide, which terminates on either side in a blunt point, designed to protect the maternal parts from injury during the introduction and withdrawal of the instrument. Each of these projecting horns bears upon its inner surface a deep slot, fitted to receive the ends of a loop of No. 18 steel piano wire, which has been found upon trial to be admirably suited to the purpose, since it possesses at once great strength and sufficient flexibility. The necessary power is furnished by a steel axle, with transverse handle, fitted with a ratchet, and pierced by a hole, through which the wire is passed.

The capacities of this decapitator are easily appreciated by remembering that as soon as the instrument is in position, the neck is in the grasp of an iron circle, about one-third of which is formed by a sharp, cutting edge, against which it is drawn by the shortening of the loop, with a force limited only by the strength of the wire; and this without the slightest danger of implicating the soft parts of the mother.

The operation consists of two steps: first, the passage of the wire around the neck of the child, and its adjustment to the decapitator; second, the division of the neck, and the withdrawal of the instrument, followed, of course, by the extraction of the child in the usual manner. The introduction of the wire is most conveniently effected by an instrument copied from Ollivier's porte-fillet, but modified by increasing its size, and by substituting for the whalebone stylet of Ollivier's model, a piece of wire — wound piano-wire, which possesses the advantage of being so cheap that it can be thrown away after use, and replaced by another piece, thus greatly facilitating the cleansing of the tube. It moreover reduces the cost of the instrument by more than two-thirds of its price. While the porte-fillet is a convenience in placing the wire in position, it is not a necessity, as an English catheter can be made to answer the same purpose. To this end a loop of narrow tape is passed through the catheter, protruding two inches from its eye. The catheter is softened in warm water, bent to the shape of a blunt hook, and placed about the neck; and is then pushed up along its stylet until the free end bearing the tape is within easy reach of the finger.

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[2] The paper appeared in the Journal of March 4, page 197.

The wire should be from three to four feet in length and should be twisted at one end into an eye. In introducing it the looped end should pass behind the neck; and the ends of the wire being drawn well outside the vulva, to render manipulation easy, are then passed through the slot behind the knife of the decapitator. The looped end of the wire is next attached to the hook on the posterior side of the shank of the instrument, while the free end is passed through its handle and through the hole in the axle of the crank. The assistant fastens the wire by giving it one turn backwards around the axle and cuts off its superfluous length. The operator then grasps the instrument in the right hand, and, guarding the knife by placing two fingers of the left hand upon its blunt point passes it into the vagina. He next satisfies himself that the knife is properly adjusted to the neck, that the wires rest securely in their respective slots, and that no fold of the maternal tissues is included in their grasp; then the assistant slowly winds up the crank, under the direction of the operator, who, with two fingers in the vagina, makes sure that the knife maintains its proper relations to the neck and to the wire loop. A sudden relief of the tension upon the wire announces that the neck is severed, and the instrument is then carefully withdrawn.

Dr. William L. Richardson has twice performed the operation upon the cadaver, with most satisfactory results. The introduction of the wire and its adjustment to the cephalotome occupies but three or four minutes, and the decapitation proper is extremely rapid, so much so, that at Dr. Richardson's second trial of the instrument, it was in the vagina but twenty-five seconds, although no attempt at speed was made. The knife seems to pick out the point of least resistance in the neck, for at both trials it passed between two vertebræ, dividing the intervertebral substance, and making a perfectly smooth section, free from spiculæ of bone; thus, of course, greatly diminishing the risks of the extraction.

This instrument, then, appears to be capable of accomplishing the decapitation with much greater ease and rapidity than those in common use, and with far less of danger to the mother. It has been suggested that, by inserting a joint in the shank of the cephalotome to allow of the attachment of a longer shaft with pelvic curve, the operation might be extended to cases in which the neck is so high as to be out of the reach of any straight instrument. Such a shaft would necessarily be provided with a groove or with rings to guide the wire along the curve, and could easily be made by any instrument maker. Messrs. Leach and Greene are prepared to furnish these instruments to the profession, if desired.

Dr. W. L. Richardson said that, in addition to the reasons given by Dr. Edward Reynolds, there was this great advantage in the instrument. Whether one uses the decapitating knife of Ramsbotham, Jr., or the hook of Braun, there is more or less danger of injuring the soft parts of the mother by the movements of the fœtus which the use of these instruments involves. This new instrument holds the fœtus firmly in position, and the rapidity of the decapitation is remarkable. At the time he had used it on the cadaver he was not aware that he was being timed, but was doing the operation much slower than he could have done it, with a view of making as central an excision as possible.

In this connection he showed an instrument improvised by Mr. J. W. Craig, of the Medical School, for doing the same operation by the same method Dr. Reynolds had proposed, but with a home-made instrument, such as could be made impromptu in any house. The one he showed had taken thirty-five minutes to make with a hammer and file, and had cost forty cents. It consisted only of a hollow tube, at one end of which a notch had been cut on either side; through this tube the bent wire had been passed and the ends made fast to a bent piece of iron which fitted into the two notches. On turning this iron the wire was twisted tighter and tighter around the fœtal neck until it was severed.

RHODE ISLAND MEDICAL SOCIETY.

The usual quarterly meeting was held in Providence, March 18, 1886, the President, Dr. O. C. Wiggin, in the chair.

The President announced the appointment of Dr. Albert Potter to serve as second Vice-President in place of Dr. J. W. Sawyer, deceased.

Dr. William B. Goldsmith, recently appointed Superintendent of the Butler Hospital for the Insane, was elected a Fellow.

Delegates to the American Medical Association were appointed as follows: Drs. O. C. Wiggin, H. G. Miller, E. T. Caswell, W. E. Anthony, H. Canfield, H. R. Storer, C. V. Chapin, S. Hunt, M. Fifield, W. R. White, J. Kenyon, G. H. Kenyon, J. H. Morgan, G. R. Smith, A. B. Briggs, D. O. King. A motion to instruct the delegates as to their attitude towards the preliminary organization of the International Medical Congress of 1887 failed of adoption.

Dr. H. R. Storer exhibited a large vaginal fibroid tumor weighing one and a half pounds and of the size, shape and general appearance of an ox-heart, which he had removed five days previously from a healthy woman, aged thirty-five, a patient of Dr. J. P. Curley, of Newport. The growth was continuous with the cervix anteriorly and to the left and entirely occluded the vagina. From the fact that the uterus could not be felt above the pubes in its natural central position it was at first feared that the case might be one of the rare instances of spontaneous uterine inversion. Dr. Storer found the depending portion of the tumor soft, compressible and friable, like true uterine tissue, and that a female catheter would but partially enter the bladder, in these respects simulating inversion, but he finally settled the diagnosis by getting a sound past the tumor and into the uterus which was crowded over obliquely to the right.

After the tumor had been cut away with an ecraseur, which was virtually a bloodless operation, it could be rotated in the vagina but could not be extracted with the small forceps at hand. Forcibly dilating the sphincter ani the operator introduced his arm into the rectum, the fingers having to enter the sigmoid flexure before sufficiently expulsive leverage could be exerted. Under this added force, the forceps delivered the tumor.

In answer to an inquiry whether such apparent disrespect to the rectum was surgically justifiable, Dr. Storer replied that surgical justifiability was always to be decided by its results. The question was not so much what was advised by the text-books, as what the occasion indicated, what the necessity required and what the event proved. That Simon of Heidelberg had been criticized for invading the upper rectum and some of his operations condemned, was no argument against intelligent entrance of the rectum under other circumstances. A healthy rectum could endure without local or constitutional sequelæ, measures, or an amount of general dilatation that a cancerous, strictured or otherwise unhealthy rectum might not be able safely to sustain. In the present case there had remained perfect retention of fæces.

Dr. F. C. Clark read a paper on

PRELIMINARY MEDICAL EDUCATION.

The ordinary college course, which was primarily laid out for theological and law students, does not furnish special preparation for medical studies. The Johns Hopkins University, however, has instituted a course of training admirably adapted for this purpose. "Opportunities are here offered to a young man, who expects at a later day to take up the study of medicine, to become proficient in the laboratory while acquiring a knowledge of German and French and continuing his general education. A course is arranged in which physics for the first year, chemistry for the second, and biological study of plants and animals for the third year are the dominant topics. At the close of this course the student should have become proficient in a knowledge of the physical and chemical laws which underlie the conditions of life and with the structure and functions of living things in their normal and healthy condition. He should have become skilful in the use of the microscope and other physiological apparatus; and so when he enters the school of medicine he should know that he has been well prepared for the study of disease and its treatment by a training in fundamental science, which has not only exercised his eye and hand but has accustomed his mind to accurate habits of observation and inquiry." This course leads to the degree of Bachelor of Arts.

Dr. H. R. Storer presented a paper upon

THE ANTICIPATORY TREATMENT OF LOCAL EPIDEMICS,

founded on the history of twelve fatal cases of diphtheria occurring during the past winter in the city of Newport and neighboring towns of Middletown and Portsmouth. A zymotic invading several towns cannot be controlled by local health boards as promptly or effectively as by an officer of the State Board of Health, who besides being a skilled expert, is by his official position more independent of local and obstructive influence.

Dr. Charles V. Chapin, Superintendent of Health, of Providence, remarked that it is possible by taking proper measures to prevent to a very great extent many of the more common epidemic diseases. To accomplish this, Legislatures must enact laws which must be administered by competent officials. This will avail but little, however, unless the public can be aroused to an appreciation of the importance and value of the measures proposed. This education of the people is too often left entirely to the health officers. Many physicians are very remiss in their duty as popular educators and do not even take the trouble to learn the simplest facts in sanitary science. It cannot be expected that the public will take much interest in sanitation so long as physicians do not. It is the duty of every medical man to inform himself on sanitary matters and not only to make use of data collected by himself, but also to learn what results have been worked out by the ablest investigators the world over. It is largely because the physicians of a community have been negligent as students and teachers of sanitary science that public sanitation meets obstacles in preventing preventable diseases.

The Society, on motion of Dr. Storer, adopted the following resolution: "That a committee of three be appointed by the chair to immediately memorialize the General Assembly, upon behalf of this society, requesting it to authorize the State Board of Health to personally investigate and restrain, through its Secretary, local outbreaks of zymotic disease, including cholera, yellow fever, small-pox, diphtheria, scarlet fever, typhus and malignant typhoid, as they may occur within the State; and to appropriate for such additional service during the ensuing year a sum not to exceed five hundred dollars."

The Chair appointed as the committee, Drs. H. R. Storer, G. T. Swarts, E. M. Snow.

Dr. R. F. Noyes read a paper upon

THE EXOCARDIAL MURMUR,

which was briefly discussed by Dr. S. S. Keene.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 8, 1886.

The President announced

THE DEATH OF DR. GASPAR GRISWOLD,

paying a tribute to his character and attainments, and appropriate action was taken by the Association.

Dr. H. M. Biggs then read a paper on

THE ETIOLOGY OF RABIES AND THE METHOD OF M. PASTEUR FOR ITS PREVENTION.

Many hypotheses had been presented in regard to this subject, he said, without establishing a single condition or circumstance which could bring about or predispose to the devolopment of the disease, excepting only the contagious principle, as transmitted from rabid animals. Many observers, therefore, had expressed their belief in the occasional spontaneous origin of rabies, among whom was Fleming, the most able of the recent English writers on the subject. In support of this view, Dr. Biggs referred to the appearance of the disease in an epizoötic form in countries where it had previously been unknown, and where its appearance could not be traced back to any foreign source, as was the case in Peru, in 1803. Again, it had been observed not infrequently, that in certain countries which had been free from the disease for a long period, it suddenly appeared in almost an epidemic form, and after a short time, became again apparently extinct.

The occasional spontaneous development of the disease in certain of the carnivoræ, as advocated by many distinguished veterinarians, he thought, however, was to be entirely rejected in the light of facts recently demonstrated in regard to the germ diseases: so that the conclusion that "this disease is maintained and spread solely by its contagious principle, and that there are no other causes in operation," must be absolutely accepted. It was a matter of the greatest importance that the fallacious ideas so prevalent among the laity, and to no small extent, among the profession also, in regard to the influence of climate, season, hunger, thirst, food, pain, anger, ungratified sexual desire, etc., as predisposing or exciting causes, should be corrected. There were no better or more reasonable grounds for believing that any one, or all of these influences combined, he said, could bring about the development of a single case of rabies, than that unfavorable sanitary conditions could produce small-pox when the specific *contagium vivum* of that disease was not present. After presenting a number of established facts bearing on this point, he remarked that a wound or injury produced by the teeth of a non-rabid dog, one whose saliva did not contain the living organism which is its essential cause, could no more bring about the specific disease which we call rabies, than could the wound made by a sterilized knife.

As to the nature or character of this *contagium vivum*, we had at present, no absolute knowledge, except that it must be a living matter capable of reproduction and multiplication when transferred to the living organism, and then producing a specific disease, manifested by varying symptoms in the different species of animals affected, of whose presence or virulence we could only judge by the results produced when introduced into the blood of previously healthy animals. That it was exceedingly minute, was shown by the difficulty experienced in its demonstration; and that it is a micro-organism belonging to the Schizomycetes, was rendered probable by the similarity observed to other known pathogenic micro-organisms, as regards the mode of transmission and development.

Having dwelt for some time upon the results published by Fol, of Geneva, who recently claimed to have discovered the specific micro-organism, to have demonstrated it in the neuroglia of the central nervous system; to have succeeded in cultivating it in appropriate culture media; and to have produced rabies in rabbits by inoculations with pure cultures of this germ, Dr. Biggs went on to say the claims of Fol were not favorably regarded in Pasteur's laboratory, and to explain the reasons why they were not accepted by him and his assistants. He then referred to the studies of Pasteur upon rabies up to the time of the International Congress of 1884, and remarked that some of the conclusions arrived at in his earlier work had not been confirmed either by his own later investigations, or those of other observers, and were, in some respects, opposed to the results recently reported. It must be admitted, also, he said, that unfortunately, in his last communications, he has not discussed the question so much in detail as could be desired; nor has he given definitely the number and character of the experiments upon which his conclusions, and the general principles drawn from them are based. His failure to do this, he thought, would render it impossible for any other investigator to repeat or confirm his experiments, and without such confirmation from a thoroughly reliable source, there would, of necessity, be much reserve on the part of scientific men, in accepting such important and far-reaching principles as are involved in his method for the prevention of rabies.

Having given a *résumé* of Pasteur's former method of rendering dogs refractory to rabies, which had proved slow and uncertain, as well as dangerous, in application, he proceeded to give a detailed account of his present method. The efficacy of the latter, he said, was proven by subjecting fifty dogs to these inoculations, with success in every instance, in rendering the animals refractory to rabies. After having arrived at these results, Pasteur felt justified, after consultation with Drs. Vulpian and Grancher, in subjecting to the process the boy, Joseph Meister, who unexpectedly presented himself for treatment, July 6, 1885. In order to determine the virulence of the virus used, two rabbits were each day inoculated in the usual manner with the same virus as that used for the boy. These inoculations showed that the cords used on July 6, 7, 8, 9, and 10 were not virulent, since they did not produce rabies in the rabbits inoculated on these days. The cords used on July 11, 12, 14, 15, and 16, however, were all virulent, and of a constantly increasing virulence. Rabies appeared after some days of incubation in the rabbits inoculated with the cords of July 15 and 16; after eight days, in those of July 12 and 14; and after fifteen days, in those of July 16. Notwithstanding that in the last inoculations, virus was used which was far more virulent than that of rabid dogs which had contracted the disease in the ordinary way, these inoculations were followed by no symptoms.

Up to the time of Dr. Biggs' recent visit to Paris, one hundred and forty patients had been inoculated. Referring to the one case in which death from hydrophobia resulted shortly after inoculation, he said that in explanation of the failure to prevent the appearance of the disease in this instance, Pasteur asserted that the period of incubation, as transmitted from the rabid dog, had elapsed before immunity had been secured (36 days having elapsed between the bite and the commencement of the inoculation), and that this explanation certainly seemed reasonable when it was remembered that the period of inoculation of rabies in the human subject, although usually more than thirty-six days, is not infrequently less than this time.

It was an interesting and serious question whether in this case the disease might not have been the result of the inoculation rather than of the dog-bite, and a solution of this question was obtained in the following way: The virus of a rabid dog, when transferred to a rabbit by inoculation under the dura mater after trephining, produces rabies, on an average, in fifteen days, while the most virulent cords used in the inoculations produce rabies with the greatest uniformity in seven days in rabbits, and in from eight to ten days in dogs. Pasteur asserted that if rabbits were inoculated in the usual manner with material from the brain or spinal cord of this child, if the disease in the child were produced by the inoculations, the rabbits would die of rabies, which declared itself after a period of incubation of seven days, but if the disease in the child was due to the inoculation made by the bite of the rabid dog, then rabies in the animals would not make its appearance until about the fifteenth day. Accordingly, rabbits were inoculated from the child's brain, removed at the autopsy, and it was found that they died with the usual symptoms of rabies, which appeared on or about the fifteenth day. The result of this experiment was apparently satisfactory, though there might perhaps be a source of error in the possibility of the periods of incubation of the respective veins being altered by their passage through the human subject.

Having referred to the importance of determining whether the dogs biting the various persons treated really had genuine rabies, and discussed the period of incubation of rabies in man and in animals, Dr. Biggs said that as to the interpretation of the prophylaxis against the disease, Pasteur states that the alteration in the virulence of the rabic cords by the process of desiccation is explained on the supposition that the continuous contact of the dry air produces a gradual diminution in the intensity of the virulence of the cords until it finally becomes extinct; that the prophylactic method in its application depends for its efficiency upon the employment at first of a virus without appreciable activity, followed by a weak virus, and then by a more and more virulent form; that the diminution of the virulence of the cords is due to an impoverishment in *quantity* of the virus contained in the cords, and not to an impoverishment in virulence. Consequently, in the inoculations the virus used is always identical as regards its virulence, and is reliable only in respect to the quantity employed, so that the condition refractory to rabies follows from the employment of very small, but constantly increasing qualities of virulence.

This interpretation of the method of action of the virus was the more interesting as a new and quite different principle was involved from that obtaining in the vaccine for small-pox or the vaccines devised by Pasteur for the prevention of anthrax, chicken cholera and typhus in pigs. In small-pox we had a virus modified in character and virulence by its passage through another species of animal; in anthrax, chicken cholera and typhus in pigs, we had a virus modified in respect to its virulence by the conditions of temperature to which it had been subjected during its developmental growth, and finally, in rabies we had a prophylactic method dependent upon the employment of a virus always constant in its virulence, but used in very small and constantly increasing quantities. Apparently, then, already there had been three distinct methods discovered for the preparation of preventive vaccines for the different forms of contagious disease.

The theoretical principle had also been established by the researches of Pasteur, and more recently of Burdon-Sanderson, of the possibility of depriving cultures of pathogenic microörganisms of their virulence in a constant and persistent degree, without in any other respect affecting their morphological character. Taken in connection, these methods for preventive vaccinations presented almost unlimited possibilities in preventive medicine, and possessed a significance the importance and far-reaching nature of which could scarcely now be comprehended.

In discussing the conclusions to be drawn as to the accuracy of Pasteur's observations upon rabies and the efficacy of his method for its prevention, Dr. Biggs said that as to the first human subject inoculated, the boy, Joseph Neister, he could not but think, from the account given, that the dog which bit the lad was not affected with genuine rabies, and subsequent events had also shown that the same was probably true of the dog which bit the Newark children.

But however this might be, it seemed to him that the strongest evidence of the efficacy of Pasteur's method rested, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experiments on dogs. If he had been able to not only render fifty dogs refractory to rabies, without a single failure, but also had succeeded in preventing the development of the disease in a larger number of dogs after they had been bitten — both of which Pasteur asserted positively that he had accomplished — then the question as to the prevention of the disease in human beings was only as to the method of application. Dogs were far more susceptible and liable to the malady than human beings, and the character of the disease being evidently the same in both man and dogs, if dogs could be brought into a state refractory to the disease, certainly it would not be assuming too much to conclude that the same was true of the human being.

But, throwing aside the evidence which we now have at hand as to the efficacy of Pasteur's method — and he thought it must be said that it was not altogether satisfactory in character — Dr. Biggs went on to consider the probability of the correctness of these last observations from the light thrown upon the subject from his former work.

Does it seem probable, he asked, that the man who, in the earliest infancy of bacteriology disclosed the nature and cause of fermentation, and established our knowledge of it on a firm basis in the face of much opposition and skepticism, the man who disproved the theory of spontaneous generation, and laid the foundations upon which rest our whole system of antiseptic surgery, who disclosed the nature of the plague in silk-worms in France, and devised the methods for its prevention, who discovered the principles underlying the methods of protective vaccination in the diseases of animals, and has prepared the only practicable vaccines — does it seem probable that such a man has given nearly six years of continuous study to the consideration of rabies without achieving some substantial results? Or does it seem probable that he has been dealing all these years with some form of septicæmia, as has been suggested, laboring under the delusion, in the meanwhile, that it was rabies? This, he said, I cannot believe, and if it is not true, then Pasteur's conclusions must be in the main correct, for certainly no one will question his honesty.

Every great discovery in science has met with skepticism, opposition, and ridicule. . . . Pasteur's prophylactic method rests purely upon empirical grounds, and can only be fairly judged by the practical results obtained by its use. So far as we know at present, these have sustained the claims of its learned discoverer, and until they are refuted by further observations, we believe it is unjust to characterize the work of Pasteur, as has recently been done, as being founded on untrustworthy experiments and unsound reasoning, deserving to be rejected and condemned in the interests of humanity as well as science.

On the other hand, if future observations confirm the results that now seem to be at least probable, this discovery, added to his other achievements, will rank Pasteur as one of the greatest benefactors to his race that this generation has produced, and, from a scientific standpoint, will be considered one of the greatest triumphs of the century.

DISCUSSION.

Dr. A. Flint, Jr., was opposed to accepting the statements of Pasteur on the ground that his results had not been subjected, as the work of all discoverers in physiological science required to be, to the test of central experiments, such as injecting under the dura mater of rabbits bouillon, without the addition of spinal marrow, etc. If investigators even as illustrious as Pasteur, such as Majendie and Claude Bernard, for instance, had attempted to introduce any new points into physiology which were not better supported by corroborative evidence than Pasteur's alleged discoveries, their statements would not have been accepted. Having spoken of the accuracy and logical sequence apparent in the researches of Jenner in the development of the discovery of vaccination, he said that this scientific accuracy had not appeared in anything that had as yet been published by Pasteur, or under his authority.

According to the older ideas, rabies was propagated only by means of the saliva of certain animals: but in his preventive inoculations Pasteur long since abandoned the use of saliva, and resorted to a method which was entirely artificial. It therefore became a vital question to determine whether these rabbits, in which injections of virus were made under the dura mater after trephining, were actually affected with rabies or not, and he remarked in this connection that he did not know whether or not any one had ever given a precise description of this disease as it appeared in rabbits. Pasteur, however, stated that the rabbits were rabid, and we were called upon to accept his dictum without any evidence whatever to support it. He had himself, in connection with various physiological investigations, experimented upon a large number of rabbits, and he knew that their delicate nervous organizations were very seriously affected by operation much less serious than trephining. But if by any such means as those professed by Pasteur a human being could be prevented from having rabies after exposure to the risk of the disease, it made, of course, no difference whether the rabbits used in the process had rabies or not. This was the practical point; but from a theoretical standpoint the condition of the rabbits was a circumstance of great importance.

With regard to dogs, Dr. Flint inquired if there was a single authenticated case of a dog contracting genuine rabies by inoculation from Pasteur's rabid rabbits. For such an alleged fact we had only Pasteur's own statements to depend on. Nor was it absolutely certain that any dog had ever been rendered refractory to rabies by Pasteur; and it was a necessary step in the application of the method to human beings to prove that dogs which had actually been bitten by a rabid dog had been rendered refractory to the disease. It was also pertinent to inquire whether dogs and persons rendered "refractory" by the Pasteur method are in reality refractory to rabies when conveyed into the system in the ordinary way, and this question, he thought, had not as yet been answered in a sufficiently definite and satisfactory way. Now, under our present knowledge of this subject, he doubted whether it was right to subject a human being to the possibility of inoculation with a poison which gives rise to one of the most frightful of all diseases, and in the case of the little girl who died after inoculation, he thought it was by no means certain whether the fatal result had not been the direct result of the process. If the Newark children were to be taken as samples of 325 cases which Pasteur had just reported to the Academy as successfully inoculated, the percentage of real successes in this number he thought must be extremely small; since it had now been substantially proven that the dog that bit these children was not mad, by the fact that not one of seven dogs which were also bitten by the same animal, and which had been confined and carefully watched, had exhibited any indication of rabies after the expiration of more than ninety days.

Dr. E. G. Janeway said that when in Paris in the early part of last summer, he had witnessed the process of inoculation, although it was before the method had been applied in a human subject. The key-note of the whole matter seemed to be whether these dogs had been rendered refractory to hydrophobia as conveyed in the ordinary way, and according to the testimony of Dr. Biggs and others he thought there could be little doubt that such was the case. Now if they had been rendered thus refractory, he could see no objection to carrying out the same plan of inoculation in the human subject in any case where an individual had been exposed to the risk of contracting the disease, especially since the method had, at all events, already proved innocuous in more than three hundred cases.

As to the spinal marrow being employed as the agent for transmitting the virus, it seemed to him entirely appropriate. The virus which was lodged in the wound made by the bite of a rabid dog, and from thence diffused throughout the system, was undoubtedly composed of living matter. While it was present in the saliva, therefore, the manifestations of the disease showed that the germ was also in the spinal cord and the medulla oblongata, or, if this was not the case, that it circulated as a specific poison in the blood, and thus acted as an irritant upon these nervous centres. In other analogous diseases the germ of the affection was found at or near the points of inflammation, and hence it seemed altogether appropriate to employ these parts for the purpose of inoculation.

As to the case of the Newark children, it was questionable whether the dogs bitten by the same animal as the boys, had been kept under observation for a sufficiently long period. In Berlin, under similar circumstances, dogs were confined for six months, instead of three.

In closing the discussion Dr. Biggs remarked that the answer to most of the questions which had been raised lay in the proof of the genuine nature of the disease with which Pasteur has been dealing, and this was a somewhat difficult matter to determine positively from an independent point of view. When in Paris, however, he had seen a number of cases of dogs which had all the typical symptoms of rabies contracted in the ordinary way, as these were described in the books. It was an indisputable fact that Pasteur had for years been experimenting with a disease which almost invariably in every instance runs the same course and produces the same symptoms, and the period of incubation of which is fifteen days in rabbits. If this affection was septicæmia, as had been claimed by some critics, it was an entirely new form of it. No variety of septicæmia was known which had a period of incubation in rabbits of fifteen days, and after cultivation of seven. In dogs the period of incubation was considerably longer than this; while in septicæmia this period was never longer than eight or nine days. Again, no other disease was known, except rabies, which produced the symptoms noted in these cases, and always resulted in death.

Dr. Flint had suggested that in connection with the inoculations, control experiments ought to be made, such as the injection of bouillon without any portions of spinal marrow being added; but while this particular procedure had not been tried, so far as he was aware, it was a fact that inoculations had been made subcutaneously and into the veins, instead of under the dura mater after trephining, and the only difference that had been noted in the result was that the period of incubation was longer under these circumstances. The reason why Pasteur had adopted the method which he now employed, was because he had found after many experiments, that with it the period of incubation was shorter, and that the process was more certain than when any other was used.

As to the manifestations of rabies in rabbits, Pasteur distinctly declared that the disease had no pathognomonic manifestations in these animals. In them it was analagous to many forms of septicæmia, and it was on this account that he (Pasteur) was unwilling to accept the results of Fol's experiments which were practically based on the pathological conditions observed in rabbits after experiment. Therefore the only way to test the true nature of the disease resulting from inoculation was to inoculate dogs with the virus, and in them it had been found to manifest itself by symptoms which are believed to be unmistakably those of rabies.

As to the protection against the disease of dogs which had been bitten by other rabid dogs, Pasteur asserted positively that the most complete protection had been afforded in numerous instances. These animals were placed in cages together with dogs which were indisputably rabid, and having been bitten by the latter they were afterwards subjected to the prophylactic inoculations; and in not a single instance had rabies subsequently developed in them. These experiments had been repeatedly tried under the supervision of the official commission appointed to investigate the matter; and the evidence thus afforded he thought was of the greatest possible importance in establishing Pasteur's claim.

NEW YORK NEUROLOGICAL SOCIETY.

Stated meeting February 2, 1886.

Leonard Weber, M.D., Vice-President, in the Chair.

Dr. C. L. Dana reported a case,

TOTAL TRIGEMINAL PARALYSIS WITH ALTERNATE HEMIPLEGIA,

and discussed the question of

THE NERVE OF TASTE.

The patient was a single man, aged thirty-five, under treatment by Dr. George L. Fox for eczema of the scalp. He had always been healthy, and gave no history of syphilis or excessive indulgence of any kind except in athletic sports.

In August, 1885, he was attacked with a trigeminal paralysis on the left side, affecting all of the sensory branches of the fifth cranial nerve, and to some extent probably the motor branch. The paralysis came on without any other complicating symptoms.

In December, 1885, he was attacked with a crossed hemiplegia, affecting the right arm and leg and the right side of the face. When seen by Dr. Dana in consultation, the paralysis was found to be not very complete, that of the face especially not being very marked. There were no sensory, and only very temporary speech disturbances.

There was complete anæsthesia in the distribution of the left trigeminus, but no loss of taste on either side of the tongue. The patient soon recovered in a considerable measure from his crossed hemiplegia, but the sensory paralysis remained unchanged.

In January, 1886, the patient had an attack of left hemiplegia.

Dr. Dana discussed the question of the nerve of taste, and referred to the contradictory opinions at present held regarding it.

Most authorities now believe that the glosso-pharyngeal supplied taste to the posterior third of the tongue, and that the fifth nerve supplied the anterior two-thirds, sending fibres to it via Meckel's ganglion, the great superior petrosal, seventh nerve, and the chorda tympani. Gowers had recently declared that the sense of taste was supplied by the fifth alone.

The speaker presented a review of all the evidence so far collected, and came to the conclusion that the glosso-pharyngeal was probably the sole nerve of taste. In his own case the lesion was probably a small hæmorrhage in the lower part of the pons.

DISCUSSION ON DR. DANA'S PAPER.

Dr. Samuel Sexton said that ten years ago it was considered proper to divide the chorda tympani for tinnitus aurium, and it was supposed to have been done. This nerve has a long and circuitous course through the tympanic cavity, and is surrounded by a sheath of mucous membrane liable to inflammation in the acute purulent processes of the ear, especially in children. He had seen and studied a large number of cases in which, owing to acute purulent inflammations, there was complete destruction of tympanic contents, including the chorda tympani. There was no alteration of the sense of taste, though the tests to discover such an alteration were carefully made.

An Italian writer has called attention to the chorda tympani as a nerve in intimate connection with speech; that certain word sounds could not be found when it was absent. But Dr. Sexton's experience had not verified this. Taste was a complex function which was developed slowly by cultivation. When the tympanic membrane was absent, so that a probe could touch the inner wall of the tympanum, a variety of reflexes could be evoked, such as vomiting, coughing, sneezing; secretions, especially in the region of the tonsils and pharynx, were increased, as also the saliva.

Dr. M. A. Starr reported ten cases of total anæsthesia following neuralgia of the trigeminus, in which there was no loss of taste. In his study of the lesions of the medulla and pons there was no record of loss of taste, though all of the cranial nerves, except the ninth and tenth, were involved. All of which would support the views advanced by the author of the paper.

Dr. A. D. Rockwell had seen many cases, and instanced one in which there was neuralgia of the seventh and fifth pair of nerves, accompanied with loss of taste.

Dr. Dana, in closing the discussion, thought the cases cited by Dr. Sexton showed that the chorda tympani does not carry the nerve fibres of taste at all; that they were proof that they must take another course from that described by most of the text-books. It hardly seemed probable that they had so complicated an arrangement as that claimed by Gowers, which he showed by means of a diagram.

VASO-MOTOR NEUROSES.

Dr. M. Allen Starr, the author of the paper, said that under this title it was intended to include a series of disturbances of circulation and nutrition whose causation could be traced to disorders of the nervous system. He selected this subject because it was one which had been somewhat neglected in the discussions of this society, and because no definite summary of the present state of knowledge of the physiology of the vaso-motor action had lately been presented, and because he had recently seen a number of cases which might be classed together under this title, and which he wished to have discussed by the members present.

Disturbances of the circulation might occur in any part of the body, and were to be regarded not as distinct diseases of the parts in which they occurred, but as symptoms of lesions of the peripheral, or sympathetic, or central nervous systems. At the present time, however, it was impossible to make a pathological classification of these symptoms, and therefore they might be discussed together. In treating of the subject of vaso-motor neuroses the discussion of the physiology and pathology of the vaso-motor system could be united to advantage.

Since changes in the force and frequency of the heart's action and variations in the total amount of the blood in the body affect the body as a whole, the state of the circulation in any one organ or part depends largely upon the degree of contraction or dilatation of its vessels. This is known as the local vascular tone. It is under the control of the system of nerve ganglia, with their subservient fibres, which are found in the smaller arteries. The energy expended by these ganglia is manifest by a constant contraction of the circular muscular coat of the artery, a contraction which is constantly opposed by the dilating force exercised by the blood pressure within the vessel. In a state of health an exact equipose between these forces never occurs. Variations, however, in the vascular tone are produced either by local influence or by influences reaching the ganglia from a distance through the vaso-constrictor or vaso-dilator fibres. The constant manifestation of energy in the maintenance of arterial tone does not have its only source in the local ganglia, but is derived partly from the central nervous system through the vaso-constrictor nerves. Here the experiments of Claude Bernard were detailed. From these experiments it was concluded that a dilatation of the vessels follows: 1, a paralysis of the local ganglia in their walls; 2, separation of these from the sympathetic glanglia; 3, a destruction of the sympathetic ganglia; 4, a separation of these from the spinal cord by division of the anterior spinal nerve roots; 5, a disintegration of the cord; 6, a separation of these centres from the medulla; 7, the destruction of the medulla oblongata.

The action so far considered has been wholly of a vaso-constrictor kind, and the dilatation mentioned has been due to a suspension of constrictor energy, normally passing outward. This is a passive dilatation, but further experiments have shown that another kind of dilatation may be produced, due to an impulse of an active kind sent to the local ganglia by the vaso-dilators. This is an inhibitory impulse, arresting the constrictor action of the ganglia in the vessel walls in spite of the continued energy sent them from the central nervous system by the constrictors. Here the experiments on vaso-motor dilatation were given, and the various theories of the mechanism of dilatation in the vessel walls, it being concluded that there was no mechanism in the wall which could produce a dilatation, and that a dilatation was due wholly to the blood pressure within overcoming constrictor action.

The subject of vaso-motor reflexes was then taken up, and it was shown that the seat of these reflexes was in the dorsal region of the spinal cord, since all vaso-constrictors and vaso-dilatators can be traced to that region. The particular area of the spinal cord governing these reflexes was thought to be the gray matter surrounding the central canal and including the fascicular columns of Clarke. As bearing on this point the author referred to the observations by Jacubovitch, Schultze, and Furstner. It was impossible to say from these cases whether vaso-motor functions are located in the column of Clarke, or in the gray matter around the central canal, or in both.

Vascular tone of the thoracic and abdominal organs is regulated by centres in the pons and medulla. Experiments of Bernard were related, and cases of diabetes mellitus and diabetes insipidus produced by lesion of the medulla and pons were mentioned. The influence of the vaso-motors in producing functional disorders of stomach and intestines was alluded to.

From this review of physiological experiments and pathological facts it becomes evident that the disturbances of vascular tone which are included under the title vaso-motor neuroses may be produced by many different causes acting upon many different organs. The author here mentioned a number of possible causes and their location, after which he gave the histories of seven cases of vaso-motor neuroses, with remarks on the same. These cases seemed to illustrate some of the conditions which have still to be classed under the term vaso-motor neuroses from want of a more perfect knowledge of their nature. They appear to be little noticed in the books, and rarely discussed in societies; but they certainly merit careful study, inasmuch as they require cautious and scientific treatment.

DISCUSSION ON DR. STARR'S PAPER.

Dr. Sachs thought that some statements made by Dr. Starr elucidated some obscure points in experiments which he made several years ago on animals to discover the relation of the spinal cord to the secretion of the kidneys. Eckhardt had stated that section of the cervical spinal cord had the same effect as section of the medulla; that is, to inhibit the secretion. These experiments were difficult because of the necessity of keeping up artificial respiration, but they showed that urine was secreted as in health, though somewhat diminished in quantity. That it was actually secreted was proved by introducing chemical substances into the blood, the coloring matter of which was shown in the urine secreted. The results obtained by Eckhardt were probably due to peripheral irritation caused by laying bare the ureters which interfered with the secretion of the kidneys. He asked Dr. Starr what views he advanced with reference to the course of the vaso-constrictor nerves.

Dr. Starr replied that one theory was, that they passed from the lateral tracts of the cord through the fourth, fifth, and sixth cervical into the sympathetic system and thence to the viscera. Another was that they entered the sympathetic as far down as the level of the first dorsal. There was an intimate connection with the kidney. Experiments high up in the cord would of course produce diabetes.

Dr. Sachs said that in his experiments high up in the cord there was no diabetes.

Dr. C. L. Dana considered himself indebted to Dr. Starr for so able a paper. The local vaso-motor ganglia had been assumed to exist, but had never been satisfactorily demonstrated as physiological entities. Vaso-motor disturbances were common as symptoms, and were so considered rather than as a distinct disease. Accompanying them there were almost always marked sensory and trophic symptoms, especially if the vaso-motor disturbances were chronic, and had made an effect on the system. In this class of cases were those vaso-motor troubles of the extremities, such as digiti mortui, and mild types of renal disease ; an independent disorder, flushing of the ears ; Basedow's disease and diabetes, which should also be ranked among these. It gave rise to confusion to consider the vaso-motor system as independent, in the same way as the sympathetic system, forgetful of the relation of both of these to the cerebro-spinal.

Dr. Weber spoke of the connection of sciatica with diabetes. While sugar is found in the urine of patients suffering from protracted sciatica, there were few cases of well-developed diabetes in which there was sciatica. He related three cases of sciatica in which there had been sugar in the urine, and attending symptoms of diabetes. He had seen cases where sugar was present *after* sciatica ; but he had doubted if true diabetes were developed by sciatica.

Dr. Leszynsky related two interesting cases of vaso-motor disturbances. He questioned if cold was not a factor to be considered, since a case of symmetrical gangrene under his observation had relapses on cold days. Chilblains were common in winter.

Dr. Starr, in closing the discussion, remarked that the vaso-motor local ganglia had been very recently demonstrated by French physiologists in frogs, rabbits, and cats. He did not intend to give the impression that sciatica caused glycosuria, but referred to those cases, quite a number of which were on record, where there was a sudden appearance of sugar in the urine which afterwards disappeared.

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Recent Literature.

The Blot upon the Brain: Studies in History and Psychology. By William W. Ireland, M.D., of Edinburgh. New York: G. P. Putnam & Sons. pp. 374. 1886.

It is difficult to give an adequate idea of the import and value of this book in the limited space available. It is in many respects unique, treating, as it does, of out-of-the-way subjects in psychology — topics which are somewhat off the beaten path of such inquiry, but are none the less interesting and instructive.

The more connected portion of the book is a group of studies relating to the mental defects of historical personages. In these, the neuroses of several of the great ruling families are traced in a masterly way through a series of sketches of successive rulers. In thus investigating the family histories of these historical characters the writer has made a novel application of scientific methods, which goes far towards convincing one of the soundness of his conclusions.

He pictures very vividly the debasing effects of unchecked power — a point upon which he is particularly strong — in his account of the mental condition shown in the career of the Claudian-Julian family, particularly Drusus, Julia, Tiberius, Caligula, Messalina, Agrippina, Nero, Commodus, and Heliogabalus.

The neuroses of the Royal family of Spain are similarly demonstrated. There are chapters also, on Mahomet and Joan of Arc, which possess much historico-psychological interest. The paper on St. Francis Xavier, the Apostle of the Indies, is inferior to the rest in having little value as a psychological study, except possibly, as illustrating the power of a "fixed idea." The half-dozen remaining essays are of a more miscellaneous nature, and treat of Fixed Ideas, Unconscious Cerebration, Wordless Thought, Left-Handedness and Right-Headedness, Mirror-Writing, and the Dual Functions of the Double Brain. Here we make and renew acquaintance with a variety of useful facts, effectively utilized to demonstrate the writer's views, which are, in their turn, contributions of considerable value.

Although there is no lack of original investigation, the nature of such a work involves not a little draft upon the observations of others, but if compilation be a literary sin, crime is here made attractive. The book abounds in those little-known facts which being new or uncommon, surprise, entertain and instruct, and at the same time, give one the satisfactory sense of being kept abreast of the times on the subjects considered.

The style is in every way attractive, being concise and clear, yet easy and graceful. This is a conspicuous feature of the book.

We regard the volume as a contribution to historical literature of decided value, a desirable addition to our knowledge of psychological medicine; and entertaining and profitable reading to persons of culture not directly interested in mental science, a class which the author hopes also to attract.

How we Treat Wounds To-day. A Treatise on the subject of Antiseptic Surgery, which can be understood by beginners. By Robert T. Morris, M.D., late House Surgeon to Bellevue Hospital, New York, etc., etc. pp. 162. New York and London: G. P. Putnam's Sons (The Knickerbocker Press). 1886.

The enthusiastic author of this little manual attempts to present in a short and practical manner the detailed methods of wound-treatment in use among the so-called antiseptic surgeons of the present day. The first half of the book is devoted to a general consideration of different antiseptic agents, drainage tubes, sutures, dressings, and the like; the last half to the details in the treatment of certain typical wounds. There are eight or nine wood-cuts. Though the language which the author has chosen to give expression to his opinions is often far from dignified, and the style is frequently objectionable, yet the book is so thoroughly practical that it must be commended to those who wish to acquire an exact knowledge of the details of antiseptic treatment, which experience has shown to be productive of the best results.

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THE RELATIVE CAPACITY OF THE BRONCHUS AND LUNGS.

Prof. Aeby published in 1880, a work on the anatomy of the bronchial system, which at once became classical. It is not our purpose to discuss the interesting and original views that he advanced on the manner in which the branches are given off, and on the relations to the pulmonary arteries; but we shall confine ourselves to his views on the relative size and shape of the tubes. His method was to make accurate measurements of casts of the air-tubes in fusible metal. He announced, in opposition to such authority as Henle and Hyett, that the trachea becomes gradually larger from above downwards. At their origin, the area of the right bronchus is to that of the left nearly as two is to three, and as the latter equals half of the trachea, it follows that the combined areas of the bronchi considerably exceed that of the wind-pipe. The capacity of the right lung is to that of the left as 100:85, and that of the corresponding bronchi as 100:70.7.

Prof. Braune and Dr. H. Stahel have studied this question again in a very thorough manner. They represent the lungs as chambers to be aired, and the tubes as ventilating shafts. To begin with, they criticise Aeby's method, and, we think, justly. It is true that Aeby was careful to reject casts that showed signs of overdistension of the tubes, but, owing to the weight of the fusible metal, it is not possible that there should be no distortion. Those familiar with Braune's methods could predict with confidence that he would choose the freezing process for the purpose of making the parts rigid, with as little change as possible. Frozen sections of the trachea do not confirm Aeby's observations. On the contrary, it appears that it is smallest at its beginning below the cricoid; that it gradually expands to near its middle, where it is widest; that it then narrows, to expand once more from a point three cm. above the bifurcation. It appears, however, that the combined area of the bronchi at the bifurcation exceeds that of the trachea, taken three cm. above the bifurcation; and moreover, that the size of the bronchus is in direct ratio to that of the lung it supplies, which, by the way, had been approximately stated by Aeby. Braune and Stahel have, however, paid particular attention to this point, which, as we shall see later, is a cardinal one in their study.

The average of eleven series of measurements shows that the area of the right bronchus being 100, that of the left is 77.95. The left bronchus is smaller at the middle than at the beginning, and still smaller at the end; and finally, the area of either bronchus at the bifurcation is greater than the sum of the areas of its branches. We find, therefore, that between the beginning of the trachea and the openings of the branches of either bronchus, the air-passages, instead of being of uniform calibre, present two dilatations, one at the middle of the wind-pipe, and the other at its bifurcation. Essentially, similar proportions were found in the dog, the cat, and the sheep.

The relation of the size of the lung to the area of the bronchus was found by weighing the lung, the blood having been expelled, and by measuring the bronchus at its beginning. The average of five observations showed that the left lung was to the right as 74.9 is to 100, and the left bronchus is to the right as 75.5 is to 100. It will be observed that this statement of the relative sizes of the bronchi is not quite the same as that given above. Evidently, the series are far too small to give accurate results, but we may admit that there is a pretty close relation between the size of the bronchus and its lung.

Our authors then pass to the consideration of the question whether the formation of the bronchi (we presume not their first appearance, but their development), is due to physical causes. "If," say they, "the size of the bronchial tube depends on the volume of air which, in every inspiration, passes into the lung, an increase or diminution of this volume must imply a corresponding change in the size of the tube, providing always that physical antecedents have an influence in the matter. The volume of air going to the lungs depends on their capacity: we must, therefore, determine whether the relative size of the bronchi is altered in pulmonary disease." They accordingly made similar observations on emphysematous lungs, and found such a change as they had, no doubt, anticipated in the relative size of the bronchi. One case was particularly interesting. The left lung was slightly emphysematous, the upper lobe of the right one very much so. The left bronchus was to the right as 53.4 is to 100. Apparently, only the upper lobe of the right lung was much affected, and they found a remarkable change in the relative size of the first branch of the right bronchus. The lower branch of the right bronchus had been found in a series of five measurements of healthy lungs to be, the upper, on the average, as 100 is to 53.6, but in this case it was as 100 is to 73.4, showing a great increase of size in the tube of the affected lobe. The cases observed in which the capacity of the lung was diminished are fewer in number and perhaps less satisfactory, but still seem to justify the author's conclusion that in diminution, as well as in increase of the volume of inspired air, there is a corresponding change in the capacity of the tube.

Interesting as we have found the paper, we cannot feel that the authors have established any new principle, or thrown light on the cause of the original difference between the bronchi. That the tube conveying air should become larger when more air is demanded, is a phenomenon perfectly analagous to the greater development of arteries when, from some pathological reason, any part demands a greater supply of blood. Clearly this mechanical cause cannot have been active in the embryo which has not yet breathed. Braune and Stahel admit the necessity of studies on embryos, but apparently they have been hampered by want of material. They also insist on the great difficulty of avoiding error, on account of the minute size of the air-tubes in the lungs of infants. Their forbearance speaks well for the accuracy of their work. They give the relative weights of the lungs of one new-born infant, in which the right was to the left as 100 to 85, which shows less difference than these authors find in the adult, but perhaps as much as some individual cases would present. In fact, the figures correspond precisely with Aeby's for the adult.

In conclusion, mention is made of a point concerning which anatomists are not agreed, namely, as to the difference in the height of the right and left pulmonary apices. Braune and Stahel adopt the view of the majority, that the right lung is the higher. Though disposed to criticise some parts of this paper, we must speak with sincere praise of the vast amount of careful work it has involved. We wish that similar investigations were more common in this community, and with our present facilities for original work there is no good reason why they should not be.

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THE PROPOSED NATIONAL BUREAU OF PUBLIC HEALTH.

In the Journal of February 4th, attention was called to a bill for the establishment of a Bureau of Health in the Department of the Interior, introduced by Dr. Davis, of this State, and referred to the Committee on Commerce. This committee has now reported the measure to the House with some slight amendments and a recommendation for its passage.

An examination of the text of the bill shows that the proposed Bureau of Health avoids the difficulties which have so seriously impaired the efficiency of the present organization, no patronage is conferred upon the office and no executive functions are created, that can in any way touch the rights and powers of the States, or other departments of the Government.

The Bureau could utilize for the public benefit the vast collection of facts already in the possession of the General Government, or that can easily be obtained by it, the information in the State department obtained from consular officers abroad, the statistics of mortality and disease that can be furnished by a very large number of cities and towns throughout the land, only available now by an investigation of many hundred separate documents, which cannot at present be found together in any one place, and yet of great importance as showing the prevalence of diseases in some one part of the country, which experience has taught will appear in certain other portions, where timely warning would lead to the preparation of measures of prevention.

In the census reports for 1850, '60, '70 and '80, attempts have been made to furnish statistics of mortality and disease, the director of the vital statistics of the census of 1880 remarks:

"The fact that it is impossible in any large community to collect complete and reliable data with regard to births and deaths, by means of an inquiry made only at the end of the year for which the data are desired, is well known to all who are familiar with the subject of vital statistics, and the experience of the United States census furnished no exception to this rule. But as the United States has no system of registration of vital statistics, such as is relied upon by all other civilized nations, for the purpose of ascertaining the actual movement of population, our census affords the only opportunity of obtaining even an approximate estimate of the birth and death rates of much the larger part of the country, and the data which the census gives, imperfect as they are, are the only ones by which we can compare the healthfulness of this with that of other countries, or can ascertain, even approximately, the relative salubrity, or liability to particular forms of disease, of different parts of our own territory." The Bureau could do much to supply the deficiencies above noted.

In this connection the Committee on Commerce in recommending favorable action wisely say: "At present every new census is obliged to recreate forms for vital statistics, and each census has had a method of its own. The Bureau could do much of this preliminary labor and its experience would be of the greatest value to the superintendent in charge of the work. It would be of even greater value in stimulating various portions of the country to a more active interest in their respective vital statistics than the census authorities, because this Bureau is permanent and its action continuous."

The concluding sentences of this report are as follows: "The rules for which provision is made in the third section of the bill would, as a measure of common prudence, be framed after consultation with the various State Boards of Health and the quarantine officers of the principal ports. Requirements for the satisfactory condition of ships, crew, cargo, and passengers, would, if agreed to by the quarantine officers of the ports of the country, go far toward producing uniformity, where now the greatest diversity exists, to the detriment of commerce and to the menace of the public health; and, finally, it being the province of the

Bureau, not only to investigate the nature and origin of contagious and infectious diseases, but also to devise measures for their prevention or control. Congress, relying upon its competency, would not, in the event of the invasion of yellow fever or cholera, be likely to pass, under the spur of popular apprehension, hasty or inconsidered and improvident legislation.

It may be urged that all the work contemplated in the establishment of this Bureau could be equally well done by the medical officers of the army, the navy, or the marine-hospital service. These services are, however, created for limited and special purposes, and their officers have not the general training possessed by the sanitary officers of civil life, who deal with men, women and children under differing conditions of age, occupation, and habits of life."

◆

POETRY AND TOXICOLOGY.

Poetic license includes many departures from actual reality; this is nowhere better illustrated than in the manner in which poetic writers (and novelists are generally no more deserving of credit for scientific accuracy of statement on these points) have dealt with the subject of poisons and empoisonments.

Shakespeare's "cursed hebanon" has been popularly supposed to be the *nicotianic tabacum*, whose crude oil, poured into the ears of Hamlet's father caused the death of the unfortunate king. But this supposition involves a monstrous anachronism, and moreover there is no derivative of the plant in question which would have produced just the effect which Hamlet's father's ghost describes in those immortal lines.

The sleeping potion which in Scene I, of Act IV, of Romeo and Juliet, the friar administers to Juliet never could have had any real existence except in the imagination of the poet. There is no drug known to science which produces or could produce such effects:

> "Take thou this phial, being then in bed,
> And this distilled liquor drunk thou off;
> When, presently, through all thy veins shall run
> A cold and drowsy humor; for no pulse
> Shall keep his native progress, but surcease.
> No warmth, no breath, shall testify thou livest;
> The roses in thy lips and cheeks shall fade
> To paly ashes; thy eyes' windows fall
> Like death when he shuts up the day of life;
> Each part, deprived of supple government,
> Shall stiff and stark and cold, appear like death:
> And in this borrowed likeness of shrunk death
> Thou shalt continue two and forty hours,
> And then awake as from a pleasant sleep."

Nothing in the Arabian Nights Entertainments is more foreign to real life than is the above to the actual results of every known poison, in whatever dose administered.

The crimes of the Borgia family were detestable enough, and there is reason to believe that all of this family not excepting the infamous Lucretia, (and this we say despite the whitewashing of the latter by Mr. Astor in the *North American Review*) on numerous occasions accomplished their vile ends by poison. If we may credit Victor Hugo, whose great tragedy, Lucrèce Borgia, embodies the popular tradition, the art of poisoning was carried to such perfection by this family that noblemen shrank from invitations to their dinners as from a sentence of death, and with the extinction of the line toxicology has almost become a lost art! It is safe to say, however, that Victor Hugo has here given us a picture of the imagination which has no exact counterpart in the reality. Take, for instance, what the courtier (who is supposed to know) says in Act I, Part II: "The Borgias have poisons which kill in a day, or in a year, at their pleasure. They are infamous poisons, which make wine pleasanter to the taste, so that guests empty their glasses the sooner. You think yourself only drunk, and you are a dead man. Or here is a case such as often happens: A man all at once falls into a languishing state; his skin becomes wrinkled, his eyes sunken, his hair turns white, his teeth become brittle as glass and break to pieces while he eats: he cannot walk, but he drags himself along; he no longer breathes but rattles (*il râle*); he no longer laughs, he no longer sleeps, he shivers in the mid-day sun: a youth, he has the air of an old man, he thus pines away for a time and then dies. After he is dead his friends remember that six months before he drank a glass of Cyprian wine with a Borgia."

As unreal is the antidote which Lucretia Borgia gives to her son, whom she tries to deliver from the effects of the lethal potion which Don Alphonse had made him drink.

> "You are poisoned, Gennaro!"
> "Poisoned, Madam?" . . .
> . . . "Yes, poisoned, and there is no time to lose It is a poison the very thought of which makes every Italian turn pale who knows the history of the past twenty years. . . . Nobody knows any antidote to this terrible poison but the Pope and myself. . . . Here, take this vial, quick! . . . One single drop on your lips, and you are saved!"

It is needless to say that nothing is more imaginative than the above; the Borgias possessed no poisons which imparted to wine a more delicious flavor, which gave time to actors to make and listen to long harangues before sensible effects were produced then killed them quite suddenly with the symptoms of ordinary drunkenness; poisons, too, for which an antidote existed, a few drops of which taken into the system would instantly neutralize the effects of the virus. When Xenophon describes the event of the drinking by Socrates of the decoction of hemlock, he paints a scene of which the scientific accuracy is acknowledged at the present day; but half of the stories of the poisoning by the Borgias we discredit as not being conformable in their details to the phenomena attending the operation of any toxic substances known in that or any other age.

While poets and novelists are not amenable to exactly the same rules of criticism as historians or scientists, their domain being the realm of fiction and imagination, yet it is unquestionably a great merit to make the creations of the imagination conformable to the nature of things, (that is, truth), and only by such conformity can the highest ideal of literary art be attained.

MEDICAL NOTES.

— The *Philadelphia Medical Times* suggests that Dr. J. M. Da Costa would be the most worthy successor to the late Dr. Flint as president of the Congress.

— The will of the late Dr. Austin Flint, leaves his entire medical library, except any books that his family may wish to keep, to the New York Academy of Medicine.

— Thomas Spencer Cobbold. M.D., F.R.S., an eminent English scientist, is dead. He was born May 26, 1828, and was educated at Edinburgh. He was distinguished for his original investigations in helminthology.

— Among recent deaths in the medical profession have been Dr. J. H. Kane, of Wilmington, Del., a brother of the Arctic explorer, Elisha Kent Kane. He was surgeon of a relief expedition which went to the Northern seas in 1856, for the relief of his brother.

— Queen Victoria attended and laid the foundation-stone of the new Examination Hall of the Colleges of Physicians and Surgeons, upon the Thames embankment. last week. The act is considered by the English physicians as a high and peculiar honor paid by her majesty to the medical profession.

— D. Bochefontaine, chief of Vulpian's Laboratory at the Hôtel Dieu, is dead. He will be remembered as having swallowed some of the comma bacilli a year or so ago, in disproof of the theory of their etiological relation to cholera. He was a determined adversary of Pasteur. His age was forty-five.

— Falsification of death certificates, even when prompted by a wish to avoid wounding the feelings of relatives, is in some localities a serious matter. Two St. Petersburgh practitioners who attended a girl who had poisoned herself with opium, yielded to the entreaties of the parents and gave a certificate that the cause of death was "heart disease," so that no difficulty might arise about the burial. The case, however, came before the law courts, and in spite of the defence set up that the certificate was not an official document, but intended solely for the use of the statistical department, the two doctors were condemned to two days' imprisonment and a fine of ten roubles ($5).

NEW YORK.

— The bill entitled "An Act for the Better Preservation of the Health of Children in Institutions," which was prepared by the Committee appointed by the Academy of Medicine in June last, to make an investigation of the prevalence of communicable eye-disease in asylums and industrial schools, has been reported favorably upon by the Senate Judiciary Committee at Albany.

— State Senator McMillan has introduced in the Legislature a bill which provides for the appointment of a commission to investigate and report upon the most humane method of inflicting capital punishment. This is largely due to the efforts of Dr. A. P. Southwick, of Buffalo, who has devised a process for the production of instantaneous death by the application of a strong current of electricity to the medulla oblongata.

— At the New York County Medical Society, March 22d, Dr. L. Duncan Bulkley read a paper on the "Relations between Diseases of the Skin and Disorders of other Organs," and Dr. Stephen Smith one on "The Effects of High Temperature on the Public Health of the City, and the Measures for their Prevention." The latter was mainly devoted to a plea for the planting of shade trees as a means of diminishing the extreme mortality of the summer months by moderating the temperature of the atmosphere. In addition, Dr. Smith advocated flushing of the streets with water, and the daily regulating and equalizing of bodily temperature by artificial means, such as public baths.

— The mortality records of the city of New York, showed that June to September, inclusive. the average number of deaths was about four thousand greater than in any other four months of the year, and on investigation, it was found that the death-rate during this period rises and falls with the temperature. As nearly all of down-town New York was brick and stone. it was naturally impossible for children and the aged living amid such surroundings to accommodate themselves to the conditions of heat that often prevail. Baths, shade, and fresh air being beyond the reach of a majority of the population, especially of those living below the lower line of Central Park, he thought it time that attention was given to the most easily obtained of these cooling agents. The down-town parks were few, and poor in vegetation. Stone and brick houses became like ovens. Add to this the foul emanations from decomposing vegetable matter, and it was no wonder that the results were serious.

As to the efficacy of vegetation in modifying the heat of summer, Dr. Smith said that an acre of grass gave the air 6,400 quarts of moisture in twenty-four hours; but there are even better coolers. The old Washington elm at Cambridge, although not very large, exposed to the air a surface in leaves equal to five acres of low vegetation. Trees kept an even temperature of about 55°, while the temperature of an exposed pavement on Fifth Avenue on a hot day had been found as high as 130°. When this test was made, a thermometer in the shade of a tree near by recorded only 70°. In conclusion, he read the draft of a bill entitled: "An Act to Secure the Increase and Protection of Shade-Trees in the Streets, Avenues, and Public Squares and Spaces in the City of New York," which had been prepared with a view to legislative enactment, and asked that it should be referred to the Committee on Hygiene with the approval of the Society. Dr. Bulkley having moved to amend by including additional water-supply for flushing the streets, and the amendment being accepted, the matter was referred to the Committee named, with power to act for the Society.

PHILADELPHIA.

— The University of Pennsylvania will hold its Commencement May 1st. Prof. Jos. Leidy has been announced to deliver the address. The annual meeting of the Alumni Association was held March 26th. Dr. Chas. Gilman Smith, of Chicago, was the orator.

— In this column, a short time ago, reference was made to the successful treatment of chorea by hyoscyamine in the case of a boy at Pennsylvania Hospital, under the care of Professor Da Costa. The boy was discharged well, but was readmitted a few weeks later, suffering with pericarditis; but during that attack it is worth noting that there was no return of the chorea.

WASHINGTON.

— The following Bill to prevent the introduction of contagious and infectious diseases into the United States, and to establish a Bureau of Public Health, was introduced by Congressman R. T. Davis of Fall River, reported favorably by the Committee on Commerce, and is now before the House of Representatives for action: —

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established in the Department of the Interior a Bureau of Public Health. There shall be appointed from civil life by the President, by and with the advice of the Senate, a Commissioner of Health, who shall be intrusted with the management of the Bureau herein established. He shall be paid an annual salary of four thousand five hundred dollars. For his use the Secretary of the Interior shall provide suitable offices, and, with the approval of the same, he shall employ such assistants and clerks as may be necessary.

Sec. 2. That it shall be the duty of the Department of State to obtain from the consular officers at foreign ports and places all available information in regard to the sanitary condition of such ports and places, and to transmit the same to the Bureau of Health; and said Bureau shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States; and shall prepare, publish and transmit to the medical officers of the Marine Hospital Service, to collectors of customs, and to State and municipal health officers and authorities, weekly abstracts of the consular sanitary reports and other pertinent information received by said Bureau; and shall also, as far as it may be able, by means of the voluntary co-operation of States and municipal authorities, of public associations and private persons, procure information relating to climatic and other conditions affecting the public health; and shall make an annual report of its operations to Congress, with such recommendations as it may deem important to the public interests; and said report, if ordered to be printed by Congress, shall be done under the direction of the Bureau. That the necessary printing of the Bureau of Public Health shall be done at the Government Printing Office upon the requisition of the Commissioner of Health, in the same manner and subject to the same provisions as other public printing for the several Departments of the Government.

Sec. 3. That the commissioner of Health shall, under the direction of the Secretary of the Interior, frame rules which, when approved by the President and issued by the Department of State, shall serve for the instruction of consular officers of the United States and of the medical officers serving at any foreign port. In compliance with these rules, every master of a vessel destined for a port of the United States shall be furnished with a certificate containing a detailed statement of the inspection of the vessel, cargo, crew and passengers, and of the sanitary measures carried out at the expense of the vessel; or if such measures are not carried out, instant warning shall be transmitted to the Bureau, who shall immediately notify the quarantine authorities of the port of destination.

Sec. 4. That the Bureau of Public Health shall, with the approval of the Secretary of the Interior, make investigations, both in the United States and, if necessary, in foreign countries, into the nature, origin, and prevention of contagious and epidemic diseases, as well as the causes and conditions of particular outbreaks of disease in the United States, and shall publish and distribute documents relating to the prevention of disease.

Sec. 5. That the President is authorized, when requested by the Bureau of Public Health, and when the same can be done without prejudice to the public service, to detail officers from the several Departments of the Government for temporary duty, to act under the direction of said Bureau, to carry out the provisions of this act; and such officers shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties. When a detail of suitable officers cannot be made, the Commissioner of Health may employ such experts, and for such time and in such manner as the funds at the disposal of the Bureau may warrant, subject to the approval of the Secretary of the Interior.

Sec. 6. That to defray the expenses incurred in carrying out the provisions of this act the sum of seventy-five thousand dollars, or so much thereof as may be necessary, is hereby appropriated, to be disbursed under the direction of the Secretary of the Interior, on the requisition of the Commissioner of Health.

Sec. 7. That an act entitled "An act to prevent the introduction of contagious and infectious diseases into the United States, and to establish a National Board of Health," approved March third, eighteen hundred and seventy-nine, and all other acts and parts of acts conflicting with the provisions of this act, are hereby repealed.

Sec. 8. That this act shall take effect sixty days after its passage, within which time the Commissioner of Health shall be appointed.

Miscellany.

THE SPECIALISTS.[1]

'Mid sulphurous fumes, in antiseptics rich
Enough to please our Peters — cure the itch,
Great Satan sat, dark frowns upon his face,
As when one finds another 's got his case.
Fiercely he muttered: "Twenty doctors more
"Within two days have come within my door,
"And now at last — the news quite strikes me dumb —
"The porter says some Specialists have come.
"Should old ambitions once these fellows seize,
"If they put out their signs, take in their fees,
"Sure all my toils of little use would be,
"Then I must go, this is no place for me."

The Demon rose, and shook from off his coat
The yellow films of *U. S. Sulphur lot.*,
Uttered a cough which all Hell's regions racked,
And ordered out his baggage, to be packed.
"I 'll up to Earth," he said, "for I must know
"Why doctors are now rattled on me so."
Out into space he shot,— a curious sight.
The Devil bent on setting things aright.

Now, since he knew the Old World quite too well
To try to keep the doctors there from — She'll,
He went to Boston, thinking that perhaps
Since Holmes 'd resigned he there would find a lapse,
(I pray my hearers to remove their frown —
I mix the Devil with so good a town
Because poetic doctors who must rhyme with pills
Can do it best where there are seven hills;
I 'm sure, myself, that half the fame of Holmes
From this unevenness of Boston comes.)
And so from off her very highest mound
Our new Asmodeus cast his eyes around:
He saw the doctors' gigs below him creep,
He thought the ruts they rode in rather deep;
He saw great doctors whom big fees did fatten,
He saw the lady-doctors whom they sat on.

He saw a college, beautiful and old,
He saw another where degrees were sold;
He saw our Art lift up its banners high,
But saw that quacks and mind-cures were close by.
Yet 'midst it all he found such virtues grew —
The righteous rigid, but the wicked few;
The Devil thought, "I 'll let this place alone,
"The case is one of gravel, not of stone."
(The simile is old, but then I might
In Boston be a little litho-trite.)

As when a meteor skims earth's airy shell.
Or doctor jumps at the obstetric bell,
So Satan, leaving ancient Boston, down
He in one breath flew to a Quaker town —
(A town, dear friends, of which you've heard some talk;
Its people say it 's better than New York.)
A pleasant spot he finds it, not so well
Supplied with water as his place in Hell,
But rather home-like still; for sure I am
This want of water makes the Quaker Damn.
He heard the doctors at their night retreats
Where each one shows how well he patients treats,
Exhibits cases, and his heart unloads
On lady-doctors, globules, and new codes.
He found one pass-word every house to enter,
'T was: Philadelphia's — medicine's great centre.
Of course, with specialists he 'd much to do.
They each, he found, could tell him something new.

"But, after all," he said, "I do not find
"The doctors here need much disturb my mind;
"A few bad books I 'll leave, their hearts to leaven.
"I think a decent share will get to Heaven."
'T is sweet to find our brethren reach that level
That they can thus completely cheat the Devil.

With anxious heart the Demon now sat down
Upon the boat which bears him to this town;
"For sure," he said, "unless all stories lie,
"The doctors there are all much worse than I."

As when, before, the crash of heavenly arms
Awoke all space with hideous Hell's alarms,
So now loud thunders start our traveller's fears —
The Jersey ferry blew up round his ears.
High up the Demon flew; he has no choice
When Jersey corporations lift their voice.
He ne'er before 'd been thrown to such a level,
Tho' oft on earth his friends had "raised the devil."
But down he fell at last, some dozen miles,
As the swift hammer settles on the piles;
But in his case the truth of history is,
The hammer was the earth, the piles were his.

A much bruised party rose from up the ground,
He 'd every ill that 's in the body found —
A spine concussed, a fractured bone or two,
A dozen sprains, his skin quite black and blue,
Disordered function of each inner part,
Uneasy stomach, damaged lungs and heart,
But sweet philosophy some comforts bore,
"I don't mind much," he said, "I 've fallen before,
"And sure the fates do in my cause enlist
"To fit me for each New York specialist."
Some heavy drafts he then on Mammon drew,
And set out for such doctors as he knew.
These were not many — though the truth to know,
Some New York doctors advertise below.

His cracked patella first for help he tried,
And twenty surgeons twenty splints applied,
While those who in their antiseptics trust
Bound him with bags of Pilcher's best sawdust.
At last they wired the bones, which pleased him so,
He wired the news of it to friends below.

His shaken spine he next for comfort turned,
And learned again the cost of getting burned;
For here Neurology had ta'en her part,
So great her Science, and so small her Art!

Now, since the Devil left the heavenly gate,
He 'd not been famed for walking very straight;
So he his way to orthopædists traces,
Harmonious children of a thousand braces.
When through, he said, "This is a curious rank,
"For every brace they gave me had a crank,
"Excepting one — and I must take him home —
"'T is that which runs th' electric osteotome."

It is not strange — at least it is a fact —
That Satan's *falls* had caused a *cataract*;
Or that, with all the errors to him due,
Some errors in refraction he had too.
Some learned eye-men, therefore, soon were seen,
Who ply the art that 's based on cocaine,
Atropia sulph., some glasses and the trick
Of snipping off the iris double-quick.
But great among the specialists they rise,—
They made the Devil open both his eyes,
And soothed them, so that when no longer sore
Th' insatiate patient clamored still for Moore.

Among the throat men then he spent a day;
Their art, he saw, was but a wash and spray,

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[1] Read at the Annual Dinner of the Faculty of the New York Post-Graduate Medical School and Hospital, March 11th, 1886.

Besides, he found they 'd stolen his own wares,
And caught their victims all in painful snares.
Some pleasures still in Satan's lot prevail,
For he at least unquestionably is male.
For him no gynecologist could seek
Within persuasive specula to peek,
Or, with some learned name his troubles labelled,
Like Parliamentary motions, have him tabled.
I 'm sure that once the Devil stopped and prayed,
'T was when he found that he could not be spayed.
(O gentle Art, I 'm sure I am not blind
To all the good you 've done for womankind;
But once 't was woman's part to cut and sew,
While now to cut and sew her parts you go
Too oft', perhaps. Might it not be a gain
If you made less of womb and more of brain?)

My story 's done. Satan, not now forlorn,
Went to his home. (He took iodoform,
"For not," he said, "In all my realms below
"Does any perfume please my senses so.")
His fright o'er specialists had left him, too,
He 'd seen how well Post-Graduate Schools can do,
"Since this succeeds," he said, "I need not fear.
"I 'll never have too many doctors here."

Dear friends, I think that this will be no evil,
We 'll treat the poor, and never mind the Devil.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 20, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	758	243	15.73	13.91	1.04	7.02	2.34
Philadelphia	927,995	457	146	12.10	13.20	3.30	4.84	.88
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	200	55	9.50	17.50	1.00	4.50	—
St. Louis	408,520	174	66	15.12	16.80	1.12	5.60	2.24
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	121	42	10.79	17.43	1.66	3 32	1.66
New Orleans	234,000	125	31	5.60	16.00	—	.80	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	81	18	9.84	24.60	2.46	1.23	1.23
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	54,400	29	10	6.90	10.35	3.45	—	—
Nashville	52,286	27	9	11.11	25.90	—	—	—
Worcester	68,383	24	13	16.64	4.16	—	4.16	—
Lowell	64,051	29	9	10.35	20.70	6.90	—	—
Cambridge	59,660	31	5	3.23	19.38	—	3.23	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	18	6	—	16.66	—	—	—
Lawrence	38,825	8	2	—	12.50	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	5	—	28.56	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	4	—	14.28	—	—	—
Holyoke	27,894	11	3	—	9.09	—	—	—
Chelsea	25,709	13	8	7.69	31.76	—	7.69	—
Taunton	23,674	7	1	—	42.84	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	66.66	33.33	—	66.66	—
Brockton	20,783	6	1	—	16.66	—	—	—
Newton	19,759	5	0	—	—	—	—	—
Malden	16,407	5	0	—	8.00	—	—	—
Fitchburg	15,375	5	2	4.00	8.00	—	—	—
Waltham	14,609	4	0	—	—	—	—	—
Newburyport	13,716	7	2	—	14.28	—	—	—
Northampton	12,896	7	4	—	—	—	—	—
93 Massachusetts Towns	—	49	7	6.12	24.48	2.04	—	—

Deaths reported 2,232: under five years of age 694; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 270, consumption 353, lung diseases 344, diphtheria and croup 106, typhoid fever 34, whooping-cough 29, scarlet fever 27, diarrhœal diseases 21, malarial fever 15, cerebro-spinal meningitis 14, erysipelas nine, measles six, puerperal fever six, typhus fever two, small-pox one. From scarlet fever, Philadelphia ten, New York eight, Boston three, Baltimore and Cincinnati, two each, Marblehead and North Andover one each. From diarrhœal diseases, New York ten, Philadelphia three, Cincinnati and New Orleans two each, Boston, Baltimore, Worcester and Lowell one each. From malarial fever, New York seven, Baltimore four, New Orleans three, District of Columbia one. From cerebro-spinal meningitis, New York seven, Nashville two, Philadelphia, Boston, New Orleans, Worcester and Fitchburg, one each. From erysipelas, New York four, Boston two, Cincinnati, District of Columbia, and Charleston one each. From measles, Baltimore five, New York one. From puerperal fever, District of Columbia two, New York, Boston, Cincinnati and Nashville one each. From typhus fever, New York two. From small-pox, New York one.

In 112 cities and towns of Massachusetts, with a population of 1,290,493 (population of the State 1,941,465), the total death-rate for the week was 18.54 against 17.41 and 17.35 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 6th the death-rate was 26.6. Deaths reported 4,630: infants under one year of age 1,021; acute diseases of the respiratory organs (London) 745, whooping-cough 171, measles 101, diarrhœal diseases 42, fever 31, scarlet fever 28, diphtheria 27, small-pox (Liverpool two, Brighton one) three.

The death-rates ranged from 36.4 in Blackburn to 17.9 in Brighton; Birkenhead 25.2; Birmingham 22.3; Bradford 24.0; Hull 18.0; Leeds 26.5; Leicester 20.6; Liverpool 29.6; London 26.9; Manchester 33.5; Nottingham 24.2; Sheffield 20.6.

In Edinburgh 22.5; Glasgow 30.3; Dublin 30.1.

For the week ending March 6th in the Swiss towns, there were 34 deaths from consumption, lung diseases 26, diarrhœal diseases 11, whooping-cough four, puerperal fever three, typhoid fever two, scarlet fever one, diphtheria and croup one.

The death-rates were: at Zurich 15.3; Geneva 14.1; Basle 22.2; Berne 26.7.

The meteorological record for week ending March 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Mar. 20, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...14	29.854	35.8	44.0	26.1	70.0	48.0	69.0	62.3	W.	W.	W.	23	19	5	F.	F.	O.	—	—
Monday, ..15	30.062	34.7	38.5	31.7	73.0	84.0	91.0	82.7	N.E.	E.	E.	7	18	4	O.	C.	C.	—	—
Tuesday, ..16	29.923	37.8	50.7	34.2	98.0	82.0	69.0	83.0	E.	N.	N.W.	3	15	13	G.	O.	O.	—	—
Wednes., .17	30.235	32.8	37.0	28.4	68.0	78.0	67.0	71.0	N.W.	S.E.	S.W.	14	12	6	C.	C.	C.	—	—
Thursday, 18	30.142	39.6	51.1	29.3	79.0	43.0	64.0	62.0	W.	N.W.	N.	8	12	14	C.	C.	C.	—	—
Friday, ...19	30.115	32.7	36.8	27.4	73.0	79.0	96.0	82.7	E.	E.	S.E.	9	8	6	C.	O.	N.	—	—
Saturday, .20	29.911	34.7	36.1	30.4	100.0	100.0	100.0	100.0	S.E.	E.	E.	9	19	30	R.	R.	R.	36	0.93
Mean, the Week.	30.035	35.4	42.0	29.7				77.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 20, 1886, TO MARCH 26, 1886.

Cochran, John J., assistant surgeon. Ordered for duty as post surgeon, Fort Mason, Cal.

Pothemus, A. S., assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 18, Department of California, March 15, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 27, 1886.

Martin, H. M., surgeon. Detached from "Independence," and ordered to the "St. Louis."

Guiteras, D. M., passed assistant surgeon. Detached from Navy Yard, Pensacola, and wait orders.

Ross, J. W., surgeon. Detached from special duty, New York, and ordered to Pensacola.

Eckstein, H. C., surgeon. Detached from the "St. Louis," and placed on sick leave.

Means, V. C. B., assistant surgeon. Detached from the "Vermont," and ordered to the "Shenandoah."

Beaumont, N. H., surgeon. Detached from the "Enterprise," and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MARCH 20, 1886.

Bailhache, P. H, surgeon. Detailed as chairman, Board of Examiners, March 15, 1886.

Fessenden, C. S. D., surgeon. Detailed as member, Board of Examiners, March 15, 1886.

Purviance, George, Surgeon. Detailed as recorder, Board of Examiners, March 15, 1886.

ASTLEY COOPER PRIZE.

The next triennial prize of three hundred pounds, under the will of the late Sir Astley P. Cooper, Bart., will be awarded to the author of the best essay or treatise on "The Origin, Anatomy, Results, and Treatment of Tubercular Diseases of Bones and Joints."

The conditions annexed by the Testator are, "That the essays or treatises to be written for such prize shall contain original experiments and observations, which shall not have been previously published; *and that each essay or treatise shall* (as far as the subject shall admit of) *be illustrated by preparations and by drawings*, which preparations and drawings shall be added to the Museum of Guy's Hospital, and shall, together with the work itself and the sole and exclusive interest therein and the copyright thereof, become henceforth the property of that Institution, and shall be relinquished and transferred as such by the successful candidate."

And it is expressly declared in the will "that no physician, or surgeon, or other officer for the time being of Guy's Hospital or of St. Thomas's Hospital, in the Borough of Southwark, nor any person related by blood or affinity to any such physician or surgeon, for the time being, or to any other officer for the time being in either of the said hospitals shall at any time receive or be entitled to claim the Prize." But with the exceptions here referred to, this prize is open for competition to the whole world.[1]

Candidates are informed that their essays, either written in the English language, or if in a foreign language, accompanied by an English translation, must be sent to Guy's Hospital on or before January 1st, 1889, addressed to the physicians and surgeons of Guy's Hospital.

Each essay or treatise must be distinguished by a motto, and accompanied by a sealed envelope containing the name and address of the writer. None of the envelopes will be opened except that which accompanies the successful treatise. The unsuccessful essays or treatises, with the illustrative preparations or drawings, will remain at the Museum of Guy's Hospital until claimed by the respective writers or their agents.

SOCIETY NOTICES.

Boston Society for Medical Observation. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, April 5th, 1886, at 7.45 o'clock, P.M. Readers: Dr. T. W. Fisher, "Two Unusual Cases of Insanity probably of Epileptic Origin." Dr. F. B. Harrington, "Results of the Intravenous Injection of Saline Solutions."

H. L. Burrell, *Secretary.*

Suffolk District Medical Society. Surgical Section. — There will be a meeting of the Section at 19 Boylston Place, on Wednesday evening, April 7th, at 8 o'clock. Communications: Dr. D. W. Cheever, "Report of Some Cases of Exostosis of the Bones of the Face, with Specimens." Dr. F. B. Harrington, "The Operation for Shortening the Round Ligaments, with Cases." Dr. E. W. Cushing, "Exhibition of Various Forms of Antiseptic Dressings. S. J. Mixter, M.D., *Secretary.*

ERRATA.

In Dr. Chas. W. Townsend's "Analysis of 412 Cases of Lobar Pneumonia," in the Journal of the 25th ult., 14 lines from the bottom of first column, p. 275, should read the female, 19.9 instead of "the female 09.9." And in the table at the top of page 276, in the column under "Collective Investigation," for "lower left lobe," read upper left lobe, and *vice versa.*

BOOKS AND PAMPHLETS RECEIVED.

The Forty-Seventh Annual Report of the Superintendent of the Boston Lunatic Hospital to the Board of Directors for Public Institutions For the Year ending December 31, 1885. Boston: City Printers.

Examination of the Auditory Organ of School Children (concluded). By Dr. Friederich Bezold, Munich. Translated by Isidor Furst, New York. (Reprinted from the Archives of Otology, Vol. xiv, No. 4, 1885.)

Catarrh of the Upper Air Tract. Especially its effects on the Ear, with Suggestions as to Treatment, both Hygienic and Medical. By Samuel Sexton, M.D., Aural Surgeon to the New York Eye and Ear Infirmary. (Reprinted from the Medical Record, Jan. 30, 1886.) New York: J. H. Vail & Co. 1886.

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[1] The prize cannot be awarded to any essay that is the joint production of two or more authors.

Lecture.

EPITHELIOMA OF THE CERVIX IN A CASE OF PROLAPSUS UTERI. OPERATION FOR THE REMOVAL OF THE GROWTH, WITH OPENING OF DOUGLAS'S CUL-DE-SAC, AND COMPLETION OF THE OPERATION BY REMOVAL OF THE WHOLE WOMB.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA,

BY WILLIAM GOODELL, M.D.,
Professor of Gynæcology.

REPORTED BY WILLIAM H. MORRISON, M.D.

Gentlemen, to-day I bring before you a woman who has borne many children, and who gives a history of uterine hæmorrhage long after the appearance of the climacteric.

From my teachings you will at once infer, and correctly in most cases, that the most likely cause of this is cancer. For in my experience, it is only women who have borne children that suffer from cancer of the cervix. In the whole course of my professional life, I have met with but two apparent exceptions to this rule. One was in a married woman who alleged that she had never had a child, but I think she probably had one before her marriage. The other was in a sterile lady who had a large fibroid tumor of the womb, which was gradually self-enucleated and forced through the os, dilating it to some three inches in diameter. It had been in this position for some time, and had, of course, bruised and irritated the cervix by its presence. I removed the tumor without tearing the cervix, but, of course, with more or less stretching of the parts. Within a few weeks, carcinoma attacked the cervix, and she ultimately died. Yet this apparent exception to the rule really strengthens it, for in this case, the cervix uteri was as much injured by the birth of the tumor as it would have been by the birth of a child.

Cancer of the cervix uteri, then, occurs in women who have borne children, because it is the cervix that sustains the injuries of labor, it being the lowest portion and the part through which the whole child must come, and which must sustain the brunt of all the injuries of labor.

This case is an exceedingly interesting one, almost unique, as it gives me an opportunity of exhibiting to you an epithelioma of the neck of a womb, whose neck is wholly outside of the body. She is sixty-four years of age, the mother of twelve children, and has been sent to me for operation by Dr. F. R. Gerhard, of Douglassville, Berks County. She came under his care three months ago, complaining of pain in the back, and on examination, the true condition was recognized and an operation recommended. The sound goes in five inches, and we have here, as you see, hypertrophic elongation of the supra-vaginal portion of the cervix, and infiltration of the vaginal cervix with this cancerous growth. The cervix is at least four inches in diameter; the fundus remains high up within the pelvis.

It is my intention to remove this growth as far as possible with the scissors and knife. In doing so, however, I shall run considerable risk of opening either the bladder or the peritoneal cavity. I can ascertain the position of the bladder by means of a sound introduced into its cavity, but I have no means of determining how far down the peritoneal fold, or Douglas's pouch, extends. I find that the bladder comes well down over the anterior surface of the growth. In order to prevent hæmorrhage, I take two or three turns around the uterus with a rubber tube. I next carefully dissect the bladder from the uterus, until I get as far as possible above the diseased surface, and then cut through the neck, coming out at the posterior portion.

Examining to see if I have entered the bladder of Douglas's cul-de-sac, I find that the former is uninjured, but that there is an opening into the peritoneal cavity. The fundus of the uterus is retroflexed and perfectly movable. I think the best thing now to do would be to remove the uterus bodily, which will then give the patient a better chance of ultimate recovery, without materially increasing the dangers of the operation. The cavity is thoroughly injected with carbolic-acid solution. The fundus of the womb is then brought through the peritoneal opening, and transfixed with a needle armed with a stout thread. This gives me complete control over the organ. I now dissect off the womb from the bladder, partly with the blade and with the handle of the knife. Hooking my finger over the left broad ligament, I transfix it and tie it on either side, and again *en masse.* It is then cut off close to the womb, being first caught by a pressure-forceps, so as to be under control if the ligature should slip and bleeding occur. The right broad ligament is treated in the same way.

The womb is now, as you see, completely detached, and comes away. I find its cervical surface infiltrated with cancer. I shall close up the upper portion of this large opening in front of the bladder by sutures, but shall leave at the lower portion, a space for the escape of any discharges that may occur, the ligatures acting as drainage-tubes. Seven silver sutures have been put in, and now the parts are thoroughly syringed with a two and a half-per cent. solution of carbolic acid. The vagina is lightly packed with cotton medicated with corrosive sublimate, and an opium suppository is slipped into the rectum.

The patient will be wheeled to her bed in the private room, alongside of the woman from whom, yesterday, many of you saw me remove an ovarian cyst.

With regard to the removal of the whole womb for cancer, I have long been on the fence, being undecided whether it were a legitimate operation. Undecided, because the operation, save in a very few hands, has been a most fatal one; and, when successfully performed, has not given immunity from the return of the disease. Yet, it certainly has cured some women — at least, the disease in five years had not returned — and I am disposed to think that, whenever a cancerous womb is freely movable, and the cervix can be readily dragged down to the vulva, the extirpation of the whole organ is warrantable. But the operation should always be performed *per vaginam*, and not by the abdominal incision, which is a very difficult and a very fatal operation.

(This woman did perfectly well. Her temperature on the succeeding day went up to 100.5°, but it never, after that, reached 100°. Two weeks later, she was brought before the class to have the sutures removed. The parts, which at the time of the operation were external, were now drawn up so high that difficulty was experienced in reaching and in removing the wires).

Original Articles.

CHRONIC TEA POISONING.[1]

BY WILLIAM N. BULLARD, M.D., BOSTON.

Gentlemen, I desire to-night, so far as lies in my power, to draw your attention to an affection which from its great frequency, the peculiar discomfort of its symptoms and its relative curability, is worthy of the careful consideration of the profession. At first sight it may seem surprising that so little has been either written or spoken in regard to this subject, but I believe this to be principally due to two causes, firstly, the apparent ease with which any symptoms thus produced could be checked, by withdrawal of the existing agent, and secondly, to the indefiniteness and obscurity of these symptoms and the difficulty of proving their origin. During my study of this subject I have become more and more convinced that the latter difficulty is our greatest obstacle to a thorough knowledge of this affection, and that it is only to be overcome by the most careful investigation of each individual case and by the comparison of statistics drawn from a considerable number of such cases.

In the literature of this subject, which is curiously scanty and much of which has been written by the laity or from a non-professional point of view, I have been able to find only general statements, but few definite proved facts, and *no* statistics.

In this paper we desire to confine our consideration to the cases of ordinary sub-acute and chronic tea-poisoning, putting aside all acute cases, where large quantities of tea have been imbibed at a single sitting, and all those of tea-tasters or persons by profession exceptionally exposed to its toxic influence. In both these classes the symptoms are plain and well-known, and Morton's paper on tea-tasters leaves little more to be done in that direction except by those having special opportunities. The cases which I wish to consider are of the sort which present themselves daily to the general practitioner with symptoms sometimes obscure, sometimes more or less pronounced.

The first fact which strikes the observer is the very gradual and insidious growth of the symptoms, which at first are frequently so slight and so indefinite as to be scarcely noticeable and only produce serious discomfort after a considerable period. This is one cause why their origin is not recognized by the patients themselves, and another reason for this may be found in the fact that the majority of them are of so general a character that they can readily be referred to some other source. Hence arises the difficulty in diagnosis, which so frequently occurs, and there are many cases in which it remains impossible to determine how far certain symptoms are the result of tea and how far they are due to other causes. As the cases become more severe the symptoms become more distinct and the diagnosis easier.

I will first describe a few cases of typical tea-poisoning, and then proceed to the analysis of the symptoms.

Case I. Boston Dispensary. Thomas G., about fifty-five years old, a horse-car washer. Complains of attacks of "rolling in the stomach" followed by flatus and tenesmus, and has attacks of cold chills and weakness with a tendency to faint. He has staggered several times and come near fainting while at work, but has never fainted away. Has lost flesh lately. No palpitation: no cough. Drinks from one to three pints of tea per diem. He is emaciated and has a cachectic appearance. The heart and lungs are normal, so far as can be detected, except that the second sound is accentuated in the region of the pulmonary artery. Urine is normal in appearance, contains no albumen. Patient has lumbago and probably hæmorrhoids.

Case II. Carney Hospital. Woman, forty years old. Diagnosis, "tea-dyspepsia." Patient is markedly nervous. She feels excited "as if afraid of somebody," especially when in a crowd. She used to have vertigo, but has never fallen. For two years she has been subject to distress in the epigastrium, palpitation, constipation, a dull heavy headache and dizziness, no cough. She drinks tea three times a day and also between meals.

Case III. Woman, twenty-three years old. Diagnosis, "tea-poisoning; anæmia." This patient applied at the Carney Hospital Out Patient Department on March 19th, 1885, on account of bilateral headaches, frontal and occipital, accompanied by nausea and vomiting, which had occurred once a week for the preceding six months. She had been subject to these previously, but they were less severe and for about two years had been entirely absent. Her appetite was poor and she had a feeling of "weakness" in the epigastrium, but there was no distress after food, bowels regular. Had palpitation. Had never had rheumatism. Drank tea three times a day and also between meals. Under proper treatment she reported herself well on the 2d of April.

Case IV. Girl, thirteen years old. Complains of pain in both sides, especially the left, nausea, but no vomiting, headache frontal and bilateral, palpitation and dyspnœa. Bowels constipated. The heart and lungs were normal, as far as could be detected. There was some tenderness over the epigastrium. Drank one to one and a half cups of tea three times a day. This is a typical case of light tea-poisoning.

Case V. Woman, sixty years old. Dull frontal headache followed by "numbness" all over, which seems to be a sensation of weakness rather than a paræsthesia. Attacks of dizziness, when she fears that she will fall. Appetite poor. No vomiting, but nausea with the headache. Bowels regular. Drinks pure black tea strong three times a day and occasionally between meals. Distinct improvement in a week under treatment.

Morton in his article above referred to, gives the following symptoms as the result of the "continued and immoderate use of tea: "headache, ringing in the ears, tremulousness, "nervousness," exhaustion of mind and body with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia. Starting from this as a basis for investigation, it will be interesting to see how nearly his symptoms correspond to those in the class of cases under consideration. Morton's deductions are drawn from five cases, all tea-tasters.

Our statistics are based on one hundred and sixty-three cases of tea-drinkers, twenty-seven from the Boston Dispensary, one hundred and thirty-six from the Out Patient Department of the Carney Hospital. In addition we have examined for the purpose of differentiation one hundred and fifty-eight cases in which symptoms resembling those of tea-poisoning occurred, but in which we were not inclined to attribute the symptoms to the abuse of tea. All the cases from the Boston Dispensary were collected from one of the Women's Rooms, and were consequently adult females. Putting these aside we find that out of the one hundred and thirty-six cases at the Out Patient Department of the Carney Hospital, where men, women and children are all received, by far the larger proportion are in women. The numbers are as follows: men, nine; children under fifteen, twelve; (boys three, girls nine); women, one hundred and fifteen.

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[1] Read before the Section of Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, March 10, 1886.

Let us now consider the frequency of the different symptoms in our patients and determine, as nearly as possible, what combination of these may be accepted as typical of chronic tea-poisoning. We will follow the order of symptoms given by Morton. It must be stated, however, that in many cases only the more prominent symptoms were noted, and that the existence of the less marked has probably sometimes been overlooked.

1. *Headache.* This occurred in forty-nine cases (thirty per cent.). Hemicrania existed in eleven cases (six per cent.); in the others the pain was bilateral and situated generally in the forehead and temples.

2. *Ringing in the ears was not frequent.* It was noted in but three cases, in two of which it was due to disease of the ear, while in the third case it accompanied a congestive headache supposed to have been due to exposure to a hot sun. It cannot consequently be considered as a symptom of chronic tea-poisoning.

3. *Tremulousness.* This is not uncommon, and it probably occurred to a slight extent in many cases where its existence was not specified, while in others it was included under the title of nervousness. It does not, however, appear to be as common as might be expected and it is certain that in many cases it does not occur. Tremor is noted in six cases, but in only one of these does it seem fairly attributable to the tea. Hence we conclude that *tremor* is not an ordinary symptom of chronic tea-poisoning.

4. *Nervousness.* By this term we understand an undue excitability or irritability of the nervous system, both as shown subjectively by a general sensation of uneasiness and restlessness, and as evidenced objectively by an exaggerated reaction to sudden external impulses, as loud sounds, bright lights, especially when unexpected, and by a diminution in the normal power of control over the emotions, for example, an increased tendency to emotional display, laughing or crying. Nervousness is noted in twenty-seven cases (sixteen per cent.), its absence in one. Slight degrees of nervousness probably exist in nearly all these patients, but we cannot, therefore, conclude that it is the direct result of tea; on the contrary, in many cases, it is undoubtedly due to the concomitant digestive troubles. It has only been noted where it was a prominent and well-marked symptom.

5. *Exhaustion of Mind and Body, with Disinclination to Mental and Physical Exertion.* This symptom undoubtedly exists in many cases, but is of too indefinite a character to be susceptible of accurate determination in the class of cases with which we have to deal. Moreover, its liability to occur from other causes renders it impossible to determine how far it is due to tea in our patients. General weakness is mentioned as a prominent symptom in thirteen cases (eight per cent.). All cases of anæmia are excluded.

6. *Increased and Irregular Action of the Heart.* I had expected to find this in nearly every case, but, although frequent, it does not appear to be a necessary concomitant of tea-poisoning in this form. *Palpitation* is recorded in eighty cases (forty-nine per cent.) It is present in almost all severe cases. Irregularity of the heart occurred in six additional cases. In four cases where it would naturally be expected, the absence of palpitation is noted.

7. *Dyspepsia.* The occurrence of gastric or intestinal symptoms with chronic tea-poisoning is almost universal; but on the other hand, in many cases these do not assume a very prominent form. Under this heading, we have noted only cases in which there was a distinct sense of oppression or fulness in the epigastrium after eating. In this sense, we find that there were seventy-five cases (forty-six per cent). Pain in the epigastrium occurred in sixteen cases (nine per cent.), six of which were included under dyspepsia.

Vomiting occurred in twenty-eight cases (seventeen per cent.); nausea in thirty-two (twenty per cent). Twenty-two of the cases of vomiting had been noted under dyspepsia; in thirteen cases it was combined with nausea. In one case only was it noted separately, and in this it occurred with a headache, which was sometimes unilateral.

Nausea was, in twenty-three cases, combined with dyspepsia; in thirteen, with vomiting. In five cases it is reported alone. In three of these it occurs with headaches, in one there is trigeminal neuralgia, and in the last it is probably due to tobacco.

Pain in the left side or in the cardiac region, so frequent a symptom in women, and which, in most cases, is probably due to intestinal conditions, occurred in but thirty-four cases (twenty-one per cent). It can, therefore, scarcely be considered as exceptionally frequent in this class.

Intestinal disturbances of any serious character do not occur in chronic tea-poisoning. Before examining this series of cases, we had supposed that we should find constipation to be a marked and definite accompaniment of habitual and excessive tea-drinking, but as we compared the symptoms in the various cases more closely, we were more and more surprised to find how little foundation existed for this opinion. As a matter of fact, we find that out of our one hundred and sixty-three cases, seventy-seven only (forty-seven per cent.) are recorded as having been subject to constipation; while in forty-six (twenty-eight per cent.), the bowels are recorded as regular, and in three cases there was looseness. Of the thirty-seven cases not recorded, it is but fair to suppose that no marked constipation existed, because this was carefully looked for and noted in every case, while in the more lately recorded cases, its absence was specially noted. In one hundred cases of women taken from the same clinic, but not affected with tea-poisoning, precisely fifty were recorded as suffering from constipation.

The condition of the appetite was found to be quite different in different cases, more frequently somewhat affected. Yet in some of the severest cases it was absolutely unchanged, and occasionally it seemed to be even increased. Poor appetite is recorded in fifty-four cases (thirty-three per cent.); appetite good or fair in twenty (twelve per cent.); excessive in one. Only nineteen of the cases of loss of appetite coincide with those of dyspepsia, leaving forty-seven cases of dyspepsia in which the condition of the appetite was not recorded, and it seems fair to presume that in most of these the appetite was more or less affected. Adding these forty-seven cases to the fifty-four before mentioned, we have a total of one hundred and one cases (sixty-one per cent.). This proportion cannot be much too large.

We now pass to symptoms not mentioned by Morton, which occur more or less frequently in our patients.

Dyspnœa occurs in a considerable number of cases, twenty-three (fourteen per cent.), but seems usually to be secondary to anæmia or cardiac weakness. In two of the cases it was evidently due to accompanying pulmonary disease. In nineteen it was accompanied by palpitation.

The general conditions of health varied considerably in the patients examined. Most of them were well-developed, and in few cases was there evidence of any serious organic disease. Anæmia was present in twenty-nine cases (eighteen per cent.).

In regard to the condition of the nervous system in this class of cases, we hope to speak more fully on some other occasion. There is no question but that there exists among these patients exaggerated nervous excitability and irritability, and a distinct tendency to functional nervous affections, both of an hysterical and of a neuralgic type. Nervousness, as before mentioned, was noted in about sixteen per cent. Neuralgia existed in twenty-one cases (thirteen per cent.); herpes zoster in one. We find distinct nervous symptoms, not including palpitation or bilateral headaches, which are frequently of dyspeptic origin, in sixty-eight cases (forty-two per cent.).

To sum up these, we conclude from the figures presented, that the most common symptoms in chronic tea-poisoning are loss of appetite, dyspepsia, palpitation, headaches, nervousness, and various forms of functional nervous affections of an hysterical or neuralgic character, vomiting and nausea. The constipation, which so frequently occurs, cannot be considered due to the tea.

TABLE SHOWING COMPARATIVE FREQUENCY OF SYMPTOMS IN CHRONIC TEA-POISONING.

Loss of appetite	61	per cent.
Dyspepsia Pain in epigastrium	52	"
Palpitation	49	"
Constipation	47	"
Nervous symptoms	42	"
Headache	30	"
Pain in the left side	21	"
Nausea	20	"
Vomiting	17	"

All these symptoms are common in many other diseases, but it is the special combination, which exists here, and above all, the predominance of the nervous group, which enables us to form our diagnosis. It is evident that there exists many cases of this affection in which no diagnosis could be arrived at from the symptoms alone without the history, but I firmly believe that in the majority of the cases, a presumption in favor of this affection is justifiable from the sole evidence of the symptoms.

The first evidence of chronic tea-poisoning is usually given by symptoms referable to the digestive organs. We notice a gradually increasing difficulty in digestion, as shown by a sense of weight and heaviness in the epigastrium, uneasiness after taking food, and general lowering of tone, both mental and physical. If the habit of tea-drinking be continued, a general restlessness and excitability of the nervous system makes its appearance, soon followed by a marked disinclination for food, and by headaches. Constipation is very common. Palpitation, which has previously been slight, now becomes distressing, and is not infrequently accompanied by dyspnœa. Up to this point, the onset of the symptoms has been gradual, and none of them have been severe, so that the patient, if asked, would almost always declare herself in good health. In the more severe cases the previous symptoms become aggravated, the headaches become more or less severe, and more or less persistent, and neuralgias and other symptoms referable to the nervous system, paræsthesia, anæsthesia, and various forms of functional cerebral trouble, show themselves: the latter are due in part, perhaps, to the digestive derangements, which are especially liable to betray themselves by vomiting and nausea. In other cases, the symptoms point rather to the class known as hysteria.

As to the anæmia which exists in many cases, I am inclined to regard it as quite as much cause as result of the tea-poisoning. In many cases it is probably both.

If we now analyze the classes of symptoms in detail shall we find any points — except that of combination — by which we can distinguish them from the same classes of symptoms in other diseases? At present, at least, until we are able to examine more carefully into the smaller details, this must be answered in the negative. Nevertheless there are certain points to which it may be well to call attention, inasmuch as they may serve as a basis for future more thorough investigation. We will therefore consider these classes in turn.

Digestive Symptoms. These should be divided into gastric and intestinal. In making the division we are at once struck with the predominance of the gastric symptoms both in frequency and severity. With the exception of constipation and pain in the left side, which do not occur more frequently in these patients than in others of their class, who are unaffected by tea, intestinal symptoms are rare. Only four cases are found in which they exist so as even to be noted, and in only one of these is it probable that they had any connection with tea.

The ordinary symptoms of gastric disturbance, pain and oppression in the epigastrium, distress after food and in severe cases nausea and vomiting are comparatively frequent, and in connection with these should be placed certain forms of headache, which are evidently secondary to gastric disturbance. These symptoms are not to be distinguished from those due to ordinary subacute or chronic dyspepsia arising from other causes. There are, however, certain forms of dyspepsia, or perhaps more properly of gastroneurosis, which should at once direct our attention to the probability of tea-poisoning. These occur more markedly in the severe cases and are characterized by the fact that the gastric trouble seems to depend rather on some abnormal conditions of the nerves than on any dyspepsia, properly so-called. Wherever a marked gastralgia exists without evidence of organic disease, wherever we find frequent vomiting apparently unaffected by food and unaccompanied by gastric catarrh; in other words, wherever we find evidence of a true gastroneurosis, or of increased excitability of the gastric nerves greater than could ordinarily be accounted for by the condition of the stomach, whether dyspepsia be present or not, if the agency of alcohol can be eliminated, we should always suspect tea-poisoning.

In regard to the symptom of pain in the left side or in the cardiac region, it is in many cases difficult to determine from the character and position of the pain alone whether it be due to cardiac trouble or to intestinal disturbance. As far as my observation goes I incline to think that the latter cause is the most common, but on this point I have no satisfactory data.

Circulatory Apparatus. The most prominent symptoms relating to the circulatory apparatus are palpitation and irregularity of the heart-beat. These occur frequently and our attention is often first drawn to the cause of the affection by their presence. They usually occur together; indeed, I believe that in all cases of palpitation more or less cardiac irregularity may be detected. They are undoubtedly due in most cases to reflex action on the nerves of the heart, and may fairly be considered as evidence of a functional affection of the nervous system of the heart or a cardiac neurosis.

We have at present no evidence in regard to the condition of the blood-vessels in this affection, and it is reasonable to suppose that no great variation from the normal will be found, inasmuch as the trouble is so chronic and in many cases so slight. Whether or not any increase exists in the excitability of the vaso-motor nerves under these conditions would be an interesting subject for investigation.

Pulmonary Symptoms. The only pulmonary symptom which exists in chronic tea-poisoning is dyspnœa, and this is probably always secondary to cardiac weakness and irregularity. We have thus far no evidence of any affection of the pulmonary branches of the pneumogastric.

Symptoms Referable to the Nervous System. It is the great prominence of functional affections of this class which, in combination with the symptoms already described, gives its peculiar character to the symptom-complex of tea-poisoning. All these symptoms are met with frequently in many and very various diseases, and it is only through the special method of their combination that any distinctiveness is attained. Now it is precisely these functional affections of the nervous system which, when they take a prominent position in connection with the ordinary symptoms of dyspepsia, should lead us to consider the probability of the toxic action of tea. What these affections are I hardly need state, especially as I desire to enter more fully into this subject at some future time, but among the more common forms are paræsthesiæ, neuralgias and functional motor paralyses, usually temporary. It is of special importance to remark that the affections of the nervous system due to chronic tea-poisoning are, so far as my observations show, *always functional.* Where organic symptoms exist they are not connected with tea.

Having now considered in more or less detail the symptoms produced by tea when taken in excess for a considerable period of time, we are naturally led to the inquiry under what conditions does tea exert this toxic influence and what amount is usually required to cause it. It is evident that the answer to the latter question depends on the character (strength and quality) of the tea used. The class of persons with whom we have to deal, as a rule, use either Oolong or English Breakfast tea, or a mixture of the two. Stronger kinds are sometimes, but rarely, used.

In regard to the amount necessary to produce chronic intoxication, this naturally varies according to the physical condition of the subject and the period during which its use has been maintained. In order to obtain an approximate estimation thereof we have tabulated the amounts taken daily by 171 patients, 94 of whom had no symptoms of tea-poisoning, while in 77 these symptoms were present. In estimating the amounts we are perfectly aware that absolute accuracy is not obtainable, if for no other reasons, at any rate because in the first place the teacups used vary in size, and secondly the strength of the infusion cannot be determined.

Our results are as follows: 94 female patients of the same class as the tea-drinkers, but in whom there were no *distinctive* tea-symptoms, who applied at the Carney Hospital during this period, were questioned in regard to the amount of tea drunk, in order that a standard of comparison might be obtained. Some of these were suffering either from neuralgia or dyspepsia which might have been caused, at least in part, by their addiction to tea, but there was no proof of its influence. Out of these patients,

14 drank no tea.
7 " . . . . 1 cup per diem.
6 " . . . . 1½ cups "
16 " . . . . 2 " "
3 " . . . . 2 to 3 " "
31 " . . . . 3 " "
3 " . . . . 3½ " "
7 " . . . . 4 " "
4 " . . . . 4 to 5 " "
1 " . . . . 5 " "
2 " . . . . 6 " "
Average 2.3 cups.

Seventy-four patients with symptoms of tea-poisoning drank tea as follows:—

1 drank . . . . 2 cups per diem.
3 " . . . . 3 " " or tea three times a day.
7 " . . . . 4 " "
28 " . . . . 4 to 5 " " (Those who reported that they drank tea three times a day and between meals also are counted here.)
6 " . . . . 5 cups per diem.
9 " . . . . 6 " "
3 " . . . . 7 " "
8 " . . . . 8 " cups or over per diem.

In addition to this we have three cases who drank tea "all the time."

Average 4.8 cups.

From these figures it appears that those in whom toxic symptoms were present drank, as a rule, much more tea than those in whom these symptoms did not appear, which tends to prove that these symptoms were, as we have previously stated, caused by the tea.[2] In the second place we find that, as a *rule*, about five cups a day are required by the average patient of this class to produce chronic intoxication.

The physical condition of the subject, apart from any natural idiosyncrasy, has an important bearing on the action of tea upon the system. Youth, anæmia, or weakness from any cause, deprivation of fresh air and exercise and want of other food all tend to increase its deleterious effects. Thus we find that infants and all persons under the age of puberty are affected with ease. Again, weakness of any kind and anæmia naturally render the system more susceptible to the injurious effects of external agents as the normal power of resistance is wanting, and hence we find that even those adults who have for years been accustomed to take a moderate amount of tea without evil effects, if for any reason they become anæmic, if their strength be exhausted by excessive work or in other ways, immediately begin to show toxic symptoms, although the amount of tea ingested has not increased. This is well shown in cases of chlorosis, and is very common among factory-operatives and seamstresses. We desire to lay special stress on this fact, which is one cause of the non-recognition of the toxic agency of tea by the patient.

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[2] It seems scarcely necessary for me to state that the diagnosis in all the cases had been made and entered on the books sometime before this table was thought of, so that there could be no question of involuntary self-deception.

That deprivation of fresh air and want of sufficient food should cause the same result is only to be expected, not only because in themselves they tend directly to produce weakness and anæmia, but also because the toxic products are not so readily eliminated. It is for the same reason that more tea can be drunk without evil effect by persons when working or taking exercise than could be taken by the same person when idle or at rest.

In conclusion, I would state that I have arrived at the following results:

(1) That the action of tea is cumulative.

(2) That its action is more pronounced on the young and on those subject to anæmia or in a depressed physical condition, although persons otherwise healthy not infrequently show toxic symptoms.

(3) That among the class of people under consideration, who, as a rule, use medium grades of Oolong and English Breakfast tea the average amount needed to cause toxic symptoms is a little less than five cups per diem.

(4) That chronic tea-poisoning is a frequent affection, and that its most common symptoms are loss of appetite, dyspepsia, palpitation, headache, vomiting and nausea, combined with nervousness and various forms of functional nervous affections, hysterical or neuralgic. These symptoms are frequently accompanied by constipation and pain in the left side or cardiac region.

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RECENT PROGRESS IN THE TREATMENT OF THE INSANE.[1]

BY WALTER CHANNING, M.D.

DRUGS IN THE TREATMENT OF THE INSANE.

Dr. Stark of Illenau has written a paper on the "Present Status of the Paraldehyde Question,"[2] characterized by the usual German thoroughness.

Cervallo found on experiment with guinea-pigs and frogs that narcotic doses of paraldehyde slightly slowed the breathing and heart-frequency. The relative blood-pressure was unchanged. Poisonous doses increased reflex irritability and occasioned death through respiratory paralysis. The cerebral hemispheres are principally affected, but also in part the medulla-oblongata and spinal marrow.

Doses of three to five grammes are followed in from five to fifteen minutes by a comfortable, sleepy feeling and soon by dreamless sleep which lasts for several hours. Reflex irritability is diminished, the pupils however react on being touched. The temperature falls a few tenths, and the pulse slows somewhat. The latter is shown by the sphygmograph to be moderately enlarged, with slightly increased tension. It is excreted entirely (unchanged) through the lungs.

Only after great doses, up to twelve grammes, are headache, vomiting, dizziness and other unpleasant results noticed. There is no rash. Usually waking is similar to that after natural sleep. There is no cumulative effect, but the system becomes accustomed to its use. It can be continued and increased however without difficulty.

It is indicated in nervous and psychical conditions, in neurasthenia, hysteria, mania. It is less reliable in mental cases, with "angst-Vorstellungen." According to Gugl, in delirium tremens it has a sedative, as well as an hypnotic effect. A sedative effect is often seen in maniacal conditions. In the untidy, owing to the deep narcosis, the tendency to soil is increased.

In prescribing in the hospital, Stark uses ℞.—Paraldehyd 100.0, rum 150.0, essent. citic 10.0, syr. simp. 300.0, aq. 1400.0. Of this 100.0 contains 5.0 of the paraldehyde. When not borne, or refused by the mouth it can be given as a clyster by the rectum with olive oil. Subcutaneously it has been given but little, as beside the burning and smarting of the place of injection, it has been followed by symptoms of collapse.

In the discussion of this paper Fürstner said he had found paraldehyde most useful in agitated melancholia and in acute conditions. Jolly had got the best results in mania and delirium tremens.

SUBCUTANEOUS EMPLOYMENT OF IRON IN MENTAL DISEASE.[3]

W. Nasse states that various preparations of iron have been employed, such as the pyrophosphate with citrate of ammonia, dialyzed oxide of iron, phosphate of iron with citrate of soda, and albuminate of iron. Huguenin and Neuss used the first. The former in one case of pernicious anæmia, with good result. Neuss had severe local irritation with a third of his cases. Nasse also failed with this preparation. La Costa recommended the second preparation, but Neuss and Nasse found it entirely unfit for hypodermic use.

Martensen, Rosenthal and Neuss used the third, Rosenthal and Nasse found that it gave rise to local inflammation.

The fourth preparation has worked well in the hands of Doenitz and others. Nasse did not try it, as he found something better. This preparation, made by Finzelberg of Andernach, is called "Ferr. Oxid. Solub. pro injectione Finzelberg." It contains twenty-five per cent. of iron oxide.

A solution with water should be made; carefully brought to the boiling point and then immediately filtered. The idea was that the iron in a solution should not be precipitated by the alkaline blood. The dialyzed basic oxide of iron is dissolved in flesh peptone: dialyzed, then by evaporization converted into an easily soluble, red-brown powder, preserving its character for years.

Nasse used this preparation in twelve cases, for months at a time, usually injections being given twice daily. In five cases very slight irritation was caused, on isolated occasions and usually from neglect. In no case was any bad effect noticed, and in most, very decided benefit. The pulse and strength improved, and the mucous membrane became more red. Almost all the cases have recovered.

HYOSCINE.

Dr. Judson B. Andrews has recently written a communication on the use of this drug.[4] There are two chemical combinations of this alkaloid, the hydrobromate and the hydriodate. The former is a white crystalline substance, resembling the other alkaloids, but unlike them all, is tasteless. It is readily dissolved in water and a solution of one grain to one thousand minims, or the one one-hundredth of a grain to each ten minims can be given hypodermically or by the stomach. It is manufactured by Merck and costs seventy-five cents a grain.

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[1] Continued from page 293.

[2] All. Zeitschrift f. Psychiatrie 41stes Band 4tes and 5tes Heft.

[3] All. Zeiftschrift Psychiatrie, 41ster, Band. 4ter and 5 ter Heft.

[4] American Journal of Insanity, October, 1885.

Dr. Andrews reports twenty-two cases in which hyoscine was employed. Of these, eleven were of melancholia, six of acute mania, one of chronic and one of paroxysmal mania, one of mania with epilepsy, one of dementia, and one of acute chorea.

The doses ranged from one two-hundredth to one-thirty-third of a grain, and were in all cases perfectly safe. The drug was given by the mouth in twenty of the cases, and in two by hypodermic injection. In one of the latter, there were painful abscesses, probably due to the debilitated condition of the patient.

The physiological effect of the drug was experienced in from fifteen minutes to two hours, but the average was less than one hour. The pupils were dilated in most of the cases, but the disturbance of vision, and the dryness of the fauces, or the inhibition of muscular movements were only complained of in two cases. There was no nausea, nor loss of appetite after its use in continued doses, as is sometimes the case with hyosciamia. There was also less disturbance of the vaso-motor system, than with the latter.

It would seem to be a powerful sedative both to the cerebral and spinal system, and from the success attending its use, entitled to a high position in the list of hypnotic remedies, higher even than the other alkaloid-hyosciamia.

CARE OF THE CHRONIC INSANE.

This is an old question, but of constant and increasing interest, as the number of this class gradually increases and more and more crowd the State hospitals. As the necessity in this State, Massachusetts, becomes more urgent, we approach nearer and nearer to the consideration of simple and inexpensive forms of provision.

The most practical, and therefore the one most likely to be followed, is the erection of additional buildings, on the grounds of existing State hospitals.

Dr. Earle suggested this plan in his annual report for 1881 – 2, and the Trustees of the Northampton Hospital again call attention to the necessity of its serious consideration.[5] Dr. Earle wished an annex for recent cases.

Dr. Goldsmith thinks receptacles for the feeble and demented are needed, and not new hospitals.[6]

Dr. Brown[7] is of the opinion that a new asylum for the chronic insane at some central point would not be much more expensive, and would produce better results. Sufficient land could then be had for the employment of the patients. If the segregate plan of building were adopted, which Dr. Brown would approve, the epileptics and the criminal insane, including the dangerous and homicidal class who are not criminals, could be provided for in separate buildings. In deciding how best to make provision for the rapidly increasing number of the insane, the best plan for years to come should be adopted, Dr. Brown very properly says, and not some make-shift expedient for temporarily bridging over the difficulty.

The city of Boston as well as the State, will be soon obliged to provide further accommodations for her insane. The asylum at South Boston is filled to overflowing, and the management and treatment of the patients are interfered with and hampered to an alarming extent.

Dr. Fisher points out the great complications of the existing situation,[8] and strongly recommends that the Austin Farm, belonging to the city and two or three miles distant from the hospital, be used as a department of the institution, for the chronic insane. There are now buildings on the Farm which have been used for the care of city paupers, and at very small expense these can be slightly changed and made convenient for the care of the insane.

Dr. Fisher would have an assistant reside at the farm. Otherwise it would be under the general supervision of the asylum authorities.

BOARDING OUT OF INSANE PERSONS.

In connection with the subject of providing for the chronic insane, the boarding-out system has come into prominence.

Dr. Henry R. Stedman considered this subject in the Annual Report of the Board of Health, Lunacy and Charity for 1884.[9] He very fairly weighs both sides of the question, and comes to these conclusions: —

1. A large proportion of the chronic insane poor do not require asylum treatment, yet they cannot be suitably provided for among relatives or friends. 2. Experience both in this country and abroad, justifies the belief that suitable families can be found in this State to board and properly care for such persons. 3. If placed in families, under expert supervision and proper visitation, these patients would be more comfortable than they now are; those who need effective treatment most would be more apt to receive it in the lunatic hospitals; and the expense to the State and towns for the harmless insane would be less.

Finally, Dr. Stedman earnestly advises the boarding-out plan on a small scale, trusting to judicious management for its rapid extension.

As a consequence of agitation a law was passed by the Massachusetts Legislature, called "An Act providing for the Care of Certain Insane Persons," which went into effect in June, 1885.

It gives the Board of Health, Lunacy and Charity authority to place insane persons of the quiet and chronic class, at board in such families as it may deem best. The rate paid is not to exceed that now paid at the State lunatic hospitals ($3.25). Such patients as are boarded at the expense of the State, shall be visited every three months, but those whose board is paid by cities and towns, once in six months. The Board has authority to change the boarding-place, or transfer any patient to a lunatic hospital if improperly cared for.

Up to the first of January, 1886, this law had been in operation for a period of five months. The Board stated that during this period 32 patients had been sent to boarding-places.[10] Of these one was discharged to leave the country, two were returned to the hospital as unsuitable cases, and one for a special cause, leaving 28 in 14 families.

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[5] Annual Report, Northampton Hospital, 1885.
[6] Annual Report, Danvers Lunatic Hospital, 1885.
[7] Annual Report, Taunton Lunatic Hospital, 1885.
[8] Annual Report, 1885.
[9] The Family System as an Accessory Provision for our Insane Poor.
[10] Annual Report for 1885.

GHEEL.

As bearing directly on the question of the boarding out of the insane, one or two recent papers on Gheel are of interest. The first of these is by D. Hack Tuke, F.R.C.P.[11]

Dr. Tuke visited Gheel in September, 1885. There were at that time 11,000 inhabitants and 3,025 houses, in 1,100 of which lunatics were received, or at one house in three.[12] The town covers 26,000 acres and has a circumference of 24 miles. There were in September 1,653 patients, or one in seven of the population. The colony is divided into two sections and over each is placed a medical supervisor and his assistant. Each patient must be seen twice monthly, or if curable once a week. (The curable as well as the incurable are sent to Gheel). By the above arrangement it will be seen that 400 patients are placed under the immediate care of one medical man, being subject also to the supervision, in a general way, of the chief medical inspector, who resides at the central asylum. Each sectional physician has six visiting attendants under him.

In one cottage Dr. Tuke found two female idiots, and a dement all filthy and kept in the living room of the family. In another house were two women, one quite restless. These were under the charge of a nourricier. In the room they occupied men would drop in now and then to drink beer, or play cards.

In the inn, an English youth boarded, who paid £60 per annum. He had ample liberty, seeing Dr. Tuke off at the rail-road station at ten o'clock in the evening. Dr. Tuke thought that it was not desirable to send a young man so far away, with so much liberty and an undesirable moral environment. Two other English patients were seen, one of them accompanying Dr. Tuke on his visits to the houses.

He asks the question, Why should these patients be sent so far away from home among strangers? To him it did not seem right.

From a financial point of view Gheel is a success, and the Belgian authorities warmly recommend it. There are, in the Belgian asylums, 8,986 patients and of these, M. Oudart the asylum inspector, thinks that 2,000 might be placed in colonies like Gheel. Were this done £280,000 might be saved in construction, and an annual saving of £6,000 in maintenance, 8½*d* per diem being the cost at Gheel, 11*d* in the asylums.

On the farm and in the fields at Gheel 400 men and 100 women are employed. A number of general paralytics are so employed.

The number of suicides, homicides and illegitimate births seems to have been very small at Gheel. Since 1850 no successful homicidal act has been committed, though an attempt was made in 1878. There have been no fires since 1850. There have been only three or four illegitimate births in ten years. The physician-in-chief thinks that homicides, suicides and acts of violence have been vastly less at Gheel than in asylums.

Very little restraint is used, but it must be remembered that patients requiring it are not admitted. Dr. Tuke saw no patient in a "strait-waistcoat." The camisole, belt and gloves are sometimes employed.

Dr. Tuke considers, toward the end of his paper, the lessons that may be learned for England in regard to boarding out insane persons. He finds from the last Report of the English Commissioners in Lunacy, that there were on January 1, 1885, in England and Wales 5,896 pauper lunatics living with relatives and friends, or boarded out in private houses, which gives a ratio of not more than 8.28 per cent. to the whole number of pauper lunatics. Very few of these are with strangers, so that we cannot compare this proportion with that of Belgium, which is 22 per cent. Dr. Lockhart Robertson says it is an unjustifiable waste of public money to place more than 50 per cent. of pauper lunatics in asylums, but there are 67.45 so placed. Dr. Tuke adds that the proportion of those living with relatives or others was in 1859, 18.24 per cent. against the 8.28 per cent. of the present time.

The Gheel system is entirely different from the Scotch, where only 926, or 10 per cent. of the pauper patients are boarded out with strangers. Dr. Rutherford, who was with Dr. Tuke on the visit to Gheel, said that in Scotland the patients to be boarded out were of the chronic demented class, and all paupers; whereas at Gheel, all stages of insanity are found, and the patients are of nearly all social grades. The large number congregated in a small area is also peculiar to Gheel and unlike Scotland.

Dr. Tuke thinks the Scotch system may succeed where the Belgian fails. "Many think," he says, "that the Scotch system is not altogether a success, and certainly if we entertain misgivings as to *its* advantages, we must entertain still greater misgivings as to the planting of a Gheel in this country."

Dr. Frazer does not think the increase of boarded-out patients in Scotland is because of any special advantages possessed by this country for such a purpose. Other countries also have retired hamlets and villages, clean and tidy cottages, and thrifty, respectable and matronly house-wives.

Dr. Tuke believes in segregation, but he seems to think it better to provide small buildings for distinct classes of cases, rather than boarding patients out to strangers on a large scale, or especially concentrating them in one locality. He thinks non-related guardians are better than relatives, partly because the immediate relatives are often themselves peculiar. "This unfortunate circumstance," he says, "militates considerably against the otherwise excellent course of removing inoffensive patients from asylums to their homes"

He regards it as proper to keep the private care of patients constantly in view. He would not limit it to such an extent as he does, if he did not always have in mind the harm liable to be done to the family in which the patient is placed.

Dr. Charles W. Pilgrim, an American physician, has also made a recent visit to Gheel.[13] He gives a rather unfavorable account of what he saw, and does not think that any advantages can be claimed for the system as carried out there, but on the contrary such patients would be much more comfortable in a well-managed and properly constructed hospital.

He says: "This plan has been tried to some extent in the north of Scotland, and I was told by those familiar with the subject, that it had not proved as satisfactory as its projectors had supposed it would."

— Prof. Billroth of Vienna has been obliged, on account of his health, to go to Egypt.

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[11] On a Recent Visit to Gheel. Journal Mental Science, 1886.

[12] The number of hôtes or those who take care of paying patients was 160; the number of nourriciers or those who take charge of the indigent, 1,000.

[13] A Visit to Gheel. American Journal of Insanity, Jan. 1886.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

March 10th, 1886. Meeting called to order at 8 o'clock, by Dr. F. I. Knight, Chairman.

The first work of the evening was the presentation by Dr. H. O. Marcy, of a series of lantern-slides containing photographic views taken from microscopic preparations of the various bacterial forms found in the communicable diseases, as well as a series of preparations showing the impurities contained in the atmosphere, in water, in clothing, etc.

Dr. Cushing being called upon by the Chairman, remarked that he had nothing to say other than he had recently said before this Society in a paper upon an allied topic. One thing is becoming more and more evident, and that is the great and increasing degree of importance which is to be attached to the various forms of bacterial organisms, both as causes of, and factors in the origin or the course of a large and increasing list of diseases. It is an undeniable truth that these lower forms of growth are associated in many ways with the health of the human subject, and the degree of weight to be attached to their presence cannot be overestimated. The technical difficulties attending the study of these organisms in their relations to human health have been, and still are greatly magnified, and the processes of their preparation and preservation made unnecessarily obscure. There is no difficulty in the successful study of bacteria; any careful person can fully and completely understand the technique, and easily carry out the details of an examination of the animal tissues or secretions in relation to the presence or absence of disease germs. Test tubes may be thoroughly sterilized in the kitchen oven, and a culture chamber may be made from two soup-plates placed one upon the other. An even-temperature oven may be made from a wash-boiler, and the entire process may be so simplified that any good microscopist may be able to carry it out. . . . Septic bacteria are easy to cultivate and to examine. As we become familiar with the processes of culture, and realize that a single touch of a needle is sufficient to infect an aseptic culture, we form a better comprehension of the great importance of absolute cleanliness on the part of the surgeon, who may easily carry fatal infection — a veritable death-sentence — beneath his finger-nail. . . . When a patient with a surgical disease takes cold in the wound, we now look for the signs of some septic contamination as the cause, and frequently find that absolute cleanliness will put an end to all the untoward symptoms.

Dr. Goodwin said that he had made some rather exhaustive studies in the department of bacteriology, and had had the common experience, that the ordinary means of illumination are quite insufficient for the purpose of detecting these small and refractory bodies.

He thought to buy an Abbé condensor, but found that it would cost here the sum of thirty dollars, which seemed too much to devote to one piece of accessory apparatus. Dr. Goodwin therefore obtained two ordinary plano-convex lenses of about 1½ inches focal distance, and mounted them in metallic rings. These were now adjusted to each other so as to form almost a double convex lens, and are so adapted to the sub-stage of the microscope as to act as a sub-stage condenser. The surface of the upper lens is now ground at its centre so as to furnish a horizontal area of about ½ inch in diameter: the entire remaining ovoidal surface is rendered opaque by gently roughening it with a corundum strop, and the instrument is ready for use. With this means of illumination, Dr. Goodwin has been able to secure unusual power of penetration and definition, and has found that some forms of bacillary organisms are clothed with a pellucid envelope or capsule, which he has not seen mentioned by any other observer, in relation to these bodies.

Dr. W. N. Bullard read an interesting paper upon the subject of

CHRONIC TEA POISONING.[1]

The article reviewed the entire subject of this disease, and gave a detailed analysis of the various symptoms observed in the reported cases. The reader has had exceptional facilities for the study of tea-poisoning, and his special labors in the department of Neurology have enabled him to furnish a valuable addition to our knowledge of the phenomena attending this unfamiliar disease.

Dr. Henry I. Bowditch said that this paper is a most useful and instructive contribution to what we knew only somewhat indistinctly concerning the effects of tea, when its use has been persisted in to such an extent as to produce true toxicological results. Dr. Bowditch has very decided views on the subjects of coffee and tobacco, but he has not so frequently observed the deleterious action of tea. The Chinese in the tea-growing regions of the Flowery Kingdom take their tea in a manner very different from that to which we are accustomed. The infusion is not so strong, being made of such a concentration that the bottom of the tea-cup may be plainly seen through the infusion. They use neither sugar or cream in the tea, and Dr. Bowditch has found the flavor vastly improved by discarding these additions to tea as usually taken in this country. All these substances are nervous stimuli, and all are capable of injurious influence upon the nervous system.

The action is of the same nature as the stimulation from alcohol; but the effect is somewhat different, owing to the difference in the manner of taking the two substances, and probably too, owing to a difference in the particular mode of action of the substances. Dr. Bowditch related the case of a prominent politician, who was expected to appear and speak on a certain occasion, but who found himself quite unfitted mentally and physically to undertake the effort. However, by the aid of a quantity of strong tea, he was able to keep his engagement, and to make a long and brilliant speech without betraying the signs of uneasiness or exhaustion.

When the system is once saturated with either tea or tobacco, and the deleterious effects of these substances are once induced, there is nothing to do but to discard the articles at once and completely. Nothing but "total abstinence" will be of any avail. In Dr. Bowditch's personal experience, he found that after once being saturated by coffee, a period of abstinence of fifteen years was not sufficient to remove the effect, but the moderate indulgence in coffee after this long interval was followed by the immediate reappearance of the former symptoms, on account of which the beverage was originally discarded. Dr. Bowditch has never heard a paper which so fully analyzed and so clearly explained the action of tea, as the work of the present author has done.

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[1] See page 314.

Dr. C. P. Putnam remarked that many physicians see patients in whom the influence of tea is plainly evident as a cause of depreciation of the general health. Dr. Putnam has seen many children as well as adults, who were suffering from the effects of tea. Frequently the diagnosis is a matter of great difficulty; and in obscure and puzzling cases it is not to be forgotten that the abuse of tea may be the sole cause. One frequent symptom is that of ill-defined distress, or at times actual pain, in the region of the heart or stomach, or in some other part of the abdomen, with constipation, which is proved to depend on the abuse of tea, and disappears upon the discontinuance of the harmful agent.

The tea must be entirely withdrawn, as a small amount is quite sufficient to keep up the trouble.

Dr. Marcy stated that he had had two cases of tea-tasting. One of these was a famous case; the patient was well known in Boston as a celebrated tea-taster and confidential buyer for a well-known tea house. This patient died, and at the autopsy many gummous deposits were found distributed through the various organs of the body. The patient had syphilis, of Chinese origin. Another man was in business in Boston. He was habituated to tobacco, smoking fifteen cigars daily. He was also a tea-taster, but never was affected by any symptoms referable to the tea. Servants are fond of tea, and take it at all times of day, keeping the teapot on the fire all the time, and drinking from the dregs in the teapot. The value of tea as a beverage is in its aroma, the dregs furnish a bitter, astringent and unpalatable infusion.

Dr. Bullard stated that it is very hard to form a correct estimate of the amount of tea which is taken; this is particularly difficult in regard to servants, who are apt to underestimate the quantity they drink.

Dr. Weeks asked in how large a proportion of cases is it possible to persuade the victim to give up the use of tea?

Dr. Scofield said that the children of those who make large use of tea, and give it to their children, are often the subjects of obscure symptoms referable to the heart, which disappear on stopping the tea.

Dr. E. W. Cushing stated that tea and coffee are much alike in one respect, from the fact that both contain a large amount of tannin, which is fully capable of causing a portion of the symptoms described, and may be the origin of a part of the trouble. If tea were made in the manner employed in China, the tannin would not be taken, and this element of disturbance would be removed. Coffee may be prepared so as to deprive it of the tannin it contains, and it is then well borne, even by children. It may be best made in this way. Figs are taken as they are imported, and are baked so as to be of a brown color, and of taste and smell like caramel. A portion of such prepared fig is boiled in the water; after boiling for a few minutes the coffee is added, and prepared as usual. Then an equal quantity of milk or cream is added, and the coffee is served. Coffee thus prepared consists of infusion of fig, some coffee and a good deal of milk.

Dr. Goodwin said that the tannin content of tea and coffee is so great that the tincture of chloride of iron cannot be given at the same time on account of the formation of ink in the stomach, and the consequent nausea.

Dr. Eastman remarked that the late Dr. Jacob Bigelow was accustomed to speak of the tea and coffee as useful adjuncts to other forms of food and drink, but that they are only harmful when taken alone.

In response to certain remarks in regard to the more injurious effect of tea after long infusion, Dr. Bullard read the following quotation from Dr. Roberts' Address on Therapeutics, delivered before the British Medical Association in 1885, as reported in the *British Medical Journal* of August 15th, 1885. "Some persons have supposed that by infusing tea for a very brief period — two or three minutes — the passage of tannin into the beverage could be avoided. This, however, is a delusion. Tannin is one of the most soluble substances known: it melts like sugar in hot water. You can no more have tea without tannin than you can have wine without alcohol: and I found experimentally that tea infused for two minutes had almost exactly the same inhibitory effect on digestion as tea infused for fifteen or twenty minutes."

Dr. Edes observed that one most frequent cause of dyspepsia is the fact that the diet is much deranged. Too much drink and too little food is taken, and the patient gradually becomes anæmic and the train of symptoms so often noticed in tea-poisoning gradually are developed. In this way tea possesses one curious merit, as the patient can be sustained upon a more attenuated diet than when no tea is taken.

Dr. Farlow remarked that it is marvellous what a proportion of patients seen at the Dispensary are totally ignorant of what is a proper condition of the bowels, and the little attention given to regularity of action in evacuation. These patients are almost all tea-topers, and are frequently insufficiently nourished. They generally complain of a feeling of weight in the abdomen, and are also almost invariably nervous.

Dr. Blodgett said that Dr. Cheever expected to have been present at this meeting, but was unavoidably detained. This was the more to be regretted, from the fact that Dr. Cheever has had a large and interesting experience in the treatment of cases of disease arising from the inordinate use of tea. The condition of these patients is not always the same, but presents a limited variation in the array of prominent symptoms. One of the most frequently noticed conditions is a highly exalted state of the nervous system with increased reflex excitability, and a tremulous condition of the voluntary muscles, which justifies the name of "tea tremens," from the similarity of this symptom to the tremor belonging to cases of alcoholic poisoning. This is most frequently noticed in servant-girls, who partake frequently and exclusively of tea as a drink, and do not obtain sufficient exercise in the air, and live principally on fine white bread, to the exclusion of other more wholesome and necessary articles of natural diet. The result is that the system obtains only an insufficient nutrition, and the organs and functions of the body suffer a loss of organic or functional activity, or both. A very important phenomenon in relation to the detrimental action of tea is its effect upon the teeth and other hard structures of the body. This result is most noticeable in our Irish servant population, and particularly in the children born of parents who themselves emigrated to this country from Ireland. The teeth of the parents are almost universally firm and durable in structure, and beautifully clear and white. The teeth of the children, and especially those of the daughters, however, are found to be poorly formed, to be of brittle structure, and fall an easy prey to caries, and are lost at an early period. This is undoubtedly due to the fact that many of these children are at service as house servants, and when following this occupation are addicted to the tea-tippling and the fine bread above described. The result is, that instead of the full and perfect denture of the parents who lived on plain and coarse food, without any of the abominations of our modern kitchens, these poor creatures obtain only a partial nutrition, the hard structures of the body being deprived of the necessary calcareous supply which resides in the husk of grain, and is removed in the process of making fine flour, the teeth are insufficiently formed or inadequately maintained and consequently are early lost.

Dr. P. C. Knapp showed a series of Normal Electrodes, in which the size of the disk which is applied to the surface in connection with the degree of intensity of the current is measured by the resistance, constitutes a perfectly adjustable measure of the amount and intensity of the current employed, and is a necessary feature in the practical employment of electricity as a therapeutic agent.

These electrodes are the sizes proposed by Erb [2] in 1882, and now accepted as the standard in regard to size, and with them a new size, recently proposed by Erb,[3] which merits a word of description. In testing the galvanic excitability of nerve or muscle the appearance of contraction depends upon the absolute density of the current employed. This absolute density varies of course directly with the intensity of the current, which may be readily measured in milliampères on an absolute galvanometer, and it also varies inversely with the area of the electrode, just as the intensity of a stream of water varies inversely with the size of the tip of the pipe. Hence we have the equation D equals I divided by Q, where D equals absolute density, I equals intensity, and Q (querschmitt) equals area of electrode. Having a ready measure for I in the milliampère, Erb has suggested the use of a "normal electrode" as a testing electrode, with an area of ten cm., either as a flake 3.2 cm. square, or a round disc, like the one exhibited, with a diameter of 3.5 — 3.6 cm. We may then say that KaSZ appears at 4 milliampères, normal electrode, or more simply, KaSZ appears at 4-10, or .4 milliampères, the numerator of the fraction denoting the number of milliampères, the denominator the area of the electrode.

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TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Sixty-third meeting, Friday, February 19th, 1886.

The President, Daniel T. Nelson, M.D., in the chair.

Dr. A. Reeves Jackson, M.D., opened the adjourned discussion of the treatment of pelvic abscess by the presentation of the following paper, entitled,

LAPAROTOMY FOR PELVIC ABSCESS.

Owing to Dr. Jackson's absence, the paper was read by the Secretary, Edward Warren Sawyer, M.D.

At the December meeting of this Society a discussion arose upon the subject of pelvic abscess and its treatment. It was based upon the report of a case by Dr. H. T. Byford, which had been treated by favoring discharge of the pus by way of the rectum, and the placing within the abscess cavity a portion of sulphate of copper to promote granulation.

The discussion seemed unfinished, and was withal of so interesting a character, that I have thought well to reopen it by the relation of the following case. Whether the operation performed in the treatment of the case should be termed a laparotomy will depend upon what significance we attach to the term. Upon this point opinions will doubtless differ.

If we understand by the word laparotomy, the opening of the abdominal cavity in its largest sense, the term is here correctly used; but if, on the other hand, we mean the opening of the abdomen for the relief of *an encysted intraperitoneal abscess non-adherent to the abdominal wall*, the term would not be properly applicable, for here there was complete adhesion, and, possibly, in the course of time the abscess might have pointed and opened in that direction, although I do not believe that such result would have occurred. Without active interference I think the disease would have resulted in death from pyæmia in a very few days.

On March 9, 1885, I visited Anna N., in consultation with Dr. Louis Braun, of this city. She was twenty-four years old, had been married six years, and had one child eighteen months old. On February 1, — five and a half weeks prior to my visit — she had miscarried, producing a fœtus four months old. A few days after that event, Dr. Braun found the patient suffering from symptoms of pelvic inflammation, which had since continued with varying severity. He informed me that the pelvic swelling which he detected on examination, appeared to involve all the periuterine structures, but to a greater extent on the right side; that during the past few days, however, it had seemed greater on the left side. From the onset of the attack the pulse had been rapid and the temperature elevated — the former ranging from 110 to 130, and the latter being persistently over 102° F., reaching, on one occasion, 104° F. Pain had been severe, but controllable by morphia. The appetite had failed utterly, and the stomach finally rejected all food.

At the time of my visit, the patient was pale, extremely emaciated, and her visage showed marks of prolonged suffering.

On examination, I found on the left side of and behind the uterus a swelling as large as a medium-sized orange, with rather indistinct outlines. Its lower portion was in a plane with, or somewhat below, the *os uteri*, and bimanually its upper margin could be felt extending above the fundus, which was pushed strongly to the right. Both uterus and tumor were immovable. The latter had a slightly elastic feeling in some places, although I was unable to detect any certain fluctuation through the vagina, rectum or hypogastrium. Through the posterior vaginal wall, at a point about an inch above the lower portion of the swelling, I fancied I perceived a sensation of bogginess, and this, taken in connection with the history of the case, gave me the belief that pus was present. Accordingly I thrust a curved trocar and canula into the swelling by way of the vagina to the depth of about two inches, with no other result than the emission of a few drops of blood.

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[2] Erb Handbuch der Elektrotherapie. Liepzig, 1882.

[3] Neurolog. Centralblatt, January 1, 1886.

It was then concluded that the patient should have prolonged hot water vaginal douches daily, rectal feeding, and appropriate anodyne and tonic medicines.

On April 18, — five weeks later, — I saw the patient again, with Dr. Braun, who reported that after my former visit the symptoms had all become gradually ameliorated; the stomach resumed its functions, pain subsided, pulse and temperature became normal. No menstrual or other discharge had appeared. This improved condition had continued until two days before, when, without apparent cause, the patient had a chill, followed by rapid pulse, high temperature, pelvic pain and irritability of the bladder.

Under anæsthesia I examined the abdominal and pelvic organs. The pelvic swelling had undergone no marked change, except that it seemed to have increased in an upward direction, extending now to a point about an inch above the *symphysis pubis*. At this place I thought I detected obscure fluctuation. The swelling as felt *per vaginam* was hard at every accessible point. All operative measures were declined by the patient and her friends, and the treatment advised consisted in the administration of morphia and quinine, and peptonized milk for diet.

April 19, the patient was much worse. The pelvic pain was controlled only by large doses of morphia given hypodermically, and the stomach retained almost nothing. The pulse was 130, temperature 102° F. It was decided that laparotomy should be performed the following day.

April 20. There were present as assistants Drs. Steele, Braun, Sterl, Dickerson and Mascheck. A spray of carbolized water had been kept playing in the room for several hours. The patient was etherized and the bladder emptied by catheter. She was the thinnest person I ever saw placed upon an operating table. Immediately before the taking of ether her pulse was 124, temperature 103° F.

The hair of the pubes was shaven off, and the skin of the abdomen washed with soap and carbolized water. An incision three inches long, ending below at the upper portion of the *mons veneris*, was made in the middle line of the hypogastrium. Deepening the cut I came upon the peritoneum, which, however, could not be separated from the parts beneath. Proceeding inward through dense structures the knife suddenly entered an abscess cavity, which at once gave exit to a stream of pus to the amount of two or three ounces. Passing my finger through the opening I found that the cavity extended downward, behind and to the left of the uterus about three inches. The abscess walls proper could not be accurately defined. The inflammatory processes had matted together the upper part of the uterus, the left broad ligament, tube and ovary. The cavity was washed out, and a rubber drainage tube passed to the lower end, the outer portion of the tube being stitched to the edge of the wound at its lower extremity. The remainder of the wound was closed with sutures, and dressed in the usual manner.

The night following the operation the patient slept fairly well without an opiate.

When I saw her the next day she had taken milk and lime water with relish; her pulse was 108, and temperature 100 2-5° F.

In brief, the relief of the symptoms was immediate, and the recovery uninterrupted. Pus continued to discharge for more than six weeks in constantly diminishing quantity. The tube was then removed. Menstruation appeared July 20th, and has been regular since. I examined the patient September 25th. The uterus was still in a position of right latero-version, but movable in a slight degree. The parts about the left broad ligament were thickened, and somewhat tender. An irregularly shaped mass occupied Douglas's space, and extended upward and to the left. The patient had gained greatly in weight, was ruddy, and doing her own housework.

In a letter dated December 29th, she states, "I have no pain, and feel better than I have for four or five years."

Dr. Jackson appended the following note from Mr. Lawson Tait:

7 The Crescent,
Birmingham, Jan. 4th, 1886.

My Dear Sir, — I have performed now thirty-two operations for pelvic abscess, in every one of which a cure has resulted. Yours very truly,

Lawson Tait.

DISCUSSION.

Dr. Christian Fenger. Before entering into the discussion of the paper which has been read here this evening, I wish to remark that I came here under the impression that the entire subject of suppurative, pelvic inflammation was to be dealt with; I now see the subject is limited to the treatment of pelvic abscess by laparotomy. The operation performed in Dr. Jackson's case I should not call a laparotomy at all, but simply an oncotomy. An abscess was opened, and the operation does not differ materially from the opening of a deep-seated abscess in any other region of the body, for example, in an extremity. As I understand the term laparotomy, and I am not aware that it is ever used otherwise, it means that section of the abdominal parietes is followed by an operation, performed within the peritoneal cavity. If the wall of an abscess situated in an abdominal organ has become adherent to the visceral surface of the abdominal parietes, the peritoneal cavity is of necessity obliterated to the extent to which adhesions have formed. An incision made over such adhesions does not open the peritoneal cavity, and consequently, the operation cannot be spoken of as a laparotomy. In the paper which I published on "Laparotomy for Periuterine Abscess," it was distinctly stated that the only way by which it seemed possible to get at the abscess was by opening the peritoneal cavity; it is also mentioned that omentum and intestines were found between the walls of the abscess and the walls of the abdomen.

Concerning the etiology of pelvic abscess, I should like to call attention to the literature of the subject. Sänger,[1] whose statements regarding etiology I have found to be the most complete, says, that one out of nine of all gynæcological affections is of gonorrhœic character. He further says that fifty per centum of these are diseases of the uterine appendages, although, of course, any part of the genital tract may be primarily invaded. In the Fallopian tubes, he finds that disease most often has its principal focus where it begins and whence it spreads. He distinguishes six kinds of salpingitis: (1) septic, puerperal, and non-puerperal; (2) tuberculosis; (3) syphilitic; (4) actinomycotic; (5) gonorrhœic; (6) a mixed form. The gonorrhœic is the most common form of the disease, and it produces the most severe cases of pelvic inflammation.

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[1] Centralblatt für Gynäcologie, No. 41, 1884, page 650.

It has not as yet been proven that the gonococci of Neisser can, of themselves, produce abscesses; but destruction of the surface of the mucous membrane is sufficient; an entrance is thus given to the septic, pus microbes, the *staphylococcus aureus* and *albus* and the *streptococcus pyogenes*, which are probably always present.

The invasion having taking place, we must ask ourselves by what channel does the inflammation travel? Where should we expect finally to find an abscess in case one should form? The fellows will remember the beautiful experiments of Bitas, Koenig,[2] Schlesinger[3]; experiments which, about three years ago, I repeated in the dead-house of the Cook County Hospital, although the purpose I had in view at that time was a different one. These gentlemen injected, by means of fine cannulæ, fluids, such as colored glue, into the periuterine tissues of puerperal and non-puerperal bodies. Koenig found (*a*) that fluids, injected in the region around the *fundus uteri* and uterine portion of the Fallopian tubes, first pass upwards into the iliac fossa to reach the crest of the ilium, then downwards towards Poupart's ligament, and finally into the *pelvis minor* or true pelvis; (*b*) fluids injected into the periuterine tissues, in the neighborhood of the internal os, first fill the extraperitoneal connective tissue of the *pelvis minor*, then follow the round ligament as far as Poupart's ligament, and ascend in a backward direction into the iliac fossa; (*c*) that when the injection is made near the lower portion of the posterior surface of the uterus, the fluid first flows into the *cul-de-sac* of Douglas, and thence rises into the iliac fossa.

Schlesinger, although in the main agreeing with with Koenig, differs with him in the following two points: He says (*a*) when fluid is injected into the neighborhood of the *fundus uteri*, it first passes into the iliac fossa, but thence it does not descend into the true pelvis, as Koenig observed, but it ascends, running up the anterior abdominal wall; (*b*) from the broad ligament the fluid finds its way into the iliac fossa, and thence upwards towards the kidney, running in the mesentery of either the ascending or descending colon. Schlesinger further makes the interesting statement that his pericervical injections filled the pericervical tissues, but that they never produced a tumor which could be felt above the *symphysis pubis*.

As far as my experience goes, the results of these experiments correspond well with the clinical facts. The puerperal abscesses which I have opened were situated, two over the crest of the ilium, one on Poupart's ligament, and one on the anterior abdominal wall, about three inches above the ligament.

As before mentioned, about three years ago I made similar experiments; the fluid I employed was milk. My object, at the time, was to ascertain the exact relative position of such an artificial exudate, representing an abscess, with regard to the anterior wall of the abdomen, especially of an exudate in one of the broad ligaments. I wanted to see for myself what difficulties I must be prepared to encounter in uniting the walls of a pelvic abscess, after having opened it, to the edges of the abdominal wound. As might have been expected, I found the difficulties of the operation to vary partly with the size of the exudate, and partly with the degree of tension of the abdominal parietes. On the whole, the matter seemed simpler to me than I had *a priori* imagined.

Whether in cases of pelvic inflammations and abscesses laparotomy should be done or not, is a question of comparatively recent date. it being but little older than five years. As I have already said in my paper on "Periuterine Abscess," the operation is always to be regarded as a last resort and should never be thought of in cases in which the abscess can with safety be reached in any other way, which, of course, includes opening it through the rectum. Lawson Tait,[4] of Birmingham, and Martin, of Berlin, were the first who attempted to prevent the terrible contingencies of pelvic inflammations by attacking the disease at its original seat; Lawson Tait[5] removed the suppurating uterine appendages, Martin operated for suppurating periuterine hæmatocele. Tait operated for a suppurating hæmatoma of the right Fallopian tube (peritonitis), in 1878, and he removed both tubes for pyosalpinx and an ovary for abscess in 1885. In 1885 Martin[6] performed laparotomy in three cases of intraperitoneal hæmatoma, that is, retro-uterine hæmatocele. He opened the peritoneal cavity, incised the sac, and evacuated the blood and pus; he then drained into the vagina, through the pouch of Douglas, and closed the opening he had made into the sac from the peritoneal cavity by sutures. In the discussion following the reading of Martin's paper, Kalienbach opposed Martin's operation, and pleaded for an extraperitoneal operation, reaching the abscess either from above Poupart's ligament, or, as Hegar recommended, from the ischio-rectal fossa. In 1880, Feldman,[7] of Goettingen, published an operation for double pyosalpinx. In 1882, Baumgaertner published a case of hæmatocele in which Martin's operation had been successfully performed. These more or less sporadic operations called the attention of the profession to the subject, and already during the following year, 1883, upwards of fifty or sixty cases were reported, in which laparotomy was resorted to for the cure of pelvic inflammations. Aside from the forty-six cases which Lawson Tait published in his book, "Diseases of the Ovaries," he reported seven[8, 9] more. T. Gaillard Thomas[10] reported five cases; Zeiss,[11] Thornton,[12] Baer,[13] and Proschownick,[14] each one. In 1884, America was represented by fifteen cases; Stone,[15] 1; Lee,[16] 4; Lusk,[17] 1; Martin,[18] of Chicago, 1; Goodell,[19] 2; Jones,[20] 1; Thomas,[21] 1; Dawson,[22] 1; Polk,[28] 3. In England we have thirty-five cases: Tait,[24] 15, 7 of pelvic abscess; McDonald,[25] 2; Lediard,[22] 1; Chapman,[27] 1;

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[2] Ueber die Bedeutung der Spalträume des Bindegewebes. Volkmann klin. Vorträge, No. 57. Chirurgie.

[3] Œsterreichischer Med. Jahrbucher, Heft. 1 und 2, 1878. Virchow-Hirsch, Jahresbericht für 1878; Bd. II, page 579.

[4] British Med. Journal, June 9, 1878.

[5] Boston Med. Journal, March 14, 1881.

[6] Archiv für Gynæcologie, 1881, p. 463, und 1882, p. 476; also Virchow-Hirsch, Jahresber für 1882, Bd. II, p. 531.

[7] Diss. Gœttingen, 1879. Virchow-Hirsch, Jahresbericht für 1880, Bd. II, p. 567.

[8] Transact. Obstetric. Society of London, May, 1883. Virchow-Hirsch, Jahresber für 1883, Bd. II, p. 578.

[9] Ibidum, November, 1883.

[10] Philadelphia Med. and Sur. Reporter, March 3, 1883.

[11] Centralblatt für Gynæcologie, N. 47, 1883.

[12] Transact. Obstetr. Soc., London, June, 1883.

[13] Amer. Journal of Obstetrics, July, 1883.

[14] Deutsche Med. Wochenschrift, N. 36, 37, 1883.

[15] Medical News, Philadelphia, August 23, 1884.

[16] Amer. Journal of Obstetrics, June, p. 463.

[17] Amer. Journal of Obstetrics, April, p. 383.

[18] Chicago Med. Journal and Examiner, August, 1884.

[19] Amer. Journal of Obstetrics, August, 1884, p. 858.

[20] Ibid., November, p. 1155.

[21] Ibid.

[22] Ibid.

[23] Ibid., February.

[24] Transact. Pathol. Soc., London, XXXIII, p. 202. Harvelan Soc., London Lancet, March 10, p. 473. Medical Times, September 6, p. 318.

[25] Edinburgh Med. Journal, August.

[26] Lancet, September 20, p. 493.

[27] Archives de Tocologie, November, p. 964.

Savage,[28] 9, 8 of pelvic peritonitis and 1 of hæmatocele; Malin,[29] 7.

In Germany, twenty-two cases were reported: Martin,[30] 8 of suppurating hæmatocele; Gusserow,[31] 7, in 4 of which the sac was stitched to the abdominal wound; Saenger,[32] 5; Schroeder,[33] 1; Quetsch,[34] 1.

It is evident that the operation rapidly gained ground and that laparotomy has come to occupy a prominent place in the treatment of pelvic inflammations and abscesses. It may be objected that as yet the indications for the operation are not as clearly defined as we might wish them to be; in answer to this we can only say that the operation is new, and that we must consider the importance of the subject the guaranty of progress in the right direction.

I wish to add a few words about the subject, as it is modified in cases in which the periuterine abscess communicates with the rectum or some other part of the intestines. My remarks will have reference to the discussion of my paper on "Chronic Periuterine Abscess," the discussion of to-night being but a continuation of that broken off at our recent meeting for want of time. My paper was read before this Society in May 1885. I will refer as well to the discussion of Dr. H. T. Byford's paper on "Pelvic Abscess," read here December 18, 1885.

When a communication exists between an abscess and the intestinal tract, evacuation of the pus into the bowel is sometimes followed by spontaneous recovery. As a rule, however, such a condition is extremely dangerous, for the abscess cavity is constantly being infected with septic material from the intestine. Péan in his "*Diagnostique et Traitement des Tumeurs de L'abdomen et du Bassin*," T. II, p. 155, writes that a periuterine abscess may open into the cœcum, colon or rectum; that if a periuterine abscess opens into the intestine, bladder or uterus, septic infection will not fail to produce its symptoms, and may speedily prove fatal. This statement may be a little too broad. Schroeder, in his "*Krankheiten Der Weiblichen Geschlechtsorgane*," Leipzig, 1880, says that when the abscess has broken into the gut or bladder we have to deal with a grave condition, as it is difficult or impossible to reach the abscess from the vagina. At that time, in 1880, he had not thought of the practicability of laparotomy in such cases. When the abscess has evacuated itself into the rectum, he considers it less difficult to get access to it, and he advises cutting through the posterior *cul de sac* of the vagina, and dissecting upwards between the uterus and the rectum. Emmet[35] writes that when an abscess opens into the rectum, the case is very much complicated by septic infection through the fæces. The quotations given are sufficient for us to conclude that, when there is a communication between a periuterine abscess and the rectum, the patient is in great and constant danger of dying from septic infection, and that, therefore, an operation should be done if possible, to provide free drainage of the abscess. In discussing my paper, Prof. W. H. Byford said that he was opposed to the line of treatment suggested by me, that is, laparotomy; that the *sphincter ani* should be dilated or incised, the communication between the abscess cavity and rectum should be dilated with the finger, a steel dilator or the knife, the cavity of the abscess scraped, washed out, and drainage effected *per rectum*.

Aside from the old, now justly abandoned, puncture of a retrouterine abscess *per rectum*, Professor Byford's method of attacking such an abscess is to me entirely new. I have nowhere in the course of my reading met with a similar suggestion. If the abscess communicates with the intestine at a point beyond the rectum, a rectal operation is of course out of the question. If the opening into the rectum lies three inches or more above the anus, dilatation is hardly practicable. Such openings are often narrow and tortuous, the neighboring organs are immovable, and even if we divide the sphincter and the retrorectal tissues, we are obliged to work in the dark, for it is difficult or impossible to draw such an opening well down into view. The gentlemen present who have extirpated a carcinoma of the rectum, will appreciate the difficulties of operating high up in the gut.

But above all, I must earnestly warn you against adopting Professor Byford's plan of employing in this region a knife for the purpose of dilating the opening of an abscess. Working here with a knife, we always run the risk of opening the peritoneal cavity and of dividing large vessels which are bound in the wall of the sac, as I once demonstrated in the walls of an abscess situated in a broad ligament. The large uterine vessels may be found anywhere, and if wounded it is next to impossible to ligature them securely.

In a relatively small number of cases the abscess breaks into the rectum near the anus; in these dilatation may be tried, and it may even effect a cure, as we learn from Dr. H. T. Byford's case. However, we must have heard of more than one case before we can judge of the value of this method of treatment. Being somewhat enthusiastic over his rectal method, Dr. Byford disposes of laparotomy by saying: "The treatment by abdominal section cannot for a moment be entertained, for at least two reasons," of which the first one is that it is necessarily followed by a recto-abdominal fistula, which is incapable of being promptly cured and is apt to become an unfailing source of systemic infection. Of the numerous examples we have, I need but mention the perityphlitic abscesses to show that an intestino-abdominal fistula does not contraindicate the evacuation of the abscess. We operate to save life, whatever may become of the fistula afterwards; besides these fistulæ do frequently close. In the third case referred to in my paper, it closed in two months. The closure of a cœcal fistula is a common occurrence. The explanation is not far to seek. Whenever an abscess breaks into the gut the condition of the abscess necessitates such an outlet for the pus. When the abscess is drained through a counter-opening in the abdominal wall of the vagina, and thus transformed into a fistula, the necessity for emptying its contents into the bowel no longer exists, the opening has become useless, and it gradually contracts.

A fistula in itself is no source of infection. We never hear, for example, of a primary local tuberculosis originating in a fistulous tract. An anal fistula, when tuberculous is always preceded by a local tuberculosis.

Dr. Byford, further on, criticises my cases in particular, remarking that to operate as does Lawson Tait before the abscess has discharged and then treat antiseptically, is an entirely different matter. All I have to say to this is, that the Doctor has entirely misunderstood Lawson Tait. A letter I had the pleasure of receiving from Mr. Tait one month after I had published my cases, begins, "I have just read your extremely interesting articles in the *Annals of Surgery.*" I shall now pass the letter around to the Fellows of the Society. In his second letter to me Mr. Tait says: "Concerning your operation for pelvic abscess I quite agree with you. Opening the abdomen is a very much more satisfactory way of dealing with these cases than any other." Dr. H. T. Byford's further remarks on my cases I shall pass by in silence, as I do not think their discussion is in order before the Chicago Gynæcological Society.

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[28] Brit. Med. Journal, March 8, p. 453.
[29] Transact. Med. Soc., London, Oct., p. 228.
[30] Archiv. für Gynæcologie, Bd. 23, p. 414.
[31] Charite Anallen, IX, Jahr.
[32] Centralblatt für Gynæcologie, N. 32.
[33] Ibid., N. 4.
[34] Centralblatt für Gynæcologie, N. 19, 1884.
[35] Principles and Practice of Gynæcology, p. 2861.

Dr. Edmund Andrews. It seems to me that the usefulness of the operation in proper cases is reasonably certain, but that we must be careful not to incur the risks of laparotomy when safer methods are available.

It will broaden our views somewhat, if we recollect that an abscess in the cellular tissue about the uterus does not differ materially in nature, principles of treatment, nor results, from abscesses in the cellular tissue in other parts of the pelvis and abdomen. One set of laws governs them all, both in pathology and treatment. A point to be remembered is, that many cases recover spontaneously in early stages, contrary to the statements of some eminent men. A professional gynæcologist or surgeon, whose patients are attracted to him from long distances on account of his reputation, gets a class of cases, because of their long standing and obstinate character. He has to combat the same tendency to error of judgment in one respect which besets the mind of a pathologist, whose conclusions are too exclusively drawn from the dead-house; that is to say, neither of them sees the numerous cases which recover under ordinary treatment, and therefore do not come before them. Recoveries from abscesses in the cellular tissue in all parts of the abdomen and pelvis are common, though they are apt to be very slow.

I recall two cases, attended by well-known physicians in this city, which recovered from such abscesses after suffering about a year. These abscesses discharged through the rectum. I have, perhaps, been somewhat slow in the treatment of these cases. For example, a retro-uterine abscess was brought to me from a distant State. It periodically discharged into the rectum above the reach of the finger. The patient arrived in Chicago in fair general health. Directly after her arrival, the discharges grew smaller in quantity, with longer intervals of time between, and she continued to progress in that way. Improving constantly in strength and activity, she began to make excursions and long visits to friends in neighboring States, and, in short, enjoyed life so thoroughly that I deemed a laparotomy not justifiable so long as she progressed so well towards recovery without it. I presume she got tired of my dilatory plan. At any rate, after some months of improvement, she ceased to report herself for periodic examination, and I lost sight of the case. I have a case now on hand, in a more debilitated condition. She is confined to her bed the greater part of the time. I expected to operate many weeks ago, but soon after I took charge of the case she showed signs of improvement, which led me to postpone the laparotomy to see what would occur. The discharges, which were from a point high up in the rectum, grew less in quantity and further apart in time. The temperature went down to the normal standard and remained there, the tumor about the uterus diminished in size, and nearly two months have now elapsed since the last small discharge of pus. The patient's vigor is slowly returning. Under such conditions, it is not certain that any pus-cavity remains. I deem it my duty to wait until the presence of such a collection of pus is reasonably certain before subjecting the patient to the perils of laparotomy.

Not long ago, I had the opportunity to make a postmortem examination in a case of circumuterine abscess. The abscess had formed several years ago, after a difficult parturition. I saw the patient in consultation a few times during the last weeks of life. The pus was discharged, partly by the rectum and partly through a fistula midway between the *symphysis pubis* and the umbilicus. She had been subjected twice to some surgical operation, whose exact nature I did not learn. The operations were not laparotomies. Having received no benefit, the patient was determined that no more surgery should be tried on her. After some weeks she died of asthenia, and I was allowed a limited autopsy. The fistula above the pubes, after passing through the integuments, led downward and to the right, and at a point which seemed to be the right external inguinal ring; it entered the inguinal canal and followed the round ligament into the pelvis. Here it became more spacious, but exceedingly crooked and complicated, winding irregularly backward until it opened into the upper part of the rectum. All the viscera in the vicinity were glued together in a mass by old inflammatory deposits. There was no large abscess cavity at any one point, but still there was a flattened pocket some three inches long, and an inch or more in width, lying behind the rectum, in the hollow of the sacrum. It contained a little pus and fæces. This pocket might have been safely opened from below, working up outside the posterior surface of the rectum, had it been possible to ascertain its existence. I do not see how it could have been reached by laparotomy. The anterior fistula might have been benefited by freely slitting up the inguinal canal.

I feel compelled to differ with my friend, Dr. Henry T. Byford, in one point. He suggests very naturally that Tait's operation, performed after the abscess cavity has opened into the rectum, would make a complete intestinal fistula, which it might be impossible to heal. This thought is natural, and I confess I should think the same thing myself, had not an extensive observation upon fæcal fistulæ shown me the reverse. Experience teaches that an abscess cavity opening into an intestine, and filled with putrid pus and fæces, is very reluctant to heal so long as it is not freely drained and disinfected; but if it is widely opened, so as to make and maintain the shortest and straightest possible route from the opening in the cut to the external air, and if it be kept well cleansed and disinfected, fresh granulations will spring up, the orifice will contract and the fistula will heal, provided there is no stricture in the intestine below. This fact, or law, is very important, and applies equally to fæcal and urinary fistulæ, as I have verified by an abundant experience.

A striking case in point occurs to me at this moment. An eminent physician on the South Side requested me to take charge of one of his patients, a lady who seemed to have an anomalous hernia, and was sinking under a suppurative discharge from the bowels. On examination, I found her confined to bed, and rapidly approaching fatal exhaustion. There were several evacuations daily of mingled pus and fæces from the rectum. The left hip was found prominent over the whole gluteal region. The tumor fluctuated on palpation, was resonant on percussion, and gave a succussion on coughing. At times it gurgled under pressure. I opened it very slowly and carefully, fearing to find an intestine there. After passing through the atrophied *gluteus maximus*, I entered a broad cavity containing neither intestine nor omentum, but filled with pus and fæces. This cavity being emptied and washed out, was easily traced up to the sciatic notch, where it entered the pelvis by an orifice of moderate size. I now ripped the cavity open for nearly its whole length, and kept it cleansed. Vigorous granulations sprang up at once, and the sac healed up rapidly and permanently. The patient seemed relieved of a great depressing influence, and rebounded at once toward health. She became plump and rosy, and rapidly regained her full strength.

Dr. F. E. Waxham presented for examination a

FEEDING BOTTLE FOR USE IN CASES OF INTUBATION OF THE LARYNX.

The feeding bottle consists of an ordinary nursing flask, with a rubber cork, with a small vent, through which a tube passes to the bottom of the bottle. To this tube is attached another leading to the bulb of a Davidson's syringe, and this, in turn, is attached to a small-sized œsophageal tube. In using this apparatus, the gag is placed between the jaws, the tube introduced into the œsophagus, and the contents of the bottle quickly introduced by means of the bulb.

Many patients, especially young infants, do not take sufficient nourishment after intubation has been performed, on account of the coughing produced by the trickling of the liquid into the trachea. This apparatus obviates this difficulty.

Recent Literature.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M.D., F.R.C.P., Physician to, and Lecturer on Pathology at Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Edited by P. H. Pye-Smith, M.D., F.R.C.S., Lecturer on Medicine at Guy's Hospital, including a Section on Cutaneous Diseases, by the Editor, Dr. Pye-Smith; Chapters on Cardiac Diseases, by Samuel Wilks, M.D., F.R.S., Physician to Guy's Hospital and to the Royal Hospital for Children, London; and Complete Indexes, by Robert Carrington, M.D., Assistant-Physician to Guy's Hospital, London. Two vols. Royal octavo. pp. 1923. Phila.: P. Blakiston, Son & Co. 1886.

Our readers will easily recall the strong testimony in the British journals, to the great loss sustained by medicine in the death of Dr. Charles Hilton Fagge from aortic aneurism, at the comparatively early age of forty-five years, in November, 1883, and the many warm tributes to his great worth and accomplishments as a man and a physician.

It seems that during the last twelve years of his life, he had been occupied in preparing a treatise on the "Practice of Medicine," basing it, to a great extent, upon his laborious researches into the pathological and clinical records of Guy's Hospital, during the twenty years in which he held office there as medical registrar, as pathologist, and as physician. As a man of very varied, and at the same time, of sound learning, of quick natural parts, fortified by unflinching industry, both of which qualities were constantly exemplified, from the time of his graduation from the University of London, the winner of three special prizes and four gold medals in anatomy, materia medica, chemistry, and botany; as the occupant of a number of the most important positions in connection with medical institutions in London, he was in every way unusually qualified for the task he had undertaken.

Unfortunately, he did not live to bring it to a conclusion. The whole of the subjects under the head of internal pathology and therapeutics, had been written, and in great part re-written, with the exception of cardiac diseases, which had been left for the last; the subject of cutaneous diseases had not been begun. After Dr. Fagge's death, his manuscripts were placed in the hands of his friend and colleague at Guy's Hospital, Dr. P. H. Pye-Smith, to prepare the work for publication, and to supply the portions which were lacking. Dr. Pye-Smith, in addition to editing the entire work, has written the chapters on diseases of the skin, occupying one hundred and fifty-six pages in the second volume, and Dr. Samuel Wilks, also a colleague at Guy's Hospital, has contributed the chapters on cardiac diseases and a portion of that on diseases of the blood-vessels, in all, the first 80–90 pages of the same volume. The indices to authors and subjects at the end of the second volume is the work of Dr. Carrington.

The whole forms a very valuable addition to existing works in the English language on the principles and practice of medicine, and a suitable and handsome monument to the memory of Dr. Fagge. It is inevitable that a work thus finished should lack a certain unity and symmetry which it would otherwise have had, and this, notwithstanding the rare qualifications of Dr. Fagge's colleagues for the tasks they undertook, and the evident fact that theirs has been a labor of love.

The usefulness of the American reprint would be increased as a book of reference, if, in a second edition, each volume could have its separate index. We regret to notice on the title-page of each volume that a name so widely known as that of Dr. Wilks should be misspelled; this is the more inexcusable, as it is correctly spelled on the first page of the preface.

The work is appropriately terminated with a short memoir of the author, most of which is from the pen of his friend, Dr. Walter Moxon.

— The *Lancet* says that *The Friend of the Free States and Bloemfontein Gazette* gives a sad account of the spread of syphilis in Cape Colony. The *Gazette* speaks from memory, but thinks that one out of every three of the Colonial colored population is syphilized. The disease is especially rife in Basutoland and in the Barolong Territory, not only among the natives, but in many places, among the burghers and their families. The disease is spread by filthy habits, even among those who are not guilty of sexual immorality.

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THE HYDROPHOBIA QUESTION.

Some five months ago, we laid before our readers the few established facts which, up to that time, lay at the basis of the popular *furore* over the methods of M. Pasteur in his endeavors to provide a preventive treatment which should be effective against hydrophobia. Since that time, further reports have been made by the distinguished chemist to the French Academy, and these, together with the recent paper and discussion in the New York Academy of Medicine, which we laid before our readers last week, seem to present the occasion for another view of the subject.

Dr. Biggs and Dr. F. S. Billings, who have visited Pasteur in his laboratory, have also published the results of their observations, tinged, in each case, with a strong color of personal enthusiasm for their master. Of the one factor, time, which is to be the most important in the elucidation of this subject, we have had a certain amount, but by no means enough, as yet, to authorize a final verdict.

Pasteur still carries on his work: inoculates rabbits under the dura mater with the cords of rabid dogs, and thus produces an alleged rabies. This he transmits by a series of inoculations through other rabbits, developing in its progress an increasingly virulent disease, with a period of incubation shortening from fifteen to seven days. From the last rabbit of this series, he removes the cord and hangs it up in a dry atmosphere, at 20° C., for a greater or less time, to be *mitigated.* Such an exposure for fifteen days gives the weakest potency of the virus, suitable, when rubbed up with sterilized bouillon, for the primary preventive inoculation of animal or man, and devoid of injurious effects, even when introduced into a rabbit. Successive days witness inoculation, in the preventive treatment of the human subject, with ever fresher, and therefore, more virulent cords, till the final one, which on the tenth or eleventh day, is made with a cord but one day old, and of activity sufficient to produce death in a rabbit in seven days.

Joseph Meister, the Alsatian boy, who was the first subject of the inoculations in July last, remains alive and well. But there is a doubt growing in the minds of many whether the dog that bit him was mad, the only evidence of the fact, at present, being the somewhat doubtful interpretation of the autopsy. Up to the first of March, some three hundred and fifty persons had received inoculation at the hands of M. Pasteur. There has been but one death, that of Louise Pelletier, a child of ten, who was bitten October 3. She received her first inoculation on the thirty-seventh day thereafter (too late, as M. Pasteur claims, for the preventive action to be certain). The operation was repeated, as usual, daily for ten days. Fifteen days after the treatment ended she was attacked with undoubted hydorphobia, and died in three days. What killed her?

This is, thus far, the crucial question for Pasteur's method, and it is not, we feel, satisfactorily answered. His argument that because a portion of her brain, injected into a rabbit caused the latter's death in fifteen days, and not in seven days, therefore her disease was induced *not* by the inoculation, on the ground that the type of the disease transmitted by the intensified virus of a series of rabbits always causes death in seven days, is open to the obvious retort that she was not a rabbit, and that, therefore, the chain of phenomena usually observed in an unbroken series of rabbits may have undergone modification when a human being was introduced into that chain. For, indeed, Pasteur himself has showed that while rabies was intensified in its passage through a series of rabbits, its virulence was much lessened, and finally destroyed in passing through a series of monkeys: and it is entirely possible that the human organism is, in this respect, more like that of the monkey than of the rabbit.

On the other hand, however, it must be admitted that the arguments are not more logical of those of Pasteur's critics, who, in one breath, claim that his propagated virus is not that of hydrophobia at all; and in the next, charge him with causing the death of this girl by bestowing upon her a disease which she would never have had at all but for him.

Time has shown that the dog which bit the Newark children was doubtless not rabid, for nature kindly provided a control experiment in two children left at home untreated, and in a number of dogs bitten at the same time, but never having shown any symptoms of rabies. There is no means of knowing with certainty in any of the three hundred and fifty cases inoculated that the dog was really mad, and we know from the figures of Bollinger, that only forty-seven per cent. of those bitten by dogs undoubtedly rabid and remaining untreated, develop the disease, while even that proportion is greatly reduced when timely cauterization has been practised. Of course, it is a matter of significance if all these persons have, as the report to the Academy indicates, been made the subjects of injection on the last days of their respective treatment with a material which uniformly produces death in rabbits in seven days, and in dogs in eight or ten. It may, however, only prove that of a certain virus, rabid or otherwise, which to some of the lower animals is very fatal, man is not susceptible. The proof that men, or even dogs, who would otherwise have had rabies, have been rendered refractory to it by preventive inoculation, is, from the nature of the case, to be very slowly gathered. Indeed, it can be had only from the results of a very large number of instances, in each of which the probability of rabid infection was very great. For this we have still to wait.

The other objections to Pasteur's claims, the uncertainty whether the disease of which his rabbits die is really rabies, the possible effect upon these animals of trephining and injecting material under the dura, irrespective of any virus that the material may contain; the uncertainty that a dog alleged to be made refractory to rabies, as conveyed by hypodermatic injection of a portion of rabic cord, would be equally so to the saliva carried in the bite of a rabid dog. These, and still other objections, are strongly stated by Dr. Flint in the discussion referred to, and some of them were referred to by Guérin in the French Adademy.

On the other hand, M. Bouley, the late President of the French Academy, with a precipitant fervor, which does not seem to be peculiar to the Gallic nature, hailed the day of the announcement as a sort of Crispian's day for French science, and the session of the Academy as destined to be ever-memorable and ever-glorious, in the history of medicine.

It must be admitted that certain criticisms that have been made seem trivial. Pasteur made a mistake, undoubtedly, when, some years ago, he announced the discovery of the microbe of rabies, and this error, we understand, he now admits. The injection of a crude substance is a less elegant means of inoculation than that of microbes isolated and grown in pure cultures. But in the absence of the latter, the former method has worked satisfactorily enough for many years in vaccination.

Slow acceptance and incredulity are no permanent bar to any discovery, provided it really *is* a discovery. They are rather the inevitable concomitants of all great and permanent advances in the scientific world; and the attitude which they express is, after all, friendlier to any true progress, than is the spirit which has been so rife in the present instance of turning what should be a grave study, solemn with its responsibilities to the race, into a spectacular drama, garish with lime lights and colored fires.

Pasteur has been utilized for business purposes by the enterprising daily press precisely as were Stanley and Tweed. This unfortunate feature of the case does not, of itself, disprove the value of Pasteur's discoveries, but it makes it incumbent upon medical men to stand out of the hurly-burly, to suspend judgment, and until time brings forth further proofs or disproofs, to wait.

[Since the above was in type, we note a telegraphic report of the death of another of Pasteur's subjects, from hydrophobia, a wolf-bitten Russian. The report however, lacks detail.]

THE HEALTH OF BOSTON FOR THE YEAR 1885.[1]

The deaths in Boston in 1885 were 9,618, as compared with 9,622 in 1884, and 9,740 in 1883, or at the rate of twenty-four to each 1,000 of the population.

Although the death-rate is comparatively high, assuming the census to be correct, the absolute number of deaths is less than either of the two years previous, while the record of the number of deaths from preventable causes, which constitutes the true gauge of the efficiency of sanitary administration, shows a very marked falling off from previous years. Ten years ago the deaths from these causes constituted one-third of the total number of deaths. Three years ago this number was reduced to about one-fourth of the total deaths. The proportion has continued to decrease until now, when the preventable deaths for the past year are less than one-fifth of the total mortality, or exactly 19.5 per cent. This is a lower death-rate from preventable causes than is recorded in any other of our leading cities, excepting only Philadelphia, where the rate is about the same. The statistics of mortality under the age of five years are equally satisfactory, and show a percentage to the total mortality of 36., the lowest for fifteen years.

The most fatal factor of the city's mortality is consumption, which accounts for over fifteen per cent. of the total number of deaths. Two other respiratory diseases closely associated with consumption are bronchitis and pneumonia, and these three together account for one-fourth of the total mortality.

The deaths from small-pox were two, from measles eighty-four, scarletina one hundred and fifty-six, diphtheria three hundred and thirty-four, croup one hundred and twenty-five, whooping-cough twenty-six, typhoid-fever one hundred and fifty-two, erysipelas forty, puerperal fever twenty, carbuncle seven, dysentery sixty-two, diarrhœa one hundred and seventy, cholera morbus thirty, cholera infantum four hundred and sixty-one, cerebro-spinal fever, nineteen, pyæmia eleven, septicæmia thirty-one.

The nearness of the city of Montreal, with its recent and severe epidemic of small-pox, and continuous communication with Boston, made it seem probable that the disease would find entrance here; but the vigilant inspection of all persons in our quarantine, the inspection-service instituted and maintained along the whole border-line between Canada and the United States by the Marine Hospital Service, and the additional inspection-service maintained by the New Hampshire Board of Health, together with efficient vaccination and revaccination, were so successful that only twelve cases are known to have occurred in Boston.

The danger of an introduction of cholera while it prevailed in Italy, France and Spain, was the exciting cause of a general and almost unprecedented activity with health boards throughout this country. The alarm felt was not confined to health authorities, but prevailed to a great extent among all classes of our people. The result was that larger appropriations of money were quite universally made in cities and towns throughout the country; the people became more tractable, and willing to respond to the demands for cleanliness and new innovations for sanitary reform, and thus more work with less opposition was accomplished.

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[1] Report of the Board of Health of the City of Boston for the year 1885.

The fact that cholera did not come should not be allowed to detract from the value of the work done, as it is not alone cholera that is invited by uncleanliness or defied by good drainage and sanitary reform. There are many diseases in our city which are more to be feared than cholera. It is only fair to assume that the large reduction in the number of deaths from zymotic or preventable causes during the last half of the year, was. in part, due to the greatly improved sanitary condition of the city. It is believed that no case of cholera reached the American shore during the past season.

Increased activity and vigilance were instituted early in the season, and have been maintained in our quarantine throughout the year. Cholera in Europe and small-pox in Montreal raged with unusual virulence. Communication between these places and Boston being frequent, cargoes, baggage, and persons have been treated with more than ordinary care and scrutiny, and it is believed that no cholera-infected person or cargo has passed the quarantine during the season. Special inspection was ordered for all vessels arriving in this port from Canada and Newfoundland, and all persons were vaccinated or revaccinated who did not show satisfactory evidence that they had very recently been so treated. It was found that more than half of the crews on vessels sailing between the Provinces and this port were in need of vaccination.

In requiring the disinfection of all foreign rags, we believe that the board is demanding much more than is necessary, to the injury of trade and manufactures.

In insisting that all rags shall be disinfected within the bale, and that the steam process, which in Boston is managed by a stock-company, is the only satisfactory one, we think that the board has made an additional mistake. Indeed, the fact has been ascertained that in certain inspected cases there was no real disinfection, while there are competent persons who doubt whether a single bale has been properly disinfected at this port. At all events, the board had nothing in the way of actual experiment to show that the process can be made effectual without spoiling the rags and rendering the process ruinous as a commercial enterprise. For our views in full with regard to the comparative harmlessness of foreign rags as importers of cholera, particularly from healthy ports, we refer our readers to an editorial dated July 27, 1882.

There was less complaint of the quality of our drinking-water during the last year than for many years previous, and, so far as the taste and appearance are concerned, they have both been improved. The chemical examinations also show an improvement in the purity of the water.

The wells in use within the city have been looked to, and wherever any suspicion of pollution has attached to them, the waters have been submitted to chemical examination, and, if found to be unfit for domestic uses, the owners have been ordered to fill up the wells.

The intercepting sewer continues to serve well the purposes for which it was constructed. The board calls attention to the lack of proper sewerage in certain low districts, particulary in Dorchester, and appeals again for the completion of a metropolitan system to include Cambridge and Somerville.

The following nuisances were abated during the year:

House drains repaired, 4,238; Vaults cleaned and repaired, 3,958; Traps supplied, 1,297; Yards cleaned, 1,001; Stagnant water removed from vacant lots, 274; Water-closets repaired, 1,230; Cellars cleaned, 1,053; Cesspools cleaned, 424; Privies repaired, 245; Vacant lots cleaned, 199; Fowls removed, 151; General want of cleanliness of premises, 293; Receptacles provided for garbage, 113; Passage-ways cleaned, 238; Stables put in order, 142; Swine removed, 72; Sundry nuisances, 282; Manure removed, 216; Roofs repaired, 9; Sheds cleaned, 62; Tenements whitewashed, 409; Rags removed, 6; Cows removed, 11.

The number of houses ordered to be vacated during the year was 160, of which only 15 were actually vacated. The other houses having been put in proper condition before the expiration of the time specified in the notice, the tenants were allowed to remain.

3,503 rooms were disinfected, for infectious diseases. The number of *places* disinfected for all causes was 76,615, it being understood that many places were disinfected many times and count correspondingly. 783 privy vaults were abolished. The sanitary condition of the abattoir remains good in most respects. The 11 public urinals, 19 registered infant boarding-houses and 9 lying-in houses were properly inspected and kept in order. At the public baths there was an increase of 135,821 baths over the previous year, namely, of men and boys 762,730, of women and girls 197,035. There were 14 prosecutions during the year.

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THE HEALTH OF CABINET OFFICERS.

Within the past few days no less than three members of the President's cabinet have been reported as unable, by reason of illness, to attend to their duties. One, Secretary Manning, has experienced a serious, not to say alarming, cerebral attack. The cause of the illness is said to be overwork. Doubtless the exertion necessary for any man to familiarize himself with important duties which are as foreign to his previous experience as are those of many cabinet officials, under the present mode of their selection, must involve a great deal of hard work.

It is possible that there may have been cabinet officers in the past who retired from office as innocent of any practical knowledge of the duties of their departments as they went in; but as a rule, it is of course fair to assume that men accept such positions only with an intention of acquainting themselves thoroughly with the work. When to this task, itself a grave one, is added the pressure that imperfect civil-service methods still allow to be brought upon the head of any department which has the bestowal of patronage, and when over all come the social demands which are so numerous and exacting upon men in high official station, there is little reason to be surprised if the accumulated tension proves to be too much.

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MEDICAL NOTES.

— A National Sanitary Convention, the object of which will be to afford an opportunity for an expression of opinion on matters relating to the public health and the discussion of methods looking towards an advancement in sanitary conditions, the prevention of sickness and avoidable death, and the improvement of the conditions of living, is to be held in Philadelphia, under the auspices of the State Board of Health, on Wednesday, Thursday, and Friday, May 12, 13, and 14, 1886. At a later date a circular of details will be issued. The Chairman of the Committee of Arrangements is Joseph F. Edwards, M.D., 224 S. 16th Street, Philadelphia, Pa.

— The *Medical Press* thinks that among the errors of the last British Pharmacopœia, the ordering of nitro-glycerine to be dispensed in chocolate tablets is perhaps the worst. Not only is the dosage uncertain and the manipulation required dangerous, but this method of administration is slower in action and exceedingly expensive; in fact, it is difficult to conceive why the compilers of the last edition of the Pharmacopœia should have gone out of their way to choose so inconvenient and impracticable a vehicle when the one per cent. solution of the drug, which has been in general use for a considerable period, was open to them. It is stable, easily gauged, and prompt in action, and has, in fact, all the merits which are conspicuous by their absence in their present formula. The tablets in question are not stamped, and bear no indication of their nature and strength, and mistakes which might be dangerous in their results may easily occur.

— By lacerating the aortic valves by the aid of instruments passed into the aorta through the carotid artery, M. François Franck has been able, we learn from the *Lancet*, to study the immediate and remote effects of this experimental form of aortic regurgitation. In some cases death supervened rapidly, especially when the heart was diseased previously. If the animal survived, the arterial tension, at first lowered, mounts again, and the heart becomes hypertrophied and its vascular activity is increased. According to M. Franck, the excessive work of the heart is not to be solely attributed to the aortic reflux, but also to an irritation of the sigmoid region, on the ground that slight lesions or a superficial irritation of this region give rise to similar hypertrophy. He also explains the danger of syncope in cases of aortic incompetence by the excessive and prolonged distension of the cardiac cavities, as well as by the depression of the arterial tension of the brain.

NEW YORK.

— The graduating exercises of the training-school for nurses connected with the New York Hospital were held at the hospital building on the 2d of April. Diplomas were presented to nine graduates, and addresses were made to the class by Dr. Beverly Robinson, of the out-patient department, and Truman J. Backus, LL.D., President of the Packer Collegiate Institute of Brooklyn.

—The fifty-sixth annual commencement of the New York College of Pharmacy was held at Steinway Hall, March 30th. A prize microscope, offered by an anonymous friend of the college for the best examination in botany, was won by F. S. Qunitana; and Prof. C. F. Chandler presented a valuable pair of balances to William Buckbinder, who stood highest in the class for general proficiency. The graduating class was the largest ever turned out by the college, numbering nearly one hundred, and the address to it was made by the Hon. John R. Brady, in his usual felicitious style. Judge Brady probably has more funny stories, and can tell them in a more amusing manner than any other man in New York.

—An apparently genuine case of rabies has occurred in Newark. The victim was George Neall, forty-one years of age, who was keeper of the dog-pound in that city. He was bitten on the wrist by a Spitz dog, February last; and the case terminated fatally on the 30th of March. Before he died, he was seen in consultation by Dr. H. M. Biggs, of the Carnegie Laboratory, who has recently returned from Paris. Dr. Biggs was also present at the autopsy, and has since inoculated some dogs and rabbits from the brain and spinal cord of the patient, with a view of testing the real character of the case. Dr. Braden, one of the Newark physicians who attended the patient, got some of the saliva of the latter in a cut on his hand, and has decided to make a visit to Pasteur in consequence.

— A portion of a new building in course of erection by the notorious Buddensiek (who was last year convicted of manslaughter in connection with another similar "accident,") having fallen down and injured several children, one of them quite seriously, the *New York Times* thus very properly gives vent to its indignation: "The builder of this edifice is a tried, convicted, and sentenced felon, who would now be learning some more honest trade than that of building man traps, but for Judge Van Brunt. Judge Van Brunt exercised his judicial discretion by admitting Buddensiek to bail through a sympathetic apprehension that the Court of Appeals might find that he had been improperly convicted. No doubt Judge Van Bruut deeply regrets the collapse of the house Buddensiek has taken advantage of his liberty to build. He ought to give Buddensiek a talking to, and let him understand that it is unseemly and in bad taste for a man under the sentence of manslaughter to be committing fresh manslaughter. Perhaps Buddensiek might be touched by the painful position in which he has put his judicial friend and liberator. It was certainly very indiscreet, to use no harsher word, for the children to stand under one of Buddensiek's buildings while Buddensiek's appeal was still pending. Their offence almost amounts to contempt of court, and possibly Judge Van Brunt may issue an injunction prohibiting the most severely injured child from dying until the court above has decided whether Recorder Smith erred in admitting a photograph of Buddensiek's other building.

PHILADELPHIA.

— The Sixtieth Annual Commencement of the Jefferson Medical College was held at the Academy of Music, April 2d. The address was delivered by Prof. Theophilus Parvin. Prof. Wm. H. Pancoast has resigned from the Chair of Anatomy, to which he succeeded upon the resignation of his father in 1874. Another chair has been rendered temporarily vacant by the ill-health of Prof. S. W. Gross, who was obliged to discontinue his lectures before the close of the session, and has gone to Mexico to recuperate. The Alumni Association had its annual meeting April 1st, the address being delivered by W. H. Warder, M.D.

— The Sixth Annual Commencement of the Medico-Chirurgical College of Philadelphia was held upon the day following that of the Jefferson College; the valedictorian of the occasion was Prof. F. Woodbury.

Miscellany.

THE TREATMENT OF MALARIAL FEVERS WITH TINCTURE OF IODINE.

In the *Indian Medical Gazette*, December, 1885, Mr. W. E. Hendricks gives his experience with the use of iodine in the treatment of malarial fever. Since the 15th of April last he has treated fifty cases of malarial fever by this agent. He believes that the iodine constitutes an efficient and cheap substitute for quinine. He has tried not only quinine but all the alkaloids, and arsenic as well; and in one or two cases he claims that more beneficial effects were derived from iodine than from quinine. Its use has been followed by no bad results. He was first induced to try the effects of iodine internally in a case of tertian ague with congested spleen of enormous size; with the thought that instead of applying the tincture externally, which after a period of sixteen years he had found almost useless, perhaps better results might be obtained by internal administration. For this purpose five minims each of the iodine and iron tinctures were given in an ounce of water twice daily, and after continuing this treatment for six days the fever that before then had come on regularly every day for three months quite disappeared, and the spleen began to diminish in size. The case remained under treatment for one month, up to which time the fever never returned, although the spleen still remained slightly enlarged. Of the fifty cases treated he states that there has been no return of fever as yet, though some of the cases were treated as long as six months ago; the average retention of the patient on the sick-list so treated was only four and three-tenths days. In only one case had he to increase the dose of iodine from five to ten minims, the former quantity not being sufficient to produce complete recovery, although the duration of the fever was cut short from three to six hours. Headaches as the result of malaria have also been successfully treated by this drug.

THE HYGIENE OF THE NEWLY BORN.

The following instructions to mothers and nurses, prepared by a commission composed of Moutard Martin, Bergeron, Parrot, Blachez and Dujardin Beaumetz, have been issued by the head of the Department of Public Charities, Paris: —

1. Till the appearance of the first teeth, i.e., between the sixth and seventh months, the only food of the infant should be milk, that of the mother preferably, if she be in good condition, otherwise that of a wet nurse. It is very dangerous to give an infant solid food of any kind during the first months of its life.

2. The child should be offered the breast about once in two hours, and less often in the night.

3. In the event of inability to provide woman's milk the milk of the cow or goat may be substituted. This milk should be given warm, diluted with one-fourth part water, and slightly sweetened. At the beginning of the fifth month the milk may be taken pure. All other liquids employed to dilute the milk (thin gruel, bread-water, barley-water) are injurious.

4. In feeding the infant, glass nursing bottles should be employed. These, especially the tubing and the mouth piece, should be thoroughly cleansed every time they are used. Never allow nurses to resort to those "sugar teats" with which some mothers seek to appease the cries of the infant, and which are sure to produce canker, and disorder the digestion.

5. It is not till the sixth or seventh month that one should begin to allow farinaceous substances with milk, such as bread, baked flour, rice, arrow root, mealy potatoes; these supplementary foods should always form a considerable part of the infant's dietary towards the end of the first year, to accustom the child to weaning. Weaning ought not to be thought of till the first twelve or sixteen teeth have pierced the gums, while the infant is in a good state of health, and during the lull which follows an eruption of teeth.

6. Every morning the "toilet" of the little one should be made before suckling or feeding; this toilet consists: (1) in washing the child's body, and especially the genitals, which ought always to be kept clean; (2) in scrubbing the head, on which it will not do to let scurf or dandruff accumulate; (3) in changing (at least every second day) the child's underclothing; (4) in giving a warm bath in which the infant should be held five or six minutes. The belly band ought to be kept on during the first month.

7. Swaddling clothes, which cause compression of the body, should be interdicted. The more freedom the young child has in its movements, the more robust

it becomes, and the better its development. All swathing which encumbers the neck and head should also be discarded.

8. The infant should be protected against the injurious effects of excess of cold and heat, whether out doors or in the house; within doors, the air should be renewed several times a day.

9. It is not safe to carry the babe into the open air before the fifteenth day, unless the temperature is very mild.

10. The child ought not to be allowed to sleep in the same bed with its mother or nurse.

11. The bed of the infant should be composed of oaten straw, soft thatch, or husks; the cradle should have curtains during the first months of infancy, and especially during the cold season, to avoid currents of air, but these curtains should never be completely closed. The babe ought not to be rocked.

12. There should not be undue haste in teaching the infant to walk: it should be allowed to creep on the floor and help itself up; walking carts and baskets should be discountenanced.

13. The least indisposition on the part of the infant (colic, diarrhœa, vomiting, cough) should be at once attended to.

14. As pregnancy has the effect to render the milk less nutritious, in case of pregnancy, every nursing woman should cease to suckle her infant.

15. It is a good plan to vaccinate infants during the first three months after birth, or during the first few weeks, if an epidemic of small-pox is prevailing.

NEUROPATHIC ŒDEMA.

The *Medical and Surgical Reporter*, commenting on the local œdematous conditions occasionally found in cases of myelitis and of tabes, says that they are often pronounced indications of an existing kidney complication, and are not seldom looked upon as important factors for the prognosis. Drs. Mathieu and Veit have made a special study of the subject, and come to the conclusion that these œdemas are no evidences whatever of diffused kidney diseases, but simply trophic disturbances, due to an alteration in the nutrition of the skin and the subcutaneous tissues. They found that these swellings frequently select the places which previously were the seats of lancinating pains, joints that had been painful were later similarly affected, and the swellings extended exactly over the regions supplied by the painful nerves. In acute articular rheumatism similar œdematous swellings occur. Here also no form of Bright's disease need be present, which was absent in all the cases of myelitis and tabes observed by Mathieu and Veit. They probably depend upon vaso-motor disturbances. While repeated analyses of the urine can alone determine the question in each individual case, the peculiar seat of the œdema—in the thigh or upper arm, or around one joint, or surrounding two joints on the same side—does generally indicate their true nature, for in Bright's disease either the ankles and the parts of the leg near them or the tissues surrounding the eyes become first affected with œdema in diffused kidney disease. Besides, these swellings in morbus Brightii are never one-sided; they are apt, when not extensive, to disappear while the patient is in the recumbent position, and get worse towards night, after the patient has been much on his feet.

THE COMPOSITION AND MANUFACTURE OF OLEOMARGARINE.

We learn from the *National Druggist* that substantially the following method is observed in the manufacture of oleomargarine: —

A mass of animal fat is heated to a temperature of 120° to 125° F. Salt is sprinkled over the top of the mass, and assists in the purification and settlement of it. The fat becomes an oil, and is allowed to settle, and the best of it, or the straight fat goes to the bottom, and when taken out is exported to Europe for candle-making. The clear fat is taken off, and is placed in large boxes holding from 500 to 600 pounds. In these boxes the fat is allowed to stand until cool, and it meanwhile granulates. Then it is put into heavy duck bags and placed under hydraulic pressure of generally about fifty tons to the square inch, though it sometimes reaches seventy tons, and the oleo oil flows out, leaving a hard mass of stearine, which is extensively used as an ingredient of lard.

The oil is then mixed up with certain proportions of milk and genuine butter, the latter forming as high as thirty-three per cent. of the whole, and as low as five per cent., as the case may be. It is then churned up precisely like genuine butter, and comes forth oleomargarine. Sometimes considerable suet is used instead of the straight animal fat. This is at present the best and cheapest way of making oleomargarine, and is said to be the one generally followed, and the long list of deleterious and injurious substances does not appear. Butterine is, practically, a compound of lard and butter.

THE MORTALITY OF THE MEDICAL PROFESSION.

In the Journal of the Statistical Society some years ago, some figures were given which appeared to show that while the longevity of doctors was somewhat smaller than that of clergymen and lawyers, it still compared favorably with that of men in most other callings. But recently, Dr. Ogle, the successor of the late Dr. Farr as superintendent of the Statistical Department in the English Registrar-General's office, has furnished new data, which rudely shock any flattering unction of long life that doctors might lay to their souls.

The death-rate among the doctors is not only high, but it is also on the increase. In the years 1880, 1881, and 1882, the mortality was higher than that seen in other professions. It was also above the death-rate exhibited by doctors for two decades or so before. From 1880 to 1882, the lawyers died off at a rate of 20.23 per 1000; and the "cosy parson" for these years showed a death-rate of only 15.93. The doctors, on the other hand, exhibited a death-rate of 25.53 per 1000. Again, when the medical mortality is compared with the death-rate of teachers, with that of the commercial travellers, or even with that of the miner and his coal-dust lungs, these fairly unhealthy or very unsanitary occupations are found to present favorable comparison with the doctor's chances of old age. True, the inn-keeper, the butcher, the brewer, the quarryman, the cutler, and the workers in certain other trades, are behind the doctors in the matter of mortality. But this, at the best, is but a poor compliment to the chances of health and welfare which medicine offers to its votaries. The causes of medical deaths are given by Dr. Ogle in an interesting manner. He takes the death per million of doctors and of all other men, and shows the relative proportions in these two death-rates. Thus per million of medical men and per million of other men, the death-rate from scarlet fever is as 59 to 16; from typhus, as 79 to 38; from diphtheria, as 59 to 14; from typhoid fever, as 311 to 238; from alcoholism even, as 178 to 130; from suicide, as 363 to 238, and so on. In the matter of suicide, Dr. Ogle tells us that self-destruction by poison is the preferential method of the profession. Liver disease kills off a moiety of doctors; and a great authority has explained this fact by a reference to the irregular dietetic habits which the business of a doctor induces. In the matter of small-pox, the doctors come out triumphantly. The annual death-rate from small-pox among all males above twenty years of age, is 73 per million. Among medical men, it is only 13 per million. Here, probably, thorough vaccination tells its own tale of safety and prevention, although it is clear that the death-roll in respect of other troubles, more than counter-balances the small-pox gain.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 27, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Whooping Cough.	Diphtheria and Croup.
New York	1,340,114	793	278	15.34	15.47	.91	2.73	6.50
Philadelphia	927,995	429	153	7.82	14.26	2.76	.46	4.60
Brooklyn	644,526	304	53	11.34	—	.65	1.62	4.10
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	191	60	15.37	16.43	1.06	.53	6.36
St. Louis	408,520	192	70	10.12	16.64	2.60	1.04	4.16
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	115	34	6 09	14.79	.87	—	2.57
New Orleans	234,000	120	25	9.13	23.24	.83	.83	2.49
Buffalo	201,000	94	36	12.72	29.68	3.18	1.06	1.06
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	54,400	31	10	3.23	16.15	—	—	—
Nashville	52,286	18	9	22.22	22.22	5.55	—	—
Worcester	68,383	27	12	18.51	37.03	—	—	3.70
Lowell	64,051	28	7	7.14	10.71	3.57	—	3.57
Cambridge	59,660	20	3	10.00	15.00	—	—	—
Fall River	56,863	11	7	9.09	18.18	—	—	9.09
Lynn	45,861	15	4	6.66	26.66	—	—	—
Lawrence	38,825	17	4	—	29.40	—	—	—
Springfield	37,577	15	2	6.66	13.33	—	—	—
New Bedford	33,393	11	0	—	36.36	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	4	—	—	—	—	—
Holyoke	27,894	12	6	50.00	16.66	8.33	8.33	—
Chelsea	25,709	12	5	—	25.00	—	—	—
Taunton	23,674	4	1	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	3	—	—	—	—	—
Brockton	20,783	7	2	—	42.84	—	—	—
Newton	19,759	5	3	20.00	20.00	—	—	20.00
Malden	16,407	2	1	—	50.00	—	—	—
Fitchburg	15,375	5	0	21.00	40.00	—	—	—
Waltham	14,609	7	3	14.28	28.51	—	—	14.28
Newburyport	13,716	8	1	12.50	38.50	—	—	12.50
Northampton	12,896	9	2	11.11	11.11	—	11.11	—
93 Massachusetts Towns	—	67	14	7.40	26.78	—	2.96	2.96

Deaths reported 2,576: under five years of age 792; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 282, consumption 366, lung diseases 371, diphtheria and croup 114, whooping-cough 37, typhoid fever 36, scarlet fever 20, cerebro-spinal meningitis 16, diarrhœal diseases 16, measles 12, erysipelas seven, puerperal fever six. From scarlet fever, New York nine, Boston five, District of Columbia, two, Nashville, Springfield, Fitchburg, Marblehead one each. From cerebro-spinal meningitis, New York six, Worcester four, Boston two, Nashville, Holyoke, Salisbury and W. Springfield one each. From malarial fever, New Orleans six, New York five, Baltimore and District of Columbia two each, Nashville one. From diarrhœal diseases, New York seven, Boston five, Charleston, District of Columbia, Cambridge, and Fall River one each. From erysipelas, New York six, Boston one. From puerperal fever, New York three, District of Columbia two, Cambridge one.

Cases reported in Boston: scarlet fever 33, diphtheria 27, typhoid fever 12, and measles seven.

In 110 cities and towns of Massachusetts, with a population of 1,320,837 (population of the State 1,941,465), the total death-rate for the week was 19.29 against 18.54 and 17.41 for the two preceding weeks.

In the 28 greater towns of England and Wales, witb an estimated population of 9,093,817, for the week ending March 13th the death-rate was 28.0. Deaths reported 4,873: infants under one year of age 986; acute diseases of the respiratory organs (London) 855, whooping-cough 191, measles 122, diarrhœa 36, scarlet fever 30, fever 31, diphtheria 18, small-pox (Liverpool) two.

The death-rates ranged from 19.3 in Brighton; to 35.7 in Manchester; Birkenhead 23.0; Birmingham 25.5; Bradford 24.7; Hull 21.0; Leeds 25.2; Leicester 21.7; Liverpool 33.8; London 28.7; Nottingham 24.2; Plymouth 35.4; Portsmouth 28.7; Sheffield 19.6.

In Edinburgh 21.5; Glasgow 33.7; Dublin 38.3.

For the week ending March 13th in the Swiss towns, there were 49 deaths from lung diseases, consumption 43, small-pox 15, diarrhœal diseases 10, whooping-cough 11. diphtheria and croup nine, puerperal fever two, erysipelas and typhoid fever each one.

The death-rates were: at Geneva 21.2; Zurich 17.2; Basle 29.2; Berne 28.9.

The meteorological record for week ending March 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 27, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...21	29.430	34.9	38.9	31.6	100.0	93.0	93.0	95.3	E.	N.E.	N.	31	24	16	R.	O.	O.	—	—
Monday, ..22	29.316	38.2	46.4	31.2	86.0	53.0	74.0	71.0	W.	S.W.	W.	6	24	14	O.	O.	O.	—	—
Tuesday,..23	29.472	34.2	41.0	28.2	80.0	46.0	72.0	66.0	W.	N.W.	N.W.	12	20	20	O.	T.	O.	—	—
Wednes., .24	29.892	29.8	36.0	22.0	61.0	55.0	61.0	59.0	N.W.	N.W.	N.W.	24	28	9	F.	C.	C.	—	—
Thursday, 25	29.963	39.7	46.0	28.0	59.0	45.0	84.0	62.7	S.	S.W.	W.	2	14	9	O.	C.	O.	—	—
Friday, ...26	29.955	47.3	53.2	40.0	47.0	28.0	33.0	36.0	W.	N.W.	N.W.	11	22	6	O.	C.	C.	—	—
Saturday, .27	30.196	42.0	51.3	33.3	44.0	57.0	96.0	65.7	S.W.	S.W.	S.E.	8	10	5	O.	O.	N.	29	1.29
Mean, the Week.	29.746	38.0	46.1	30.6				65.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 27, 1886, TO APRIL 2, 1886.

McElderry, Henry, major and surgeon. Relieved from further duty in connection with New Orleans Exposition and ordered, on the expiration of his present leave of absence, for duty in Department East, S. O. 71, A. G. O., March 26, 1886.

Loring, Leonard Y., assistant surgeon. Granted leave of absence for one month, provided that during his absence he furnishes the necessary medical attendance at San Diego Barracks, Cal. S. O. 19, Department of California, March 24, 1886.

Hoff, Jno. Van R., assistant surgeon. Granted one months' leave of absence. S. O. 29, Department Missouri, March 29, 1886.

Banister, J. M., assistant surgeon. Granted leave of absence for one month to commence on or about April 2, 1886. S. O. 63, Department East, March 26, 1886.

Appel, Aaron, H., assistant surgeon. Granted leave of absence for one month. S. O. 66, Department East, March 30, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 3, 1886.

Atlee, L. W., assistant surgeon. Ordered to duty on United States Revenue Steamer "Vermont."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MARCH 27, 1886.

Wyman, Walter, surgeon. Detailed as chairman of Board for physical examination officer Revenue Marine Service, March 27, 1886.

Sawtelle, H. W., surgeon. Granted leave of absence for thirty days, March 27, 1886.

Irwin, Fairfax, passed assistant surgeon. Granted leave of absence for seven days, March 22, 1886.

Ames, R. P. M., passed assistant surgeon. Detailed as recorder of Board for physical examination officer Revenue-Marine Service, March 27, 1886.

White, J. H., assistant surgeon. Granted leave of absence for three days, March 23, 1886.

SOCIETY NOTICE.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at the Massachusetts Institute of Technology, on Wednesday, April 14th, at 7.45 o'clock. Papers: Dr. E. C. Haven will exhibit a series of interesting cases, with specimens. Dr. Grace Wolcott will read a case of "Ulcerative Endocarditis," and will exhibit the specimen. Dr. C. F. Withington, of Roxbury, will read a paper on "Military Drill as a means of Physical Training for Boys." A photograph of a singular painting by Watteau, satirizing the universal use of the Anal Syringe, will be exhibited by a member of the Section and presented to the Society. Gen. Hobart Moore, Instructor in Military Drill in the Boston Public Schools, Prof. D. A. Sargent, of the Hemenway Gymnasium, W. C. Collar, Esq., of the Roxbury Latin School, Dr. R. Sturgis, and others have accepted an invitation to be present. Members of the Profession and others interested are cordially invited to attend and take part in the discussion.

F. I. Knight, M.D., *Chairman.*

Albert N. Blodgett, M.D., *Secretary.*

APPOINTMENT.

Dr. Charles M. Green has been appointed Instructor in Obstetrics in Harvard University.

DEATH.

Died in Boston, April 5th. Geo. A. Bethune, M.D., M.M.S.S., aged 74.

BOOKS AND PAMPHLETS RECEIVED.

Permanent Drainage for Ascites. By Augustus Caillé, M.D., New York, Physician to the German Dispensary. (Reprint from the New York Medical Journal, for February 27, 1886.)

The Armstrong Case. By Theo. W. Fisher, M.D., Boston, Mass. (Reprint from the Alienist and Neurologist, January, 1886.)

The Medical Student's Essentials of Physics. By Condit W. Cutler, M.D., Late House-Physician, Bellevue Hospital. New York: J. H. Vail & Co. 1884.

The Production and Prevention of Perineal Lacerations during Labor, with Description of an unrecognized Form. By Henry T. Byford, M.D., Chicago. (Reprinted from the Journal of the American Medical Association, March 6, 1886.)

Comments on Pasteur's Method of Treating Hydrophobia. By Charles W. Dulles, M.D. (Reprint from Medical Record, February 13, 1886.)

A new Clothing Case for the Soldier. By W. Thornton Parker, M.D., of Newport, R.I., Late Surgeon U.S.A. (Reprinted from the Journal of the American Medical Association, March 6, 1886.)

Population and Sex, as finally revised. Census of Massachusetts. 1885.

Practical Hints about Sympathetic Diseases of the Eye. (Reprint from the New York Medical Record, By C. A. Bucklin, M.D., New York.)

Fourteenth Annual Report of the Board of Health of the City of Boston. For the Year 1885. Boston: 1886.

I. Ovarian Abscess and Pyosalpinx. (Reprinted from the Liverpool Medico-Chirurgical Journal, January, 1886.) II. Pelvic Abscess. (Reprinted from the Pacific Medical and Surgical Journal and Western Lancet, February, 1886.) By Francis Imlach, M.D. Edinburgh: Printed by Neill & Co. 1886.

Massachusetts Society for the Prevention of Cruelty to Children. Incorporated 1878. Fifth Annual Report, 1885. Boston: 1886.

Von Ziemssen's Handbook of General Therapeutics. Vol. IV. The Treatment of Disease by Climate. By Dr. Hermann Weber.

General Balneotherapeutics. By Prof. Otto Leichtenstern. New York: William Wood & Co. 1885.

Fifth and Sixth Annual Reports of the Thomas Wilson Sanitarium for Children of Baltimore City. 1885.

Original Articles.

CAUSALITY IN DISEASE, APPLIED TO THE PHENOMENON OF VOMITING IN PREGNANCY.[1]

BY JAMES E. KELLY.

Member of the Royal Irish Academy; Fellow of the Royal College of Surgeons, etc.

Gentlemen, your worthy President, Dr. Chadwick. has aroused me from an intellectual lethargy of more than two years, by asking me to elaborate my impromptu remarks relative to the advantages to be derived from the application of physiological principles to the elucidation of one of the most obscure and intractible conditions of disease, namely, vomiting in pregnancy. As a man who has devoted some years of his professional career to physiological teaching and who, in consequence of the custom prevalent in the higher ranks of the medical profession in Great Britain and Ireland, of transferring all obstetrical cases to the care of specialists who limit their practice to that field, was not interested in the phenomenon, except in a casual manner, I consented, perhaps without a due appreciation of the extent and importance of the undertaking. I had but commenced to arrange my ideas, when I discovered that this apparently limited subject was, in reality, one of the most interesting and profound which I have encountered in the domain of biology, embracing the great questions of life, nutrition, cell-proliferation, nervous action, and a host of other subjects for the considerations of which, a few weeks were but as a single moment. I have been additionally hampered by the feeling that my production is but an addendum to the practical paper which was read to you by Dr. Doe, and also, owing to the knowledge that I stand between the Society and a communication which my slight acquaintance with Dr. Cushing convinces me is one of great interest and practical value. While writing this paper I have fully realized the significance of the saying of the celebrated Pascal, when apologising for the length of one of his compositions he said, "I had not time to write it shorter." Any one busily engaged in practice will sympathize with me in my difficulty and condone many of my omissions. It may be said with great apparent justice that I have submitted to this section some ideas which would be more suitable to a biological society, but as no such body exists in Boston, I have no alternative; also, that I have not discriminated with sufficient care between my personal ideas on physiological and other questions and those which are more generally accepted, but, I must confess, I have treated the matter freely and hurriedly, and I give it to you as it came to me, rough-hewn and unpolished.

The form of vomiting which particularly engages our attention to-night is that which takes place during pregnancy. It constitutes one terminal of a causal chain which has its primary link in the gravid uterus or its vicinity, where the energy which produces the phenomenon is developed. In order to limit our field of thought I shall review the causes of vomiting generally, and attempt to classify them. Firstly, vomiting is induced by irritation applied directly to the stomach: *a*, by the effects of irritants introduced into the organ; *b*, by modification of structure as we find in inflammation, simple ulcer, and in carcinoma; *c*, by the disturbance of function occurring in dyspepsia and in the vicarious secretions which take place in uræmia and lithiasis, diseases, by the way, to which the pregnant female is peculiarly liable; *d*, by the mechanical irritation resulting from the encroachment of the gravid uterus and other abdominal tumors. In this class the afferent impressions are conveyed by the pneumogastric nerves to the presiding centres, from whence the efferent impressions are dispatched to the involved muscles. Secondly, vomiting also results from impressions originating in other organs, or from the introduction of certain agents into the circulation, which disturb the control of the vomiting centre in the medulla oblongata, by exciting it to over action, or by diminishing its inhibitory power. These disturbing influences, except when of toxic origin, are grouped under the common term, "reflex action," and the severity of the symptoms depends upon, *a*, the intensity and duration of the disturbing energy; *b*, the susceptibility of the centre to its effects, and *c*, the responsivity and capacity of the involved muscular structures. In this class, vomiting may be due, *a*. to pain or shock; *b*, to those strange "nerve-storms" which originate in some emotional cerebral disturbance; *c*, to excessive action or nutrition in any organ, as in the gravid uterus, and *d*, to irritation, the term being used in a very comprehensive sense, applied to nerve-endings, nerve fibres, or nerve centres, in direct or indirect continuity with the vomiting centre. In many cases of vomiting more than one of these causes contribute to the result, and the recognition of their co-existence must have an important influence upon the success of the treatment.

Vomiting is a complex operation resulting from the complemental action of the muscular coats of the stomach and of the muscles of respiration. These two factors are usually combined, although it is possible for one of them to accomplish the act alone, as is seen in the so-called "cerebral vomiting" and in the well-known experiment of Magendie upon the dog. In that interesting symptom, "cerebral vomiting," the patient, owing to a grave cerebral lesion, is lying unconscious, without any apparent movement other than simply gaping or slowly opening his mouth, he discharges the contents of his stomach. This evacuation is produced by the peristaltic action of the walls of the stomach. In the experiment upon the dog, the stomach is removed and in its place is introduced a bladder containing fluid. When the necessary stimulus is applied, the muscles of respiration contract, the bladder is compressed against the diaphragm by the recti and the broad muscles of the abdomen, and its contents are expelled by their simultaneous contraction. Thus, vomiting, except when caused by the unaided action of the stomach, in common with sighing, yawning, coughing, hiccoughing and retching, is a disturbance of the rythmical or alternate order of the acts of inspiration and expiration. This fact, in connection with the proximity of the presiding nerve centres in the medulla oblongata, should not be forgotten in the consideration of the etiology and the therapeutics of the phenomenon in pregnancy. In that distressing modification, retching, it is probable that owing to the absence of the preparatory dilatation of the cardiac orifice, the force of the respiratory muscles is fruitlessly expended upon the stomach. I am satisfied that the observation of the relative preponderance of the two factors in a case of vomiting would conduce to its comprehension and to its more efficient treatment. Owing to the comparatively free communication between the uterus and the respiratory muscles, we should anticipate a preponderance of the influence of the respiratory muscles in reflex vomiting and of the muscular walls of the stomach in the irritative form.

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[1] Read before the Suffolk District Medical Society, Section of Obstetrics and Gynæcology, Jan. 20, 1886.

In consequence of the interlacement of the numerous branches of the sympathetic and the cerebro-spinal nerves, and of the presence of many ganglia in the abdomen, we find it difficult to resolve the connections between the uterus on one side, and the stomach and the respiratory organs on the other; but we can explain the apparent complexity by dividing them into two classes; first, the nervous communications between the uterus and ovary, where the stimulus may sometimes originate, and the stomach; second, those which connect the same organs with the respiratory muscles. The hypogastric plexus which supplies the pelvic viscera with its nerves is, necessarily, a common link in all the routes. In the first class there are two routes, one, through the sympathetic nerves from the hypogastric plexus to the solar plexus and thence, by its gastric subdivision, to the stomach; the second, from the hypogastric plexus through its spinal roots to the spinal cord and thus to the medulla oblongata, where, in the vomiting centre the afferent impressions are converted into an efferent influence, which is transmitted to the stomach through the pneumogastric nerves. In the second class, by one route we can trace the connection from the hypogastric plexus, by its spinal roots to the spinal cord through which it may be transmitted directly to the respiratory muscles by the intercostal, phrenic and other nerves, and by the second, having reached the cord by the same route, the nervous energy is conveyed to the vomiting centre whence it is transmitted through the cord to the respiratory muscles by the same nerves as in the last instance. The second route in each class is that which is the more familiar. In the diagram shown I have indicated the courses by the use of different colors.

Before proceeding further I shall recall a few general principles, which, if time permitted, I should endeavor to apply to our present subject.

Energy is a general term applied to all forces, such as heat, chemical action, light, sound, electricity, gravitation, etc., which have the power of modifying matter by overcoming resistance, and under certain circumstances, and in the presence of certain forms of matter are convertible each into all or any of the others.

Kinetic energy is the result of molecular or molar change, produced by the action of another force, which disturbs the condition of rest or stability, termed equilibrium.

A special energy requires for its manifestation a special modification of matter.

Vital energy is only manifested in the presence of protoplasm, and it is the product of the two factors, life and protoplasm.

All functional and constructive vital energies, are the result of molecular change, which disturbs the equilibrium of the energy associated with protoplasm.

Vital energy manifests itself under various modifications, as nutrition, vital heat, nervous energy, muscular action, etc., and it is correlative with the various physical energies.

All vital energy as well as organic matter must be traced from its source to its destination before the enigma of Life is solved.

Owing to the specialization of function, nutrition and reproduction, the essential energies in the lower conditions of life, are, in the animal kingdom, subdivided into various forms which are reciprocally productive of one another.

Nutrition is the proximate result of vital energy, and all vital phenomena are its consequences.

All forms of vital energy, but especially nervous energy, are, like light, modified by diffusion, intensification, dispersion, reflection, interception, and conversion.

According to a principle analogous to that of the correlation of forces, it is probable that similar influences govern the vital and the physical energies, a speculation which our observation corroborates in many instances.

Death, in the organic world, is the condition of absolute equilibrium of the vital energies, associated with the suspension of nutrition.

Health is the condition in which the sum of the vital energies is limited to certain "normal" bounds, and the various sub-energies bear to each other certain "normal" proportions. They are in equilibrium.

Disease is that condition which results from the transgression of these limits, in either direction, by the sum of the vital energy, or by one or more of its forms; also by the disturbance of the relative proportions existing, within those limits, between the several manifestations of vital energy.

Local disease is an approximate term, indicating a comparatively limited disturbance, which has only local manifestations.

Owing to the great length of this paper and to its suggestive nature, I have endeavored to combine many of the physiological considerations with the therapeutics of the subject, a method which prevents me from doing justice to my topic or to myself. The therapeutical indications have the same basis as in all other applications of "rational" treatment. We must endeavor, first, to modify the disturbance of structure or function which originated the abnormal state of energy in the uterus; second, to transform or otherwise modify, the resulting nervous energy; third, to divert or obstruct it in the channel which conducts it to the abnormally acting structures, either in the efferent nerves which convey it to the nerve-centres, in the nerve-centres themselves, or in the efferent nerves leading to the structures; fourth, to nullify its influence upon these structures, namely, the coats of the stomach, and the muscles of respiration. In the selection of the method of treatment, the practitioner is guided by his knowledge, his judgment and his conclusions.

I shall now speak of the greater frequency of this grave condition in the primiparæ, and I should attempt to explain it by one or more of the following considerations: First, displacements of the uterus are more under observation and control in the multiparæ; second, owing to previous pregnancies, the ligaments of the uterus and its walls, if not modified by inflammation, are in a more favorable condition for the essential changes; third, in the primiparæ, the adaptability to maternity, and the power of resisting its ills, are tested, with the result of the elimination of many of the aspiring candidates for that high honor; fourth, it is possible that the susceptibility of the various nervous centres may become blunted by the test to which they have been submitted in previous pregnancies, or by the still greater strain of parturition.

Almost invariably, nervous energy in the female is in a comparatively unstable condition, and during gestation it is still more liable to violent disturbances, as we often witness in eclampsia, mania, hysteria, and many other neuroses. This is easily understood when we recall the immense amount of energy convertible into the nervous form, which must be developed in the uterus during the construction, within a comparatively limited period, of a machine combining a greater complexity of structure and a greater variety of function than the collective wisdom of the human mind can conceive. We also observe, in pregnant females, an exaltation of the functions generally, as we should expect in conjunction with the adoption of the responsibility and the support of another individual.

We can have little conception of the influences which effect a nervous impression from its origin until it reaches its destination, if it should pass through one or more ganglia. The central nervous system is a combination of ganglia; a ganglion contains many multipolar cells, which form interminable communications with one another, and with innumerable nerve-cells and fibres external to the ganglion. An impression arriving at the simplest ganglion is liable to have its power diminished to a homœopathic degree by subdivision, or, by combining with other nervous currents which reach the ganglion from other sources, it may proceed on its course, intensified a thousand-fold. Here, it would be permissible to speculate upon the influence which induces the current to adopt a special avenue of exit, for on it is based Education, in its highest and in its lowest relations. Its application to our present theme is shown by the remarks of your worthy President and others, who spoke of administering small and frequent quantities of food, of the chewing of "spruce-gum," "pop-corn," and other incentitives to frequent deglutition. This would indicate the training of the nerve-centres, by repeated impressions, to adopt a special form of nervous action, resulting in a suspension of the perverted condition which produced the emesis. Another application of the principle of education is afforded us by the observations of some of the other speakers, who mentioned cases in which vomiting continued after abortion had been produced. Assuming the correctness of the diagnosis of the cause of the persistency, I am at a loss to explain the occurrence, except as the result of "habit," which is synonymous with the modification of the structure of the presiding centre, resulting, most probably, from the increase of the conductivity or the size of the nerve-fibres conveying the efferent impressions to the stomach. This speculation is based upon the general principles that increase of function, *cæteris paribus*, is associated with increase of structure, and that energy travels in the direction of the least resistance. As we do not recognize the existence of effect without cause, this is a subject which I should gladly develop if a suitable opportunity should offer itself. While we remember the educational advantage derivable from increased salivation, we must not forget that the saliva, being an alkaline fluid, may have a sedative action upon the irritated mucous membrane. Although we can hardly expect any of this influence to be due to the small quantity of Sulphocyanide of Potassium, it is interesting to remember its presence in the saliva, and perhaps, to ask ourselves, if it be in the power of the biologist to teach us how to increase its secretion, a speculation which may not be fruitless in other fields. As a gentleman alluded to the frequent coincidence of salivation with vomiting, I wish to recall the close relation of the salivary and the vomiting centres in the medulla oblongata, which association may afford a clue to many other complex phenomena. Your President also mentioned some cases in which the patients derived great advantage from the habit of taking nourishment immediately before composing themselves to sleep, a valuable suggestion, which is sustained by two important considerations. One is the fact that in over-action of the nervous centres, food in the stomach, by exciting the process of digestion, and converting the nervous into the vito-chemical energy, acts as a sedative; and the other is based upon the well-known principle, which is hardly confined to medical subjects, that weakness and irritability are closely associated, and consequently, any measure having a tendency to relieve the former should ameliorate the latter.

Although we cannot expect to interfere, to any great extent, with the normal progress of gestation, the consideration of a few of its most salient points will be of interest, and perhaps of advantage. In the development of the uterine walls, we must consider two factors of especial importance to this question. One is the rapid cell-proliferation which takes place in all the tissues; the other is the modification of the form of the cavity. I shall again remind you of the immense volume of energy which is generated by cell-nutrition and reproduction. They also produce tension upon the nerve-endings and the fibres, if any disproportion should exist between the expansion and the proliferation. If we were to attempt any interference with the natural process of uterine development, we should look to those remedies which are useful in counteracting excessive development in disease. Blood-letting stands at the head of the list, which is very limited, containing only Lead, Mercury, Potassium, and a few minor drugs. Ipecacuanha may enhance its high standing by proving itself useful in this conjunction. One other medicine I should wish to mention, which appears to possess a marked influence upon uterine action. I speak of Viburnum Prunifolium, and I should be curious to learn if its sedative effects were of any benefit in uterine vomiting. The union of the cervical with the general cavity of the uterus, and their remarkable expansion subsequently, can only occur at the expense of much traction and modelling pressure. In the fact that the uterus resembles the other hollow organs in the special development of the nerves which guard its outlet, we may have a clue to the vomiting and to the beneficial results of dilatation of the os uteri, a procedure which is held in high estimation. Its action is two-fold: first, forcible and sudden removal of the tension which irritated the nerves and their endings; and second, the application of the well-known principle of "nerve stretching" to the involved fibres. I may here remark that an apparatus which would apply instantaneous and general dilatation to the orifice, should be more efficacious than that method which one of the gentleman described at our last meeting. He divaricated the blades of a forceps which he introduced within the os, one and a half inches in one direction, and then he repeated the manœuvre, transversely to the same extent. It is hardly necessary to say that the second step of the operation did not increase the size of the os uteri, any more than it would effect any other circular aperture, which would yield to an equal extent in every direction.

If we cannot prevent the development of the uterine energy, we may cast about for some method of diverting it from the hypogastric plexus, and here we are reminded of the treatment which is directed to the cervix and to the os uteri. We occasionally hear of benefit being derived from the application of Iodine and Nitrate of Silver, and I should attempt to explain their action by quoting a principle from that prince among men, the late James Syme, of Edinburgh: "Pain, hæmorrhage, inflammation, increased nutrition, and excited secretion, take the place of one another, so that they may be regarded as equivalents of action." Following up this clue, and recalling the theory of nervous energy, a wider field for well-founded experiment would develop itself. By the application of the actual or the potential cautery, we should expect to produce more marked and enduring results. The former is much facilitated by that manageable little instrument, Paquelin's cautery, while Nitric Acid, Potassa Fusa, and the Ethylate of Sodium, afford ready methods of applying the latter. Acupuncture, by its efficacy, induces us to employ it in many cases, although we can hardly hazard a speculation on its mode of action. In whatever manner it modifies energy, which it appears to do by producing a sedative influence, it is possible that its application to the cervix of the gravid uterus may be associated with some benefit. Another expedient may produce a similar influence in some cases of vomiting, as in other forms of violent nervous perturbation. I allude to ovarian pressure, which is so valuable in hystero-epilepsy. It may be applied by a truss or other apparatus externally, or by a combination of external and vaginal pressure.

Assuming that we cannot modify the uterine energy, we may consider if we can intercept it in its passage to the nerve centres, or induce it to adopt another goal. We find that the resources of therapeutics are limited in the number of the paralyzers and depressants of the afferent nerve fibres, but when we recognize among them such potent medicine as Aconite, Physostigma, and Nitrite of Amyl, we cannot allow this indication to pass unnoticed. As to the application of the principle of counter irritation, we should endeavor to discover if any portions of the integment have special connection — "linked spots" — with the uterus or the involved centres, at which this expedient may be more effectively applied either in the form of Corrigan's button, or as an issue, rather than as a simple blister.

Regarding secretory energy as a correlative of the other vital energies, we should expect to find it as a frequent and obvious result of the uterine influences, as in salivation and excessive secretion of the gastric juice or mucus. It would be interesting to observe if we could utilize this suggestion by diverting the surplus energy to the elaboration of some secretions which would promote its diffusion. This line of thought naturally reminds us of the secretory action of the skin, an old and well-established avenue for the elimination of heat and other forms of energy. In Pilocarpine we have a drug of remarkable efficacy, and we possess many other medicines which may combine this influence with other advantages. Another basis for this suggestion is the proximity of the presiding sweat centre, to the vomiting, respiratory, and other important centres in the medulla oblongata. In this conjunction it is convenient to consider the influence exerted by the morbid displacements and the normal elevation of the uterus. We must recall for an instant the observation of gentlemen of ability and opportunity, such as Graily Hewitt, who noted that the majority of the displacements, associated with vomiting, were antiversions. This is as we should expect when we remember that the nervous supply of the uterus reaches it from below and behind, and therefore, in this form of displacement, the fibres would be most liable to straining, tension and irritation. Most probably in cases of retroversion the irritation applied to the nerve fibres would be by pressure between the uterus and the pelvis, or some other viscus, such as an impacted rectum. For such cases the conditions would suggest the rational treatment, by replacement or by the evacuation of the distended viscera. A very interesting question arises in those cases which result from the abnormal resistance to the essential elevation of the uterus. It is possible that benefit may be derived from the application of some power within the vagina which with a justifiable amount of force and rapidity, would elevate the uterus *en masse*, and thus liberate the nerves from the resisting ligaments, and at the same time exert upon them the sedative influence of nerve stretching. A suitable apparatus might be devised, by modifying that instrument known as the "cup pessary" and adding to it a handle. Here I am reminded that the application of heat and cold according to the multiple modes known to the "craft," by bath, bag, or douche, may be beneficial. It is possible that heat in the form of a bath may diffuse, direct or conduct from the body the energy otherwise concentrated on the stomach. This may be a partial explanation of its well-established sedative influence. In massage we have another mode of producing a somewhat similar effect. By the stimulation which it applies to all the structures of the body as well as by its manifest influence upon the general nutrition, it may diffuse the superabundant vital energy. This is a remedy which admits of many applications. The utility of cold in many forms of disease needs no commendation; but the cold bath or a cold douche may exert two influences worthy of being specially canvassed. One is by the removal of heat and the consequent conversion of the nervous energy to supply the place of the abstracted calorific energy; again the well-known influence which cold exerts over development may be utilized. I have not alluded to the effect produced upon the arterioles because I am inclined to consider that our pathologists have been running that one intermediate function to death to the disadvantage of many investigations which appear to possess much interest and importance.

When the nervous current reaches the great centres, such as the spinal cord and medulla oblongata, according to the present knowledge which we possess, we must concentrate our forces upon attempting to destroy their conductivity and their power of reflecting the nervous impressions. Whether some philosopher shall ever discover the manner in which the various drugs act upon the nervous centres I cannot forecast, but I am satisfied that any exhaustive mind, which applies itself to this subject cannot be content with the explanation which the biologists offer us. According to our light we may divide the drugs from which we may expect aid into the depressors and paralyzers of the medulla and the spinal cord. Among those medicines from which we would anticipate the most potent influence upon the vomiting centre in the medulla, are Varatrum Viride, Aconite, the Chlorals, Nitrite of Amyl, and a host of others; while among those which exert the most distinct influence on the cord, in addition to some of the last mentioned, are Physostigma, Hyoscyamia, Antimony, and Conium. By the action of those drugs the nervous centres are deprived of the power of transmitting to the engaged muscles the nervous impressions which they receive from the uterus, and, according as we deem the cord or the centre in the medulla the more active in the development of vomiting, so should we select the more appropriate remedy. If the former should be the case, Physostigma is the most promising agent, and if the latter, Veratrum Viride or its principle, Veratria. I may mention that upon physiological principles the much used and abused remedy, "Atropia and morphia," administered hypodermically should be more closely studied, as the former tetanizes the cord, increases reflex action and stimulates the respiratory centre, while the morphia to a lesser extent produces similar effects in some of its manifestations. Nux Vomica may be admissable in some cases owing to its acting as a stimulator upon all parts of the spinal cord by which effect it may diffuse the energy which otherwise would be concentrated on the centres of vomiting and respiration. I shall allude to another medicine here which may be found useful owing to the remarkable sedative effect it manifests in dyspnœa, an influence which may extend from that of respiration to the adjacent vomiting centre, in the floor of the fourth ventricle; I speak of Quebracho.

The muscles of respiration afford us the next field for combatting the malign influence developed in the uterus and transmitted to those powerful agents. This object can be effected in one of two ways, either by paralyzing the muscles or by producing a condition which will prevent the compression of the stomach. In Curara, that powerful drug of such obscure origin, so potent in hydrophobia and in tetanus, and which is used by vivisectionists, when desirous of producing absolute immobility without interfering with the other functions of the nervous system, we find an agent imperatively demanding a full and fair trial in a disease which frequently submits to us nothing better than the selection of the lesser of two evils, the death of the mother or the destruction of the offspring. The other expedient, by which the stomach is protected from the pressure of the respiratory muscles, is tracheotomy, by which the fixation of the diaphragm is rendered impossible, and consequently the contraction of the abdominal muscles is almost nullified, the stomach being evacuated only by the action of its own walls.

Finally if the dread alternative, abortion, ever should be considered necessary, it would be well if it were performed with gentleness, safety, and certainty. It would appear more difficult to destroy the ovum than one who has a purely theoretical knowledge of the subject could imagine, when we have one experienced gentleman mentioning a case in which all his efforts were ineffectual, and another, equally accomplished, telling of having discovered that he had passed Simpson's sound ten inches in a direction contrary to that of the uterus, which was antiflexed. It occurs to me that Electricity either in the form of the interrupted or the continuous current, as the indications would suggest the expulsion or the destruction of the fœtus, applied by means of a supra-pubic and an intra-uterine electrode, would have enabled the gentlemen to complete this unsavory operation without any additionally disagreeable *contretemps.*

In conclusion I would ask my audience to remember the object of this paper. It is to indicate to what extent physiology is capable of adding to the resources of the practitioner, by giving him a comprehensive view of obscure diseases, and enabling him rationally to select the most suitable among the recognized remedies, and to bring to the alleviation of human misery other resources of which he had not previously thought in conjunction with the particular condition upon which he is desirous of concentrating his knowledge and his intellect. To borrow the expression of a distinguished Irish philosopher, I would indicate how, by "*reasoning alone*, which merely unfolds as it were, and develops, what was, in a manner, wrapped up and implied in our previous knowledge, but which we are often as unaware of, to all practical purposes, till brought before us, as if it had been wholly beyond our reach," we may increase the efficiency and the dignity of medicine. I have given rein to speculation and transgressed the crudely practical limits of the question, because I wished to maintain the suggestive nature of the paper. Were I dealing with the subject from the responsible standpoint of the practitioner, I should have weighed every word, and investigated the efficacy and the safety of every new application of every expedient which I have suggested, but in the primary stages of "truth seeking" we are allowed a greater liberty. I shall have attained my object if I induce some of my audience to apply that unerring touchstone, thought — the real philosopher's stone, which turns all things to gold — to the question before us, and I shall be gratified still more if my views are combated, for "Truth like a torch, the more it's shook it shines."

SOME OF THE LESS COMMON FORMS OF MASTOID DISEASE.

BY J. ORNE GREEN, M.D.

Mastoid osteitis, as it has been well called by Politzer, because we may get any of the conditions which accompany inflammation of bone, assumes a variety of external appearances and symptoms most of which are well understood and readily diagnosticated. The most common form is due to extension of the inflammation which exists within the mastoid cells, through the external cortex to the outside of the bone, with resulting external periostitis and subperiosteal abscess with or without a carious fistula through the bone. This expresses itself by tenderness of the bone on pressure, œdema of the soft structures and finally fluctuation. In these cases the external appearances œdema, swelling and fluctuation are found on the flat external surface of the mastoid process and an incision parallel with and near the insertion of the auricle when carried through the periosteum will evacuate the pus, if the case has gone on to full suppuration, or, if it has not yet proceeded so far, a slight raising of the periosteum to one side or the other will usually expose the spot through which the inflammation has come from the inside, a small spot of the bone being inflamed, or softened by decalcification, or perhaps distinctly carious. The point to which I would direct attention in these cases is the seat of the suppuration which occurs beneath the periosteum opposite the point of inflamed bone and on the external face of the mastoid process.

The following two cases are, I believe, but varieties so far as I know, however, hitherto undescribed, of this form of mastoid inflammation extending through the external cortex: they offer certain peculiarities which are of some importance, both in diagnosis and treatment. They are the only two cases I have ever seen.

A maid-servant, aged twenty-four, during an acute coryza was seized with severe pain in one ear which developed into a severe suppurative inflammation of the tympanum and mastoid. I saw her first after the mastoid had been inflamed several days and found the usual symptoms of external periostitis, swelling and marked œdema, in the usual spot over the mastoid. Her removal to the City Hospital was advised, and there in spite of antiphlogistic treatment suppuration occurred in a few days. The external appearances, however, varied from the usual form in that, although at first the swelling and œdema were over the flat external surface of the mastoid as is common, although the inflammation progressed, this swelling gradually subsided over the mastoid, but appeared downwards and backwards from the tip of the bone, and finally distinct fluctuation was felt close to, but downwards and backwards from the tip of the mastoid. Under ether an incision was made through the periosteum, starting a little above the lower edge of the bone, but pus was only reached after the knife had passed over the edge of the bone through the posterior part of the tendon of the sterno-mastoid muscle. About a drachm of pus was evacuated, and examination with a probe showed the posterior and lower aspect of the mastoid denuded and the cavity of the abscess was just beneath this spot. The wound was dressed antiseptically, no further suppurative or caries resulted, the inflammation both of mastoid and tympanum receded rapidly, and the recovery was complete.

The second case was that of a Chinese laundry-man, whose history from the lack of an interpreter could only be obtained from the objective symptoms. Entering the City Hospital for an abscess over the ribs he developed a suppurative inflammation of the right tympanum and mastoid, followed by the usual œdema and swelling over the external surface. The swelling had existed for some time when I first saw him, but started in the usual spot over the external surface just behind the auricle and extended downwards for some two inches beneath the point of the bone and backwards for another three inches. There was the characteristic great œdema over the bone, but the rest of the swelling was firm and hard but with ill-defined edges. Although an immediate incision was advised, some days were lost in obtaining his consent. Under ether examination now showed that the œdema over the flat surface had much diminished, and deep palpation failed to find any fluctuation there. The rest of the swelling remained as before except that by tolerably deep palpation distinct fluctuation was felt at the same spot as in the previous case, just behind and below the tip of the mastoid.

Notwithstanding the diminution of the swelling over the bone, I made the customary incision parallel with the auricle through the periosteum without finding pus; a cross incision was then made downwards and backwards and pus was only reached after the knife had passed beneath the edge of the bone into the space behind the steno-mastoid tendon when a cavity, shallow but some two inches in circumference perpendicularly was opened. A bent probe showed, as in the previous case, the posterior lower surface of the mastoid tip denuded but not softened. The periosteum over the external surface was turned back and a small spot of distinctly inflamed bone not yet softened, about an eighth of an inch across, was exposed on the level of the meatus. A counter-opening was made in the lowest point of the abscess-cavity some two inches down the neck and a drainage-tube passed from this up through the other opening. Antiseptic syringing was used twice a day both for the wound and the tympanum. The improvement was rapid; at the end of a week the drainage-tube was removed; in ten days the otorrhœa had ceased and the perforated drum-membrane healed. The induration of the tissues is now nearly gone. The hearing, however, is lost, apparently from the involvement of the labyrinth.

In both of the cases there was undoubted inflammation of the mastoid cells accompanying purulent inflammation of the tympanum; in the Chinaman the spot of inflamed bone was an absolute demonstration of the extension of the inflammation through the bone: in both of the cases there was not only the extreme tenderness of the bone to pressure, but also the characteristic œdema of the upper and posterior wall of the meatus; and the fact that the pus in both cases lay against the bone makes it almost certain that the suppuration was due to the mastoid inflammation.

The peculiar characteristics of both cases were (1) the swelling and œdema over the whole external surface of the bone in the earlier stages of the inflammation, which however, rather diminished than increased as suppuration occurred; (2) the seat of suppuration, not beneath the periosteum of the external surface but in the neck below the bone and beneath the expanded tendon of the steno-mastoid muscle, and undoubtedly beneath the periosteum of the posterior lower aspect of the tip of the mastoid, as shown by the bare bone at that spot.

The obstacles to superficial fluctuation and spontaneous opening of the abscess are sufficiently explained by the tendon of the sterno-mastoid muscle which is attached not only to the mastoid but spreads out, fan-shaped, and is attached along the superior curved line of the skull for a considerable distance backwards from the mastoid. The confinement of the suppuration between this tendon and that of the splenius capitis muscle sufficiently explains the shallow character of the abscess inwards and its large perpendicular circumference, due to the extension of the cavity downwards, as seen in the Chinaman.

The extension of the inflammation from within the mastoid cells to this point externally is interesting; the firm attachment of the sterno-mastoid and splenius capitis muscles would serve to strengthen the bone, and theoretically we should not look for a beginning periostitis here. There is, however, one form of development of the mastoid which may, I think, explain these cases. The mastoid cells are developed from the diplöe between the two tables of the skull at this point, which tables separate more and more, and the small-celled diplöetic spaces are developed into the large pneumatic mastoid cells. It is well established that the development of the mastoid varies very much; of two hundred and fifty adult mastoid bones examined by Zucherkandt, only 36.8 per cent. showed pneumatic cells throughout, while 43.2 per cent. were partly pneumatic and partly diplöetic, and 20 per cent. were either entirely diplöetic or composed of thickened osseous tissue and wholly destitute of pneumatic spaces. The peculiarity to which I would direct attention is, that not only may we have a sub-development as shown by the above statistics, but in very exceptional cases, there may be a hyperdevelopment, so to speak, in which the pneumatic spaces not only fill the mastoid bone but the two tables of the skull are separated farther back than the true normal mastoid process and pneumatic cells, communicating with and forming part of the true mastoid cells, are formed for some distance backward from their usual position, so that the mastoid cavity is not limited by the process itself but extends backwards between the two tables of the skull for a distance sometimes of half an inch or more. In the few cases of this hyperdevelopment where I have dissected, the pneumatic spaces were large, very perfect, and the external cortex thin. The natural result of this condition is that just behind the mastoid process, instead of the usual firm, quite solid bone we have a thin cortex merely, through which the inflammation from within could readily extend, and it seems probable theoretically, for of the fact I have had no opportunity to satisfy myself, that with this hyperdevelopment the posterior aspect of the mastoid would be altered and possibly space left between the insertion of the sterno-mastoid and splenius capitis muscles which does not usually exist. This latter, however, is not necessary, for the thin external cortex of such cases would alone afford a sufficiently favorable opportunity for the extension of the inflammation.

The practical lesson to be derived from the cases is the necessity of making the incision farther back than is usual, and also of going below the edge of the bone, entirely through the tendon of the sterno-mastoid muscle; and in case gravity of the pus has made a large cavity of inserting a drainage-tube throughout the whole length of the abscess to ensure perfect drainage and prevent further burrowing, a considerable risk at any time, and greatly increased if the bone should have become carious, which, however, had not occurred in my cases.

The diagnosis of this unusual condition of the bone cannot be made out by any external examination, and the locating of the suppuration in the spot I have spoken of, cannot be anticipated beforehand; in fact, it is only to be recognized after it is fully established, when quite deep palpation will reveal fluctuation just behind the mastoid and below the bone.

The differential diagnosis between this form of mastoid inflammation and that which occurs when the inflammation extends from the mastoid-cells through the floor of the mastoid into the digastric groove is not always so simple as it might seem. In the Chinaman the induration of the tissues of the neck was very marked for two inches or more below the bone, and my first impression was that I was dealing with a penetration downwards into the digastric groove. As the case progressed, while we were waiting the services of an interpreter, the absence of the characteristic cellulitis with its hard board-like feeling and clearly cut edges, the non-extension of the inflammation forwards or backwards notwithstanding the interval of ten days, but especially the presence of inflammation on the external surface of the mastoid which is not seen with the digastric variety, and finally the development of fluctuation at the spot indicated, made it evident that we had an unusual form of external rather than the very dangerus digastric inflammation.

The serious character of extension of inflammation through the floor of the mastoid into the digastric groove will be appreciated when it is remembered that the suppuration then occurs beneath the deeper fascia of the neck in the immediate vicinity of many important vessels along which it burrows. The external symptoms are first, swelling and tenderness beneath the tip of the mastoid, then a gradual extension of the inflammation down the sterno-mastoid muscle, then into the fossa retro-maxillaris, then along the larger blood-vessels often running downwards over the whole side of the neck to beneath the clavicle or backwards to the median line. The swelling usually assumes the character of a cellulitis, being dense, hard, usually with sharply defined edges, and protruding but little. Distinct fluctuation is rarely discovered except in the later stages of the disease, and is then found only in circumscribed spots, usually near the median line below the edge of the skull or in the neck. Incisions rarely meet pus except by dissections into the deepest parts of the neck, and I have known such made by excellent surgeons without evacuation of any matter, and once have known very serious hæmorrhage from wounding a deep artery while trying to reach pus beneath the fascia near the median line below the occiput.

The several cases of this form of the disease which I have seen, have resulted fatally, as they often do, either from exhaustion, the burrowing of pus into the thorax, embolic infarcts, or cases of the cervical vertebræ. Bezold's experiments in injecting colored gelatine with force into the digastric groove after boring through the mastoid showed the same series of phenomena which had been observed clinically. The gelatine passed along the belly of the digastric muscle under the parotid and along the sheath of the occipital artery to the carotid and backwards along the same artery, and was found to lie in three separate strata between the trapezius and splenius, between the splenius and complexus magnus and between the complexus and the short deeper muscles of the neck running down even to the second dorsal vertebræ.

One case of this digastric variety since then, seen with Dr. R. M. Hodges, is of interest, both from the recovery and from the method of operating. It was quite typical in its appearances, purulent inflammation of the tympanum, tender mastoid, swelling just below the mastoid tip extending into a hard cellulitis down the neck for a distance of eight centimetres and no swelling over the external surface of the mastoid. Dr. Hodges incised the periosteum over the mastoid down to its tip, and then followed beneath and after fairly getting round the mastoid-tip beneath the periosteum, evacuated a small amount of pus. Examination showed the whole floor of the mastoid carious, and it was removed with a curette over a space at least a centimetre across. This patient made a tedious but good recovery, and is the only case of full recovery from this form of the disease I have ever seen.

— The death of a physician from hydrophobia is reported from Baltimore. The unfortunate gentleman, Dr. Brinton H. Warner, was bitten on Christmas day by an unknown dog which he had befriended in the street.

A CASE OF SALPINGITIS, WITH SEVERE SYMPTOMS. REMOVAL OF TUBES AND OVARIES. RECOVERY.

BY J. W. ELLIOT, M.D.

In March, 1884, Dr. Worcester, of Waltham, brought Miss A. to me for treatment. She was a very respectable dressmaker, thirty-five years old, and unmarried. She was tall and strongly built, but with a thin face, which bore signs of great suffering. In answer to my questions, she gave the following history: Her father, mother, brother, and sister, all died of phthisis. She had pneumonia eight years ago. She began to be an invalid fifteen years ago. Her trouble was supposed to have arisen from taking cold during menstruation. For the first few years her symptoms were somewhat indefinite; but ten years ago she began to suffer from a periodic pain in the left side, which has continued to the present time, with the exception of a short period of immunity a few years ago. Her menstruation was somewhat irregular and occasionally very painful, but never profuse. She also complained of leucorrhœa. Defæcation was always painful and often caused faintness. She had had several attacks of "inflammation."

All her other pains, however, were slight compared with the periodic pain in her side. This was the one symptom which disabled her and brought her to the doctors. It was a sharp, cutting pain, beginning in the left lower abdomen, shooting through the rectum, and running down the left leg. It was occasionally referred to the hip or pubic bones. It came on every month, five or ten days after menstruation, and lasted several days, sometimes a week or more. She described these attacks as something frightful, and at times almost unendurable. She had been under the care of several doctors, but none of them had been able to relieve this pain, except by morphia, of which she had taken as much as three grains a day. "One of the doctors told her that her sufferings were worse than a confinement." After an attack was over, she began to work again in a few days, and got about very well until the next attack. In 1883, she was much worse than usual. Her bowels were very tender and painful to move, and for a time during the month of July, the attacks of pain occurred every day, lasting six and eight hours. She felt that her general health was giving way, and that she must soon give up work altogether. She seemed to be a plucky woman, and presented none of those nervous or hysterical symptoms so common among suffering women.

On examination, I found the uterus enlarged, tender, retroverted, and firmly bound down by adhesions. Both ovaries were enlarged, tender, and prolapsed. The uterus, ovaries, and tubes, seemed to be matted together. There was evidently a chronic vaginitis, endometritis, and pelvic peritonitis. Treatment was immediately begun to soften the adhesions and to raise the uterus. This was done by "packing the vagina," as described to this Society in a previous article. In about two months we succeeded in forcing the uterus and ovaries well forward, and holding them in place with a soft rubber pessary. The tenderness about the uterus almost entirely disappeared, and the periodic pain was so much less severe that no morphia was given for several months. We all felt much encouraged, and the patient returned to Dr. Worcester's care. Six months later, November 15th, she appeared at my office much discouraged, stating that the pain was as bad as ever, and that she had been obliged to take morphia again. Dr. Worcester informed me also that he had found it necessary to give it in one-half grain doses. At that time, I found the uterus held in good position by the pessary. The left ovary was enlarged, tender, and adherent near the fundus uteri.

Dr. Worcester and I then soon agreed that the removal of the ovaries and tubes was almost her only chance of relief; but as there had been some improvement immediately after replacing the uterus, I was anxious that she should wait a full year from that time before doing the operation. I therefore advised the local use of electricity in the hope of quieting the pain. In this hope I was disappointed: for in the next six months she grew steadily worse, and finally, during the last two months before the operation, the pain previously periodic became almost constant, except during menstruation. Dr. Worcester removed the pessary in the hope that any change might do some good. This, however, only made matters worse, and it was therefore replaced.

The patient readily consented to the operation, saying that she would rather die than live as she was. The operation was done on April 24th, 1885, at Waltham, where Dr. Worcester had arranged everything for me in the most perfect manner. Dr. Johnson assisted me. No spray was used, but everything was made as clean as possible. The pessary was left in place, with the idea of holding the uterus forward, so that the tubes and ovaries could be more easily reached. An opening in the abdomen was made, large enough to admit two fingers, through which both ovaries and tubes were removed. The left ovary was found so firmly adherent that it could not be entirely removed. The Fallopian tubes were much enlarged and adherent. The healthy tube is easily recognized by its cord-like feel. These tubes felt even softer than an intestine, and were, on this account, with difficulty found. They were ligatured close to the uterus and removed. The posterior surface of the uterus had not the usual smooth feel of a peritoneal surface, but was covered with rough, uneven patches of various size. This roughness was, without doubt, the remains of the adhesions which had been torn away a year previous, while packing the vagina to raise the uterus. While operating, I became aware of the fact that the broad ligaments were more lax than usual. It then occurred to me that by shortening these ligaments a little, I might prevent the uterus from retroverting again. Accordingly as I applied the ligatures, I drew up portions of the lax peritoneum and included them. The abdomen was closed and the patient put to bed. The pessary was then carefully removed.

On examining the organs removed, the ovaries were slightly enlarged, hard, and covered with the remains of the adhesions by which they were fixed. The Fallopian tubes were deep-red, very soft, enlarged (about three and one-half inches long and as large as a little finger), and twisted upon themselves in such a manner as to form alternately dilated and narrowed portions. They contained a thick, purulent secretion, which could be squeezed out of the abdominal opening. The fimbriæ were somewhat swollen, and the peritoneal surface was covered with the ragged ends of the torn adhesions and small, deeply-injected bloodvessels. The mucous membrane was pale red, thick, soft, and raised into flabby folds.

Under Dr. Worcester's careful management, her convalescence was uninterrupted, the highest temperature being 99.4°. The wound healed by first intention. The patient was up and about in three weeks, having gained in flesh and general appearance. In August she was sent to Mt. Desert, and there gained sixteen pounds in seven weeks, since which time she has worked hard constantly from 7.30 in the morning to 10 o'clock at night. She has never had the old periodic pain since the operation, and considers herself perfectly cured.

Menstruation did not occur for three months after the operation, but for the last five months it has occurred regularly every month. The quantity of the flow has, however, gradually diminished, and there was some pain with the last flow. There has been almost no white discharge since the operation. I have examined the patient twice since the operation, the last time in January, 1886, nine months after the operation. On both occasions, I found that the uterus had remained well forward in its normal position, just as I had left it at the operation, no pessary or treatment of any kind having been necessary.

I suppose the disease must have begun as a vaginitis, which became an endometritis and salpingitis, which caused a pelvic peritonitis and retroversion with adhesions. There is no history of gonorrhœal infection.

The well-marked symptom of a severe, periodic, intramenstrual pain in connection with salpingitis is of interest, and seemed worthy of note, for the symptoms of salpingitis are not yet well established. Where the abdominal end of the tube is closed and the pus is retained, a tumor can be felt, and the diagnosis is comparatively easy. In this case, the tubes were open at both ends, and were probably discharging their contents both ways, for the vaginal discharge stopped immediately after the operation. In this sort of salpingitis, the tubes were so soft that it was absolutely impossible to feel them per vagina.

Some cases of salpingitis undoubtedly recover without operation. I am sure I have seen cases recover. Most of them, however, go on from bad to worse as in this case.

To cure a retroversion by shortening the broad ligaments was entirely a new idea to me, but it was perfectly successful. Since then, however, it has happened to me to have an almost completely prolapsed uterus, held in good position by inflammatory adhesions, following ovariotomy. In this last case, I was careful to leave the uterus antiverted on closing the abdomen.

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

January 20, 1886, Dr. James R. Chadwick in the Chair.

Dr. J. E. Kelly read a paper entitled

CAUSALITY IN DISEASE, APPLIED TO THE PHENOMENA OF VOMITING IN PREGNANCY.[1]

Dr. Prince, in opening the discussion, referred to the treatment of vomiting of pregnancy by a method advocated by Dr. Alexander Harkin of Belfast. Dr. Harkin had published two remarkable papers in the *Lancet*, in which he maintained as a result of his observations on a large number of healthy and sick persons, that there is a hyperæsthetic spot over the 4th or 5th or both dorsal vertebræ as the normal condition of every person. Dr. Harkin had effected some remarkable cures by blistering over this spot. Dr. Prince read extracts from Dr. Harkin's papers. Among the cures effected, some of which sounded like tales from the Arabian Nights, were cases of vomiting of pregnancy. This he had completely controlled by blistering. The speaker then said he had been lead by Dr. Harkin's statements to make some observations himself in this direction, and gave a summary of the results he had obtained, which will be published in another communication to the Journal. His observations had only partially confirmed the above statements. One case of vomiting he had controlled by a counterirritant over the 4th and 5th dorsal vertebræ. The patient had been suffering quite severely for some time daily from nausea and vomiting, which lasted more or less during the greater part of the twenty-four hours. On percussing the spine, he found the above described tenderness. The patient in describing the pain, said, "it went to her stomach and increased the nausea." A strong mustard plaster was then placed over the spot of spinal tenderness, and in a few minutes, soon after the plaster began to burn well, the nausea and vomiting ceased, and the patient declared herself well, and left the bed whether she had betaken herself. The vomiting returned only once afterwards at the end of two or three days, when the same treatment being employed, it ceased as before and for good.

This is the only case of vomiting in which he has had an opportunity to test this treatment, and as it is not likely that he will have an opportunity to try it in many cases, he thought it worth while to suggest it here in order that others, who are more likely to have the opportunity, and may feel so disposed, may give it a trial.

Dr. P. E. Vincent said that the subject of vomiting of pregnancy should be looked at from a physiological standpoint. Regarding sea-sickness he has treated many cases, and found that food in small quantities or the smell of food does not check nausea, but rather, especially the latter, increases it. We know little about the cure of sea-sickness. Sometimes a tight band around the abdomen will do good. He has found the subcutaneous use of morphine in one-fourth grain doses of more benefit than anything else. He mentioned a case of a young man who left New York for Europe on the steamer of which he was surgeon, and who had two holes in his chest, from an old empyema. About two hours after leaving port he became very sick, but was soon relieved by one-fourth grain doses of morphine subcutaneously, repeated in four hours. There was no more vomiting. Although he did not treat sea-sickness by rule, his general plan was a band about the waist, morphine subcutaneously, lemons and food. Except in a few cases he had not observed good results from chloral hydrate.

Dr. Kelly, in concluding the discussion, said he would have wished for a criticism of his paper on its higher relations, but he had derived some satisfaction from the unintentional corroboration which it had received at the hands of the speakers. Dr. Prince, in quoting from the interesting paper which Dr. Harkin, of Belfast, Ireland, had published in the *Lancet* in

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[1] See page 337.

1884, mentioned the well-known association between the cervico-spinal region and the neuroses, and also, the effect of vesication in vomiting in pregnancy, thus endorsing the existence of at least one "linked-spot" capable of modifying uterine action. Dr. Reynold's experience of the advantage derivable from nocturnal alimentation is corroborative of the old principle which he, Dr. Kelly, had mentioned of the association of weakness and irritability, and he expressed his hearty sympathy with Dr. Reynold's condemnation of abortion. He did not know if he could claim Dr. Vincent's testimony to the efficacy of fatty food in sea-sicknes, a kindred subject upon which his (Dr. Vincent's) remarks threw additional light, as an indication of the conversion of the nervous energy into the vito-chemical form, owing to the strain which such substances produce in the process of digestion.

Dr. E. W. Cushing read a paper entitled

EXHIBITION OF PREPARATIONS OF SEPTIC BACTERIA WITH OBSERVATIONS ON PUERPERAL SEPTICÆMIA.

He described the various germs, now believed to be the exciting causes of acute suppuration, pyæmia, osteomyelitis, etc. They are of three principal classes, first, small round germs or *cocci* in chains, *streptococci* quite similar to those of erysipelas; second, similar round germs in clusters, like bunches of grapes, *staphylococci*. These latter, although all alike when stained, can be divided by plate culture into five varieties, according to their color and appearance, when growing. Third, minute rods, or bacilli, which carry with them in abscesses or cultures a foul odor: 1. Streptococcus; 2. Staphylococcus = pyogenes albus; staphylococcus = pyogenes aureus; staphylococcus = pyogenes citreus; staphylococcus cereus albus; staphylococcus cereus flavus; 3. Bacillus pyogenes fœtidus.

The cocci, when magnified one thousand times, seem about as large as a period in common type. The bacilli fœtidi are about the same width, two or three times as long, slightly oval. They all grow freely on nutrient gelatine, potato, etc., at ordinary room-temperature. Specimens were shown, prepared by Dr. Cushing, both growing in tubes, and stained and mounted for inspection with the microscope. For observing these conveniently, it is necessary to have a substage condensor, and a wide angle objective, preferably an oil immersion as powerful as one-twelfth, giving an amplification of seven hundred to one thousand.

The reader went on to describe various examinations made by him, by the courtesy and under the guidance of Professor Kumdrat and his assistants at Vienna, on the bodies of those women who died at the hospital there, last summer, of puerperal and septic pelvic inflammations. In short, he found that in such cases the above bacteria were present in the uterine veins, and in abscesses, both pelvic and metastatic.

Various facts were adduced, and authorities quoted, to show that puerperal fever ought to be considered not as an entity or epidemic, acquired mysteriously through the air, but that, in all its forms, it is a direct infection, usually carried by the physician or nurse. That it is to be avoided by thorough cleansing and disinfection of the hands and arms of the practitioner and nurse, as well as of the genitalia of the patient, and by avoidance of unnecessary vaginal douches after delivery.

Dr. Cushing showed tablets of one grain each of corrosive sublimate with muriate of ammonia, which he had had constructed[2] and stained blue to avoid mistakes. One of these in a glass with two ounces of water gives a one one-thousandth solution, very convenient for disinfecting the fingers before examinations. A brief résumé of approved methods of treating septic cases by douches and disinfection of the uterine cavity closed the remarks.

Dr. Z. B. Adams said that he had listened with great interest to Dr. Cushing, having lately had the pleasure to be present at a lecture by Dr. Frederick S. Dennis, of New York, at the new Carnegie Laboratory before the New York State Medical Society, a lecture illustrated by specimens of cultures of the various forms of minute algæ and fungi, such as oïdium, pencillium, aspergillus, etc., besides various bacilli and bacteria shown by the microscope. While in New York, he was happy to hear the statement that the practice, lately somewhat prevalent, of douching the vagina in every case in lying-in women, had been generally abandoned as unsafe.

When we consider how very minute these micro-organisms are it does not seem surprising that they should find their way into the closed cavities, such as the peritoneal sac, without discoverable lesion of parts or previous disease. The important factor in this process must, he thought, be a certain condition of receptivity, a condition either attracting them into the body, or favorable to their growth and development after they had found entrance.

Dr. McCollom was pleased that so much stress had been laid on the subject of cleanliness. He thought that the corrosive sublimate tablets shown by Dr. Cushing would prove of much value. He had never conveyed the poison of erysipelas to a parturient woman, because if he had been brought in contact with the disease, he was always careful not to attend a case of labor unless he had had full and sufficient opportunity for disinfection. It is very important that the physician and nurse should wash their hands in a solution of corrosive sublimate or some other disinfectant before touching a woman in labor.

Dr. Robert White asked if micrococci are produced spontaneously or from previous germs?

Dr. Cushing replied that as far as known no forms of life are spontaneous, hence, the bacteria of infection must come from parents of like nature. In explanation of Dr. White's reference to apparent spontaneous generation in flasks, he said that one boiling will kill adult bacteria, but not their spores, hence in steralyzing gelatine, etc., it is necessary to bring it about to the boiling point for several successive days, thus killing off all bacteria as they successively emerge from the condition of spores, and before they have time to breed.

Dr. White asked how a portion of placenta retained in utero, broke down and became foul.

Dr. Cushing replied that without introduction of bacteria it would not become foul, although it might soften by maceration.

Dr. Prince asked if septic micrococci develop in putrefying material, or if they are derived only from other cases of disease.

Dr. Cushing answered that this subject is not settled; there is no reason why they cannot be derived from either source. The septic bacteria differ from tubercle bacilli in that the latter cannot develop at less than 85° F., and so must in nature always come directly from an animal body, but the septic bacteria, like anthrax bacilli can live out doors at ordinary temperatures, and have been found by Passet in kitchen sink-water, and stale butcher-meat. They are not, however, found usually in ordinary cadavera, but only in those dying of septic diseases. In foul wounds, particularly in decomposing carcinomata, in putrid fœtus, etc., there are usually present very virulent bacteria.

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[2] Made by Fraser & Co., 208 Fifth Avenue, New York.

Dr. Prince further asked if the damage done by micrococci is not similar to poisoning by ptomaines?

Dr. Cushing replied that the septic germs seem to secrete, or form by the breaking up of the fluids in which they live, poisonous material, somewhat similar to ptomaines, and suggested whether the latter may not be a bacterial product. The fluids in which the septic bacteria live, when carefully filtered and then injected, are able to cause acute septicæmia, that is, chill, fever, prostration, even death; but they do not cause abscess, nor increase by any process of incubation, for which the living bacteria are requisite.

Dr. J. P. Reynolds spoke at some length on the interesting progress of medicine in regard to these subjects. He recalled a case, occurring many years ago in Boston, where the wife of a prominent surgeon died, after a long illness, following a confinement where she was attended by her husband, who must also have been attending cases of a nature now known to be infectious.

Dr. Reynolds described the autopsy, which showed metastatic abscesses, etc., and said that Dr. Jackson then held them in that case to be of a rheumatic nature. Now, how is all changed, both in theory and practice?

Dr. Reynolds stated that at the lying-in hospital the use of vaginal douches after confinement has been abandoned, except in special cases. Great care before and during delivery, with antiseptic cleanliness, and after delivery the constant use of Dr. Garrigue's pads of borated cotton kept over the vulva to absorb all discharges, had reduced the mortality to almost nothing. Dr. Reynolds, however, still thought that, in nominal cases, with a skilled nurse to give vaginal douches, the latter are a source of comfort and cleanliness.

In closing the discussion Dr. Cushing, referring to the remarks of the last speaker, said that most men were not so fortunate in their selection of nurses, nor so successful in keeping them fully up to their duty, as Dr. Reynolds. As a matter of custom and practice he therefore stated again his conviction that in normal cases such douches were unnecessary, and sometimes dangerous, being a facile source of infection, as well as of other accidents. He considered the interior of the puerperal uterus, when thoroughly aseptic, no more unclean than that of any of the other organs, like the throat or stomach, and not half so much so as the intestine. He insisted that the puerperal uterus should be considered as analogous to a compound fracture, which has been kept or made aseptic, and, if doing well, what surgeon would allow his nurse to meddle with the dressings of such a case; if doing badly, what surgeon would not feel that he must see to it personally? In general, he stated that the whole purpose of his paper had been to show that all puerperal septic processes are only a subdivision, though a very difficult and important one, of surgical wound-infection and are to be guarded against and treated on strictly surgical principles.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

March 1st, 1886.

Dr. W. J. Otis in the chair.

Dr. J. W. Elliott reported

A CASE OF SALPINGITIS, WITH SEVERE SYMPTOMS. REMOVAL OF TUBES AND OVARIES. RECOVERY.[1]

Dr. Worcester spoke of the excruciating pain that the patient had borne during her menstrual periods. This pain had been somewhat relieved by local treatment that she received from time to time, but always after a few menstrual periods the pain had recurred with terrific force.

She had consulted many physicians but no one had been able to relieve her pain permanently. At the present time, she was unquestionably absolutely cured. She was now able to support herself, and had been removed from invalidism to apparently perfect health.

Dr. Boardman thoroughly believed in the operation as an ultimate means of cure. He spoke of the difference of opinion that existed regarding the propriety of performing the operation, and considered that the operation had not as yet been thoroughly accepted; he felt that the future of the operation, however, was a bright one, as it held out a means of great relief to unfortunate patients. Dr. Emmet had claimed that local treatment was efficient where continued over months and years, and that the operation was rarely justifiable. Dr. Boardman mentioned several cases where local treatment had occasioned improvement, but this was followed by relapses. He said that some authorities did not consider a Tait's operation justifiable unless the enlarged tubes could be actually felt per vaginam; now in this case this was impossible, but he felt that the operation performed by Dr. Elliot was eminently a proper one. After long observation and careful elimination of causes, he felt that one could safely operate. Regarding the occasional intervals of relief in pain, that the patient had experienced, he thought that it might be explained as follows:— The tube being filled with pus and the uterine opening being patent, naturally at times the pus would be expressed out of the tubes into the uterine cavity, when this occurred freely he could understand that there might be no pain: when, however, the tubes were contorted, distended and the uterine opening impermeable he thought that pain would occur. He considered the paper submitted by the reader a valuable addition to the literature of salpingitis.

Dr. F. B. Harrington mentioned the facts regarding a similar case where the pain had been so severe that the patient twice attempted suicide. She had passed through a great deal of what might be termed palliative treatment, and after a clear understanding with the patient and her friends, the tubes were removed, in fact, the operation was undertaken at the request of the patient, who felt that something must be done. The operation was performed under good circumstances, but was long owing to great difficulty in getting the tubes out in order to ligate them. The patient did not rally well, and died on the third day from an extension of the pelvic peritonitis, which had existed. He asked Dr. Elliot how he secured the tubes?

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[1] See page 341 of this Journal.

Dr. Elliot said that he ordinarily secured the tube in a clamp and then ligated the uterine and the ovarian ends of the tube, but in this case he removed the tube close up to the uterus that there might be no portion of tube containing pus remaining. He said that he had a theory of the cause of the pain in this case: he regarded it as practically a dysmenorrhœa of the tube. Ordinarily the tube in this class of cases is closed at one end and open at the other; when both ends were shut it made the tube practically an abscess cavity. The swelling of the mucous membrane of the tube might readily close the uterine cavity; if this occurred, it can be readily understood that the retained pus would create intense pain.

Dr. J. Orne Green then read a paper on

SOME OF THE LESS COMMON FORMS OF MASTOID DISEASE,[2]

illustrated by a number of wet and dry specimens.

Dr. C. J. Blake inquired of the reader, how much importance he laid on the tip of the mastoid process being very thin.

Dr. Green said that the perforation of the thin cortex of the tip of the mastoid process he considered was the important thing to recognize.

Dr. Blake said that he had seen a case of this description, but it had not been recognized. The patient had a thumping pulse, meningeal symptoms and tenderness over the mastoid process. The usual incision was made and the mastoid process was drilled, with only slight relief. Cellulitis, extending downward, followed, which required very free incisions. He considered the paper of great importance as it called attention to this heretofore unrecognized condition; he should now be on the lookout for such cases.

Dr. Spear said that he had listened with much pleasure to this clearing up of a class of cases.

Dr. Jack said that the ordinary Wilde's incision did not reach the fluctuation that existed behind the posterior edge of the mastoid.

Dr. Mixter said that the condition of mastoid abscess was not an uncommon one in dissecting room subjects.

Dr. R. B. Dixon then showed the internal organs of a full term fœtus.

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THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, March 18, 1886.

THE SIGNIFICANCE OF SMALL QUANTITIES OF SUGAR IN THE URINE.

The discussion, which was introduced by the Section on Theory and Practice of Medicine, was opened by Dr. Thomas A. McBride. His attention had first been directed to this subject, he said, by Professor Seegen, at Carlsbad. Many nervous disturbances were now recognized to be due to moderate glycosuria, which under appropriate treatment could usually be completely or almost completely relieved. In addition, it was well known that sugar was not infrequently found in the urine in connection with phthisis, pleurisy, cardiac disease, cerebral hæmorrhage, certain of the psychoses, and other affections. It had been found that sugar when existing only in small quantities was not easily detected by the ordinary tests for this substance. Among the troubles which might be caused by its presence under these circumstances, however, might be mentioned, insomnia, so-called neurasthenia, paræsthesia, hemi-paræsthesia, certain pareses, and even temporary hemiplegia. In order to detect the sugar in the urine it was often necessary to filter the latter through blood charcoal; after which the charcoal was to be washed repeatedly with distilled water. After the second, third, or fourth washing the sugar would be detected by Fehling's test. Dr. McBride said that he had confirmed this test by means of the polariscope, and also by fermentation.

The amount of sugar found in these cases varied from a trace up to two and one-half per cent.; though as large a quantity as the latter was rare. In conclusion, he said that he had to confess that he was at present somewhat at a loss how to say what was diabetes and what was not. He saw so many cases of glycosuria without the thirst, emaciation and other characteristic symptoms of true diabetes that it was not easy to decide the question.

Dr. F. P. Kinnicutt said that Lauder Brunton found that after diluting the urine very considerably, and then testing in the ordinary way, he was often able to detect sugar in specimens in which this was impossible if the tests were made without the dilution. Even in the case of normal urine to which one or one and a half per cent. of sugar had been added, there often seems to be something present which prevents the precipitation of the red oxide of copper.

Dr. George B. Fowler said that when working in the laboratory of Professor Dalton he had repeatedly found sugar in normal urine after the ingestion of sweets. It had for some time been known that sugar could not be detected by the ordinary tests under certain circumstances, and Dr. Dalton was accustomed to filter the urine through animal charcoal before applying these tests. If we added enough honey to normal urine to make a thick gum, no precipitation of oxide of copper would take place on the application of Trommer's test in the ordinary way; but if we imitated the method of Fehling's test by employing an excess of test-fluid and only a few drops of saccharine urine, the precipitation would at once occur.

If sweets were taken freely, especially upon an empty stomach, glycosuria was very apt to be produced, and hence when an individual consulted him in whose urine he found sugar, but not a high specific gravity, and who did not present the ordinary symptoms of diabetes, he always inquired if he habitually used sweets or suffered from defective digestion. Patients in which such a condition was found, as a rule recovered very quickly under proper diet. In explanation of the point stated by Dr. Kinnicutt, he said that the substance which interferes with Trommer's test is the ammonia in the urine, which redissolves the red oxide of copper as soon as it is formed.

Dr. Wm. H. Draper remarked that he had ceased to attach much importance to the occasional occurrence of very small quantities of sugar in the urine, for the reason explained by Dr. Fowler. He had found it very often, particularly in the lithæmic state; in which there were seen the evidences of suboxidation. When the urates in large amount and crystalline uric acid were present in the urine, sugar was very likely to be found also. All were to be attributed alike, he thought, to defective metabolism; and the treatment which rendered the urine normal in other respects, would also remove the sugar. As Dr. McBride had remarked, it was difficult to say where diabetes really commenced. Sugar was not infrequently found in the urine of patients passing not only imperfectly assimilated hydro-carbons, but also imperfectly assimilated nitrogenous food; and therefore sugar was often to be regarded simply as an indication of dyspepsia.

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[2] See page 341 of this Journal.

Dr. McBride said that uric acid would sometimes cause the precipitation of the red oxide of copper. Sugar when persistently present in small quantities in the urine, seemed to indicate an excess of sugar in the blood: and it was the persistent presence of sugar which was important. It might be another kind of sugar not derived from glycogen, but from the muscles. Ordinary sugar could be detected after dilution of the urine, as had been mentioned; but this required the filtering through blood charcoal.

Dr. Draper said that he did not think that we could distinguish any difference in the cases of nervous disturbance in connection with lithæmia, whether sugar was present in the urine or not. Bence Jones, of London, had remarked that that "sour disease," gout, was very closely allied to the "sweet disease," diabetes mellitus, and long ago had pointed out the important fact that gout and diabetes very frequently existed in the same families and even in the same individual.

Dr. McBride then said that he agreed with Dr. Draper; but he also claimed that sugar was the actual cause of nervous symptoms, just as wine and other agents might be.

Dr. E. Darwin Hudson, Jr., called attention to the importance of shock in the production of diabetes. Sugar had been found in connection with whooping-cough, the presence of enlarged bronchial glands, spasmodic asthma, and convulsions; and we are therefore led to the conclusion that it was the disturbance of the pneumo-gastric which affected the glycogenic function of the central nervous system.

The President, **Dr. A. Jacobi**, remarked that in a great many persons, at times, sugar was found in the urine in small quantities which could be detected by the ordinary tests. As a rule, such patients were beyond middle life. When he was a student he had been taught that diabetes was a very rare disease, and that it was always fatal. It was true, indeed, that the cases in which the specific gravity ranges from 1040 to 1060 were rare; but cases in which it ranges from 1017 to 1035 were very frequent, and they were by no means always of a mild character. Still, quite a large number of such patients lived a long time, and some got entirely well. A considerable proportion of these cases were in gouty individuals. When their general health was good very little sugar was to be found in the urine; but when they began to fatten up and took little exercise, the quantity might be sufficient to produce pruritus vulvæ in the case of females.

When such patients contracted other diseases, however, and especially pulmonary affections, they were in the greatest possible danger; and, as a rule, they would not survive an attack of pneumonia. Even though there might have been no sugar at all in the urine for months or years before, if they got pneumonia, the most pronounced glycosuria was apt to become rapidly developed. Such a case was that of a physician, forty-two years of age, whom he had known. He had formerly had diabetes and was an expert in urinary examinations, but for six years his urine had been absolutely free from sugar, when he was taken ill with pneumonia. For two days he did well, but he was then seized with intense thirst, and, suspecting that there was a return of his old trouble he requested that his urine should be tested for sugar. This was accordingly done, and it was found that sugar was present in large quantities. As soon as he was informed of the result of the examination he remarked: "Now, I will go," and two days afterwards he was dead.

Dr. Jacobi, having remarked that, as far as his experience went, every such case was doomed, then went on to speak of four brothers, whose ages ranged from fifty-one to thirty-nine or forty, all of whom were or had been the subjects of diabetes. The first had developed the disease about ten years ago, and never being willing to observe any care in his habits or diet, it had progressed, and he had now been attacked with pulmonary disease, so that it was not difficult to see that his days were numbered. The second brother, on the contrary, had used extreme care in his diet and the general attention paid to his health, and there had now not been a trace of sugar in his urine for four years. In the case of the third brother there was an occasional return of glycosuria after excesses in diet; and the fourth one was now also diabetic. This history showed that in a large number of cases the pressence of sugar in the urine indicated defective assimilation. If this condition were not treated it might result in persistent diabetes and finally terminate in pulmonary disease. He would say, therefore, that sugar in small quantities did not signify much as long as a good general state of health was maintained, but it might be the source of great danger when other disease set in.

The second part of the evening's discussion was devoted to

THE TREATMENT OF DIABETES,

and this was opened by **Dr. F. A. Burrall**, in a short paper in which he gave a concise *résumé* of the views of the best modern authorities upon the subject. He concluded by remarking that while all the medicinal agents held in repute in diabetes were no doubt of more or less service, in connection with a restricted diet, not one of them had been shown to have any effect without thus restricting the diet.

Dr. Cauldwell said that his remarks would be confined entirely to the so-called specific jambol. About three months ago he had received a letter from London, from a former student, in which he said that this agent was now accepted in the East Indies as a cure for diabetes, and he had now prescribed it in four well-marked cases of the disease. In all the patients, before taking the drug, the daily quantity of urine passed exceeded one hundred ounces, and in all the specific gravity of the urine was above 1030. Sugar was also abundant and all the ordinary symptoms of diabetes were present.

All the patients were treated alike, and were kept on anti-diabetic diet with a moderate allowance of toasted bread. Five grains of the powdered jambol seed were given three times a day.

In the first case the beneficial effect was most pronounced. In two months the patient gained twelve pounds in weight, and the sugar entirely disappeared from the urine. It had now been absent from it for a month.

In the second case the remedy was given for four weeks without any apparent benefit.

In the third case a gradual improvement had taken place. The daily quantity of urine passed was reduced to eighty-two ounces, and the specific gravity to 1030; but sugar was still abundant.

In the fourth case, after five weeks of treatment the daily quantity of urine was reduced to fifty ounces, and the specific gravity to 1028; while the patient had gained ten pounds in weight.

In addition to these cases Dr. Cauldwell said that through the courtesy of Dr. Samuel Alexander he was enabled to report two others which had been under the care of Drs. Keyes and Alexander. In the first of these the improvement had been very satisfactory; but in the second there had been no improvement whatever. In four cases out of six, therefore, the use of jambol had been followed by improvement, while in two it had proved a failure. In other words, in two-thirds of this small number of cases it had seemed beneficial and in one-third not. He regretted that Dr. Weber was not present, as he understood that he had used this agent in a larger number of cases than himself.

Dr. Draper remarked that excluding the diabetic treatment, it might be truly said that the treatment of diabetes was as purely empirical as our knowledge of its pathology was speculative. There was no trustworthy testimony that drugs alone, without the more or less complete restriction of saccharine and starchy food were of any service; and while medicinal agents were undeniably useful as adjuvants, his experience led him to believe more and more that the dietetic and hygienic management constituted the essential factor in the successful treatment of this affection. The majority of cases of diabetes belonged to the form of the disease known as the benign. The severe cases, in which the sugar was derived not only from the hydrocarbon, but also from the nitrogenous food, generally occurred in persons who had received some severe shock or had been suffering from grave tissue changes in the system. In these, unfortunately, drugs were of little value.

He then spoke of three agents which had proved of especial service in his hands and the first of these was codeia. Opium, he thought, was a great boon to the diabetic. The second was sulphide of calcium, and he said that his attention had first been called to it by Dr. Husted, formerly of New York, but now residing in Tarrytown. Some years ago this physician, while himself suffering from diabetes, employed sulphide of calcium for the relief of furuncles with which he was at the time affected; and to his surprise he found that under its use the sugar disappeared from his urine. He had remained well up to the present time, and was able to live on a simple mixed diet without causing a return of the glycosuria. Personally he had found it a useful remedy; prescribing it in one-fourth and one-half grain doses before meals. It was followed with good results in a large number of cases, especially in gouty patients, and he believed that it enabled the subject of diabetes to indulge in a greater variety of diet than he could otherwise do. The alkaline carbonates, the third agent referred to, he had also found very valuable. He believed that both gout and diabetes were not infrequently due to defective metabolism, and it was therefore a rational treatment under the circumstances to stimulate oxidation.

Dr. Dadirrian said that in Constantinople and other places in the East matzoon, or fermented milk food, was very largely used in the treatment of diabetes. In this preparation, which originated in Armenia many centuries ago, there was no sugar, the sugar being converted into lactic acid; and he believed that it was a very valuable adjuvant in this affection.

Dr. R. F. Weir alluded to the subject of gangrene in connection with diabetes, and described three such cases which had recently come under his own observation. In looking up the literature of this complication he had found extremely meagre information. In regard to amputation for the condition many cases were reported of the small members, such as the fingers and toes; but he had been able to find the record of but nine amputations of the thigh, and in only one of these did recovery take place. Under the circumstances, therefore, he had naturally hesitated to perform this operation.

Dr. Simon Baruch said that there was one point in the treatment of diabetes which had not received the attention which he though its importance demanded, and this was the benefit to be derived from muscular exercise. In this disease there was a marked tendency to lassitude and indolence, and he believed that it was highly important that the patient should be induced to overcome this, and take a sufficient amount of judicious exercise. In feeble cases massage was of great value.

Dr. Draper and Kinnicutt having referred to the great danger liable to result from over-fatigue, Dr. Baruch said, that of course, muscular exercise, like any other good thing, could be abused.

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Recent Literature.

RECENT LITERATURE ON CLIMATOLOGY.

Climatology and Mineral Waters of the United States. By A. N. Bell, A.M., M.D., Editor of the Sanitarian, etc. New York: William Wood & Co. 1885. pp. 386.

Moisture and Dryness; or the Analysis of the Atmospheric Humidities in the United States. An Essay read before the American Climatological Association (1884). By Charles Denison, A.M., M.D., etc. Chicago: Rand, McNally & Co. 1885. pp. 30.

The Climate of Canada and its Relations to Life and Health. By Wm. H. Hingston, M.D., D.C.L., L.R.C.S., Edin., etc. Montreal: Dawson Brothers. 1884. pp. 266.

The books before us show how the interest in the climatology of America has grown of late years; and they show too that this interest is not a purely scientific one, but has also in view an application of the knowledge gained to the wants of invalids.

If man cannot live on bread alone he certainly cannot maintain existence on air alone, however salubrious and free from germs that air may be; in this fact lies the explanation of the favor in which European health resorts have been, are still, and will yet long be, held by Americans, especially by the educated and wealthy classes. Within our own limits climates of greater variety and perfection are to be found than in Europe; but the provisions for comfort, occupation, and amusement have seldom been such as to tempt the fancy and supply the needs of real or imaginary invalids with bank balances. A separation by three thousand miles of ocean from the worries of active home life, the fresh interests of another language or different manners and customs, and the varied facilities for more or less profitable amusement offered by an older civilization, will for a long time to come help fill the coffers of Europeans with the gold of California, while our own caterers to health must remain content with the buzzard silver dollar of Nevada.

We have, however, made real progress of late, and there are now some places of resort at home where the requirements of northern ideas of comfort are fairly met, and at the same time some recognition is shown of the adaptability of the mind of man to objects not connected with money making. More could be said upon this head, but we have allowed ourselves already to be led too far on the path of introduction.

Dr. Bell's book contains much valuable information derived from his own studies and experience and collected from many sources, all the more important of which seem to have been utilized. In the nature of things such a work must remain for most people chiefly one of reference. The first twelve chapters tell us what climatology is, and discuss the elements which enter into its composition: the next hundred pages are given to the climatological topography of the United States with special reference to mineral springs, full analyses of the waters of which are printed. We cannot help wishing that Dr. Bell could have seen his way to indicating the moral and material resources offered by the more important of these to those who may wish to drink the waters as they issue from the earth.

As in society-conversation the weather claims its full share — nearly a third — of our attention. This portion of the book is abstracted from the reports of the Signal Service for 1881. The last three chapters are on seasonal mortality, the relations of climatology to life insurance, and practical conclusions.

Dr. Bell speaks in a more confident tone of the anti-malarial properties of plantations of the eucalyptus globulus than it seems to us the circumstances warrant. Late reports from Tre Fontane do not bear out the promise of the earlier ones. In 1882 the convicts and the monks themselves were severely attacked by malaria, although careful precautions were taken, and the neighborhood of Rome was unusually free from malaria that season — a dry one. The French experience in Algeria is also somewhat discouraging.[1]

According to the reports of army surgeons, Yuma in Southern California seems to be a pleasant place in April, May and June. No rain falls, with the mercury at 105°, "the perspiration is scarcely seen upon the skin, which becomes dry and harsh, and the hair crispy. Furniture, to hold together, must be made of the very driest timber, the ink dries so rapidly upon the pen that it requires washing off every few minutes. A No. 2 Faber leaves no more trace on paper than a piece of anthracite, and it is necessary to keep one immersed in water while using one that has been standing in water for some time. Newspapers require to be unfolded with care; if rudely handled they break. I was called to inspect some commissary stores a short time ago, and the loss they had sustained was remarkable. Twelve pound boxes of soap weighed ten pounds. Hams had lost twelve per cent., and rice two per cent. of their original weight. Eggs that have been on hand for a few weeks lose their watery contents by evaporation; the remainder is thick and tough; this has probably led to the story that our hens lay hard-boiled eggs." The mercury stood at 132° in the shade for two hours on July 2d, 1873. "A temperature of 100° may exist at Fort Yuma for weeks in succession and there will be no additional case of sickness in consequence. . . . The heat depresses the already debilitated, and we miss the tonic effect of the cold weather; but those who come here in good health and observe the ordinary rules for preserving it will have nothing to fear from the high temperature."

Dr. Denison's pamphlet is a reprint from the *New York Medical Journal* of a paper read by him before the American Climatological Association, at its meeting in Washington in 1884. It was noticed in these pages at the time and is quoted freely by Dr. Bell, who calls attention to the fact that many phthisical persons do extremely well in the moist atmospheres of the ocean and of some forests; evidence that a low absolute atmospheric humidity, such as is found in Denver and Colorado Springs, does not fairly deserve the preponderating influence on consumption which Dr. Denison seems to claim for it.

We have left ourselves scant space in which to speak of Dr. Hingston's book on the climate of Canada, one of the most interesting portions of which is that devoted to the physique of the French Canadians — "the healthiest white people on this continent."

Tales of their prowess are related, and with one of these we must indulge our readers. A certain Grenon, we are told, was walking in the woods one Sunday when he met a full-grown bear; the beast was wise and tried to run away, but the Frenchman overtook him, brought him to bay, seized him by the back of the neck, and dragged him in spite of vigorous remonstances through the woods to the church door, where the people were collecting for mass. What the muscular Christian then did with his captive, or what the people did we are not informed. It gives us pleasure to state that Dr. Hingston brings more credible, if not stronger evidence than the above, that in the climate of Canada the vigor of the French stock has undergone no deterioration. F. C. S.

Transactions of the American Surgical Association. Vol. III. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: P. Blakiston, Son & Co. 1885.

This volume contains the papers read before the Association at the meeting held April 21–24, 1885. Many of these papers, particularly when taken in connection with the discussions upon them by members of the Association, are of extreme interest.

J. B. Roberts, M.D., of Philadelphia, in an able paper on "The Surgery of the Brain," advocates a much bolder line of treatment than that usually followed. He lays the greatest stress upon the importance of a careful study of the science of cerebral localization. This paper was the subject of a recent editorial in the Journal.

Not less interesting are two papers on "The Surgery of the Kidney." Dr. S. W. Gross, of Philadelphia, furnishes an exhaustive statistical paper on "Nephrectomy," based on a careful study of 450 cases. Dr. Tiffany, of Baltimore, reports a case of nephrolithotomy, in which a phosphatic renal calculus, weighing 556 grains, was removed piece-meal. This stone is the largest ever extracted from a kidney. The patient made a good recovery. Notable features about the operation were the cutting into the kidney substance with the blade of Paquelin's cautery, and the scraping out of the crumbling calculus by means of a sharp spoon.

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[1] Practitioner, July, 1885.

Dr. J. W. S. Gouley, of New York, contributes a paper on "The Treatment of Enlarged Prostate." He affirms that different cases call for different varieties of catheters, and that no one catheter is *the* catheter for every case. He would, however, do away entirely with all rigid catheters, except in cases where false passages exist. In view of the well-known danger of rapidly emptying a bladder long accustomed to hold residuary urine, he recommends that small quantities of such urine be drawn off from day to day, and about one-half the quantity of warm, borated solution be injected in its place. He describes a prostatectome of his own, which is said to be able to cut or punch out a segment of the prostatic lobule three by nine millimeters in size.

A paper of more purely scientific interest is that on "The Healing of Arteries after Ligature," by J. C. Warren, M.D., of Boston. Dr. Warren compares the process of cicatrization of a vessel to the development of callus in a broken bone, and makes the novel observation that muscular tissue is present in the cicatrix. A provisional report, embodying practically the same views, was read before the Boston Society of Medical Sciences at a meeting held March 20, 1883. It is understood that Dr. Warren intends to publish soon a more complete account of his experiments.

Lack of space prevents more than a mere mention of the admirable paper on "Air-Embolism," by that indefatigable worker, Dr. N. Senn, of Milwaukee; as well as that on "Traumatic Tetanus," by Dr. P. S. Conner, of Cincinnati. A short, concise paper on "The Culture of Surgical Bacteria" shows how thoroughly its author, Dr. H. C. Ernst, of Boston, has investigated his subject.

Of the other papers, that on "Phosphorus-Necrosis of the Jaws," by J. E. Mears, M.D., of Philadelphia, deserves special notice, an account of its originality and completeness.

It is to be hoped that the future of the Association may be such, that the wishes and expectations of its illustrious founder, Dr. Samuel D. Gross, be realized, that the Association become a national one in every sense of the word.

Lüftung und Heizung von Schulen. Ergebnisse im Amtlichen Auftrage Ausgeführter Untersuchungen. Von Hermann Rietschel, Professor an der Königlichen Technischen Hochschule zu Berlin. Berlin: Verlag von Julius Springer. 1886.

In this work, Professor Rietschel has published the results of his observations with reference to the ventilation and heating of twelve higher grade schools in Berlin.

The principal divisions of the subject are: 1. The determinations of the ratio of carbonic acid present in the air of occupied rooms, which the author acknowledges to be the only practical test of air pollution.[1] 2. Measurements of the movement of air in the ventilating ducts or shafts, by the anemometer. 3. Observations on the temperature, or distribution of heat in school-rooms, at different elevations in each room, and also as affected by different modes of heating, by steam, hot-air, stoves, etc.. and also as affected by gas, and by electric lighting. 4. Measurements of humidity of the air of school-rooms.

Fifty carefully-arranged tables, and thirty-six charts or diagrams are also presented, fully illustrating the subject, and making the work a valuable addition to the practical literature of school-hygiene.

Drainage for Health: or Easy Lessons in Sanitary Science. By Joseph Wilson, M.D. Second edition, with important additions.

Dr. Wilson's book treats of land-drainage, the drainage of farm-houses, villages and cities, and other kindred topics. It is written in an entertaining and somewhat colloquial style, and is amply illustrated.

It would appear from the following closing paragraph, that the author was not unfamiliar with the needs of Massachusetts.

"Our ideal Board of Health is principally composed of persons who have made hygiene a matter of study. The legislation necessary for such an organization must be discussed by our lawyers and law-makers; and there is good reason to hope for great improvement in the near future."

Fractures and Dislocations. By T. Pickering Pick, F.R.C.S., Surgeon to, and Lecturer on Surgery at St. George's Hospital; Member of the Court of Examiners, Royal College of Surgeons of England. pp. 524. Illustrated with 93 engravings. Philadelphia: Lea Brothers & Co.

This little book is one of the blue-covered series of Clinical Manuals for Students and Practitioners. The author states that in writing the book he has kept the fact steadily in view that it should be essentially clinical, and he has therefore sought to present "a concise and practical treatise of the causes of the various common fractures and dislocations, the signs by which they may be recognized and the appropriate treatment to be adopted for their cure." In this he has succeeded admirably. The book bears a distinctly clinical and practical stamp. In laying down rules as to symptoms and treatment the author relies principally on those, which, as he tells us, he has found by practical experience in the wards of St. George's Hospital to be most efficacious.

It is not to be expected that exactly the same methods of treatment for each injury which American surgeons have found to be the best will be recommended in an English book: and yet in the manual before us the differences are for the most part unimportant, and the great principles upon which all lines of treatment should rest are clearly laid down.

The book contains an amount of information remarkable for one of its size. The engravings, many of which are new, are clearly cut and serve amply to illustrate the text. Indeed, as a short treatise on fractures and dislocations the book is a success, and we heartily recommend it.

—According to a law recently enacted in Georgia, "preparations of morphine sold must be wrapped in a scarlet paper, naming the contents of the package in white letters."

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[1] A convenient, portable, and tolerably accurate method of readily determining the amount of carbonic acid in the air of school-rooms, should be devised for the use of teachers in our public schools, such an instrument being quite as essential as a thermometer.

Medical and Surgical Journal.

THURSDAY, APRIL 15, 1886.

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CUPPLES, UPHAM & COMPANY,
283 Washington Street, Boston, Mass.

THE HEALTH OF PROVIDENCE DURING THE YEAR 1885.

There were 2,161 deaths in Providence during the year 1885, as compared with 2,223 in 1884, 2,328 in 1883. and 2,242 in 1882, or at the rate of 18.3 per 1,000 of the census population for the year, of 118,070, the lessened mortality being chiefly from the so-called zymotic diseases. The record is a very favorable one and the report indicates intelligent work.[1]

Of the excessive prevalence of malarial diseases, not indicated in the death-rate, the board says malarial diseases have continued to prevail extensively in certain parts of the city, but it is believed that on the whole the number of cases is slowly diminishing. Several large pond holes in the western part of the ninth ward which were undoubtedly breeding places for this poison, have during the year been filled, resulting in a very great decrease in the chills and fever which have for several years afflicted nearly one-half of the population living in the immediate vicinity. In the eastern part of the ninth ward, where the conditions have remained the same, malarial diseases have shown a considerable increase. In the northerly part of the city, also, malarial diseases are reported to have increased and to have appeared in certain parts of the valley of the West River, along the borders of the mill-ponds, where they were before unknown. Along the northerly slope of Federal hill, malaria has diminished slightly, possibly due to the partial filling of a shallow pond in that vicinity. There is no question that malaria will cease to prevail whenever the swamps and lowlands in which it develops are properly drained and filled. The work which has been done in this direction has shown excellent results, and the amount which is thus expended will certainly prove a good investment for the owners.

The fear of cholera stimulated an improved public sentiment, under the influence of which better sanitary work could be done than usual; it showed itself chiefly in greater cleanliness and more attention to the control of infecting diseases on the part of the community as well as by the health officer who had most thorough sanitary inspections of the city made, and distributed freely circulars of information regarding the proper means of guarding against cholera and the other filth-diseases and sources of infection.

The law requiring physicians to report cases of "cholera, yellow-fever, typhus fever, typhoid fever, cerebro-spinal meningitis, diphtheria, small-pox, scarlet fever, measles and intermittent fever, and such other contagious, infectious or epidemic diseases as the superintendent of health may from time to time direct," is reported to be "pretty generally complied with," and supplemented by similar reports from teachers in the public schools.

The practice of placarding houses where cases of scarlet fever, diphtheria and small-pox occur, met with so little opposition it has been made compulsory in all cases.

During the year, 16,766 persons were vaccinated by eleven physicians employed for that purpose, a house-to-house inspection having been made. It was compulsory on the part of children attending schools but not so with adults. The number refusing vaccination was "extremely small and would certainly be very much increased by making it compulsory." A considerable part of the report is devoted to an able defense of the practice of using humanized virus and to directions for vaccination.

The city and its population are such that the conditions favorable to health abound there more than in many other New England cities, but the report of the superintendent of health indicates intelligent, zealous, and telling care of the public health.

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INDIRECT FRACTURES OF THE SKULL.

The mechanism by which indirect fractures of the skull, or, as they were formerly called, fractures by *contre-coup*, is produced, has occupied the attention of surgeons for many years. Sir Charles Bell, Sir Benjamin Brodie, Guthrie, Hilton, Hewitt, and Aran, have written excellent monographs on the subject.

In 1854, the key-note to a new theory of causation was struck in Germany, by the experiments of Bruns, of Tübingen, who demonstrated what an important part the elasticity of the skull played in the production of these fractures.

In a most valuable work, published in 1873, entitled "*Recherches Anatomiques et Expérimentales sur les Fractures du Crâne*," the author, Félizet, directs attention to the fact, that a fracture of the skull is the consequence of a depression of the curved surface situated between two resisting points: that violence tending to depress this curve, he divides into a driving force, which acts in the line of its direction; and a disruptive force, which acts transversely to the diameter of the former. He attempts to show that all fractures not immediately limited to the point of impact, follow definite routes, to which they are restricted by the added strength of certain parts of the skull, due to the existence of buttresses, namely: the petrous bones, the orbito-sphenoid prominences, the occipital protuberance, the basilar process, and the antero-lateral parts of the occipital bone, which remain intact, amid all fissures and fractures occasioned by violence. He also shows that the dura mater makes the skull, where it is attached, more resistant to fractures caused by flattening its curve.

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[1] Third Annual Report of the Superintendent of Health of the City of Providence for the year ending December 31, 1885.

Messerer, in 1884, (*Experimentelle Untersuchungen über Schädelbrüche*), demonstrated, by exhaustive experiments and the examination of many specimens, the elasticity of the cranium; and made it clear, that when the skull is compressed in one axis, the circumference at right angles to it is enlarged.

The production of indirect fractures, then, depends upon the fact that the skull is practically a hollow, elastic case, approximately oval in shape. When a force is applied to any curvilinear portion of its surface, if this part does not give way immediately, the axis of the skull, lying in the same line as that of the directed force, is shortened: and all the axes, in planes at right angles to this line, are correspondingly lengthened, with a proportional increase of their circumferences, and a separation of their meridians. In other words, what is called the "Bursting Theory," assumes that a direct depressing force is converted into an indirect disruptive force, brought about by a shortening of the axis parallel to the direction of the applied force, and by a complementary lengthening of the axes at right angles to the former. The effect is to produce a fracture or fissure, which will have a general meridianal direction.

Dr. Charles W. Dulles, at a meeting of the College of Physicians of Philadelphia, read an elaborate paper, the object of which was to show the correctness of this theory. In an analysis of one hundred and nineteen cases one hundred and eleven presented fissure which corresponded with what would be expected from an application of the above principles, while only eight cases seemed to contradict it.

The "Bursting Theory" must, however, be subject to many modifications. In point of fact, the elasticity of the skull is very insignificant. The momentum of a fracturing force must play a very important part in the effect produced, and the gradations between fractures occasioned by a terrific violence, and those by falls or blows — the usual causes of fractures of the skull — are innumerable. In fact, Greder, in 1885, accepting the fact that fractures of the base are to be regarded as the result of bursting, expresses the belief, that while the direction of a fissure is parallel to that of the force which produces it, its extension is dependent upon so many intercurrent conditions, that its direction can only be suspected from the intensity of its cause; and that the point at which the burst begins is where the resistance to the disruptive force is least.

The very interesting article of Dr. Dulles, which is the source from which the above remarks have been abstracted, carefully follows out the history of the subject, and contains a detailed analysis of the large number of specimens, on which its conclusions are based. This paper will appear in a forthcoming issue of the Transactions of the College of Physicians of Philadelphia, entitled "The Mechanism of Indirect Fractures of the Skull."

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CLAIRVOYANT DOCTORS AND THEIR PRESCRIPTIONS.

The following communications are published, not as a rarity, for the mails are daily carrying hundreds such from all the large centres of this State, but because they are types of much that passes current as good medical coin in certain classes of the community. To indicate the disease and treatment by simply looking at a lock of your hair or examining your handwriting, certainly presupposes a high degree of diagnostic expertness, which makes the possession of a good education, or even a fair acquaintance with grammar and orthography, rather superfluous.

The letters here given (selected from numerous similar ones) are genuine products of clairvoyant skill, and were paid for at the usual rates by their recipients, who are now desirous that the profession should profit by them; therefore they are generously donated to the readers of this Journal.

We have not attempted any correction of the orthographical and other errors, desiring to present the communications in their native simplicity.

M——, Mass., February 27, 1884.

Examination of Mrs Mary E. J——.

There is a bilious torpid state of the liver, an over secretion of bile, this leaks into the stomach, weakens the absorbents, and retards digestion. The blood accumulates in the veins, causing intermittent pulsation, and the heart to work too hard. At times, there is too much internal heat, the blood does not equalize t the surface as it ought. At times, Heated blood is retained at the kidneys, causes a dull feeling in the head, also nervous agitation.

Prescription.

One-half ounce Gentian.
One-half ounce Pleurisy Root.
One-half ounce Comfrey Root.
One-quarter ounce Golden Seal.

Steep in 1 qt. water, reduce one fourth. Strain off, add two oz. sugar, boil ten minutes. Dose two tablespoonsful, one-half hour before eating three times a day.

1 oz. fluid extract of Buchu. Dose, one-half teaspoonful add one-quarter gill water. Take every evening.

Yours Truly, Peter J. B——.

DR. ——, CLAIRVOYANT AND BOTANIC PHYSICIAN.

Terms of Treatment: Five dollars per month, payable in advance; all medicines found.

S——, Me., January 25, 1886.

Mr. H.—— Yours received. Trouble in this case is caused by chronic disease of the liver and kidneys, causes the blood to be sluggish in circulation, leaving the blood impoverished and impure. Debiliating the mucus tissues of the kidneys, stomach and lungs. Debiliating the gastric juice of the stomach, also the nervous and muscular system. Consider the case can be helped. Notice head of letter for terms of treatment.

Yours Respectfully, W. W. F——.

For graphic presentation and explicitness of diagnosis, the above communications have rarely been excelled, although in the Journal of December 7, 1882, will be found a letter which will prove of quite as great interest, in which "hacteria fungi" and the "elementary" canal figure prominently.

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MEDICAL NOTES.

— We learn that Dr. John S. Billings, of Washington, has been chosen to deliver the address in medicine before the next meeting of the British Medical Association, in place of Dr. Austin Flint, deceased. The appointment will, we think, commend itself to the profession on both sides of the water.

—The *London Lancet* has reason to believe that Sir James Paget, Professor Burdon Sanderson, and Dr. Lander Brunton have, together with Sir H. Roscoe, consented to serve on the British Commission to inquire into M. Pasteur's method of inoculation for hydrophobia; and the Government intends to seek in addition the services of a few distinguished physicians, including Sir W. Jenner.

— "A further death of a patient when under chloroform," is reported in an esteemed English contemporary. This puts the peril from that anæsthetic in an especially vivid light. Instances have been unfortunately common where simple death has resulted from its use, but we do not remember to have seen any case heretofore where the fatality outlasted the present life. On the whole, ether seems safer.

— Atlantic City, N. J., has adopted and had in operation since July, 1885, a system of filtration for its sewage. The matter is collected by the sewers in a reservoir thirty feet in diameter and twenty feet deep, with a ventilating shaft seventy-five feet high. Thence it is pumped upon filtration beds on the salt meadows half a mile to a mile from the city and hotels. The effluent is said to be only slightly discolored, and the odor at the beds to be but slight.

— A correspondent of the *Lancet* relates the following curious case of triple pregnancy: "Mrs. T—— was delivered three months ago of a healthy male child. For four days all went well. On the evening of the fourth day, intense labor pains set in, and a substance the size of a pigeon's egg was expelled from the vulva. On examination, this proved to be twins, in a perfectly healthy state. The patient made a good recovery, and three months afterwards the first-born child was healthy and well. This was the patient's first pregnancy."

— An uncomfortable experience was that related by a speaker at the recent meeting of the Ramsey Co. (St. Paul) Medical Society. He was operating for the removal of a solid ovarian tumor, when, there being free hæmorrhage, a "Paquelin" cautery (not, however, the genuine instrument) was used. When nearly all the points had been touched the shank suddenly unsoldered from the handle and dropped, white-hot, into the abdominal cavity. The intestines were seared in several places, but no eschar resulted, and the woman recovered in three weeks.

— A case of what was diagnosticated by the attending physicians as Asiatic cholera has appeared at Pinconning, Mich. The patient, however, recovered. The State Board of Health, having investigated the case, seems to have accepted the diagnosis, and is inclined in the absence of any other apparent means of infection, to attribute the disease to a box of Valencia raisins, the patient having been in the habit of eating freely of raw raisins. No other cases have appeared, on account, as is claimed, of the thoroughness with which the patient's discharges were disinfected. To the minds of outside observers there will remain, we fancy, should no further evidence be presented, some doubt as to the genuineness of the case.

BOSTON.

— Legislative hearings have recently been held by the Committee on Water-Supply on the petition of the city of Boston to take the Shawsheen River as a source of supply, proposing to abandon the Mystic; by the Committee on Public Health, relative to a bill forbidding the cutting and delivery of ice from ponds and streams polluted with sewage; also a hearing on a bill empowering the Board of Health to close all vaults and cess-pools on streets provided with sewers. The proposals of the Drainage Commission in regard to the drainage of the Charles River Valley, have also been under consideration by the Committee on Drainage.

— Among the changes, of which our readers have already been informed, which have been made by Surgeon-General Holt in the medical department of the State militia during the past two years, has been the organization of an ambulance corps, placed under the charge of a commissioned medical officer. This corps made its first tour of duty last summer with the Second Brigade at Framingham. We learn that a similar corps will shortly be organized and attached to the First Brigade. A permanent field hospital will be erected this spring near the Brigade headquarters on the camp grounds at Framingham, and it is intended to have the building sufficiently large and suitably arranged for the quarters of the ambulance corps. General Holt has the plans for a large two-horse ambulance, which will be constructed in season for the June encampment, and will then be kept regularly at the Framingham grounds.

NEW YORK.

— At the meeting of the Society of Medical Jurisprudence and State Medicine held April 8th, the subject of discussion was the question, "In the Absence of any uniformly-accepted Definition of Insanity among Alienists, is it wise to establish a Legal Definition?" The first speaker was Dr. E. C. Spitzka, who declared himself as opposed to a fixed statutory definition, on the ground of its impracticability. H.

H. Russell, Esq., expressed the opinion that the term insanity should never be applied except where the patient was beyond recovery of his reason. Dr. Wm. A. Hammond spoke of the difference between legal and medical insanity, stating that a person might be medically insane, and yet be held by the law to be sane. The standard adopted in New York was correct, he thought, that a man was insane when he did not know right from wrong, or the nature or consequences of his acts.

— Dr. Edward G. Janeway has been appointed Professor of the Principles and Practice of Medicine in Bellevue Hospital Medical College, in the place of the late Dr. Flint. In recognition of Dr. Flint's long and distinguished services at Bellevue Hospital, the Commissioners of Charities and Correction have decided, at the request of the Medical Board, to put up in that institution a mural tablet to his memory.

Miscellany.

A SERIES OF CASES OF TUBERCULAR MENINGITIS.

In the *Polyclinic*, March 15, Dr. J. H. Musser gives a series of notes based on thirteen cases of tubercular meningitis, all observed in private practice. Among the conclusions of interest that are drawn are the following:—

Tubercular meningitis may be considered a disease (1) of frequent occurrence, in the middle and lower classes especially; (2) more common than other localizations of turberculosis, except the pulmonary; and (3) much more frequent than other varieties of meningitis.

Among the causes most prominent are, age, hereditary predisposition to turberculosis, poor hygienic surroundings, and insufficient and poor food. The prime factor, always to be looked for, is the presence of a primary focus, inflammatory, tubercular, or "cheesy." The important symptoms presented in this series of cases were, in addition to the ones usually noted, in the premonitory stages, emaciation, irregular fever, and gastro-intestinal disorder without vomiting; in the succeeding stages, purulent conjunctivitis, erythemas, and other vascular changes in the skin, excessive emaciation, fever, offensiveness of breath, the scaphoid abdomen, and changes in respiratory rhythm.

Headache, motor and sensory irritations, and palsies occurred in all the cases. In a few, the headache was distinctly intermitting. The spasms and palsies of groups of muscles were irregular in respective cases, as to order or frequency. Hourly change in the state of the muscles was common, and the same may be said regarding sensation. Not only does this apply to alterations of function of spinal, but also of cerebral nerves. Convulsions (partial, unilateral, or general), delirium, and coma were present at the usual period, but presented no peculiar feature.

Special senses: Total blindness was observed in one case; impairment of vision in five; optic neuritis was recorded in three. The state of the pupils was not of special import — in one instance was there irregularity in size in the second stage. In the first stage they were not affected, save contracted in one instance, and fixed, in a dulated state, in another. Dilatation was the rule in the second stage. Nystagmus was observed in one case. Purulent conjunctivitis occurred in eight cases, in the second stage usually, and in two instances was unilateral. Ptosis was present only in one case.

In five instances local erythema and general flushings were noted. An urticaria-like rash was seen in three instances. In the later stages pallor or a bluish hue of the face was observed. A unilateral mottling of the extremities was observed. Emaciation was marked and persistent in the prolonged cases, nine in all. Fever was present in the first stage in seven cases; in the second, in nine; intermitting in type, often the irregular paroxysms. Hyperpyrexia was noted in one. The pulse was slow seven times in the first stage; irregular or intermitting in four. In the second stage it was usually quickened, small, rapid and feeble; twice, slow and irregular. It was never wiry or corded in either stage.

Vomiting occurred but three times in the first stage; once only in the premonitory stage, and once only in the final stage. Constipation was seldom observed — three times in the first, twice in the second stage. Diarrhœa was excessive once. Offensiveness of the breath was very frequent, and occurred chiefly in the last stage, but was so marked at first, also, in three cases, as to be noted. In the larger number of instances, (nine) the tongue was heavily coated. The scaphoid abdomen occurred at varying periods: once in the first stage, seven times in the second stage, while three times is recorded absent; twice there is on record. Respiratory symptoms: first stage, irregular or Cheyne-Stokes, four times, rapid twice, slow once. Second stage, Cheyne-Stokes twice, rapid six times.

Remissions of a decided character were noted twice; after the development of the most grave symptoms, a period of improvement led to hopes of recovery.

A CASE OF EXTRAORDINARY SEXUAL PRECOCITY.

The Paris correspondent of the *British Medical Journal* (February 13), gives an account of a case published in the *Sémaine Médicale*, and observed by Dr. Mengus, of a little girl of twenty-three months, who menstruated regularly. The child was well formed and fully developed for her age. The menstrual flux proceeded from the genital organs; there was neither lesion, neoplasm, nor a foreign body to explain this. The hymeneal membrane was absent; examination could extend to the cervix uteri, which was excessively developed for a child of that age. After three days, the catamenial flow stopped, and reappeared six weeks later on. The child presented signs of puberty, which increased after the second menstruation; the breasts were as developed as in the mobile period; the pelvis presented the signs of commencing puberty, and the skin lost the satin-like surface peculiar to children, and presented the rougher one characteristic of puberty in young girls; loss of blood weakened the child at first, but a few tonics restored her normal condition; she continued to menstruate regularly and have perfect health; she is now three and a half years old, precocious and intelligent, and measures 1.15 mètres in height, the stature of a child of seven. Her brother presents all the symptoms of cretinism.

SUDDEN DEATH FROM HÆMORRHAGE INTO THE ABDOMINAL CAVITY DURING MENSTRUATION.

Mr. Edmond J. Penny describes in the *British Medical Journal*, March 20, a case of death from the above cause. The patient, aged twenty-seven, had always enjoyed good health, and was the mother of two children. She was perfectly well until about seven one evening, when she complained of pain in the region of the stomach, which she attributed to the fact that she was menstruating at the time, and said she thought she would go to bed. She gradually grew worse, was extremely restless, complained of pain in her chest, and of difficulty of breathing; but refused to allow medical aid to be summoned, as she said she would be better in the morning.

Shortly before 4 a.m., her condition becoming more serious, medical attendance was requested; but the patient had already died during her husband's short absence.

A necropsy was made the following day. The body was well nourished. Rigor mortis was present. The surface was unusually blanched. There was well-marked blood-stains to be seen at the external genitals. The lungs were found to be healthy; the pleura was normal, and the pleural cavity contained its natural quantity of serum. The pericardium was natural, with the usual amount of fluid. The muscular tissue of the heart was healthy. The ventricles were contracted; there was a small clot of fibrin in the left ventricular cavity. The valves were healthy. After the thoracic visera were removed, the diaphragm was seen to bulge upwards in an unusual manner, particularly on the right side. On opening the abdominal cavity, a large quantity of dark fluid blood immediately escaped, and the whole of the right side of the abdominal cavity was found to be full of fluid and semi-coagulated blood; while the right iliac fossa was occupied by a tolerably firm clot, of the size of a fœtal head. The viscera were carefully removed and examined, and were found to be healthy, with no trace of lesion. The aorta and its principal branches were also minutely examined, and found to be everywhere healthy, nor could any lesion be discovered in the veins. On removing the large clot from the right iliac fossa, and tracing it onwards, it was found to lead to the right ovary; and a small but firm clot, at least an inch in length, was discovered attached to the outer surface of that organ. Two ruptured Graafian vesicles were also seen, to one of which an ovum was adherent; and, in the neighborhood of these, several small blood-vessels were found to be distended with clot, one of them being distinctly ruptured; and it was to this site that the clot above-mentioned was found to be adherent. The left ovary also showed signs of activity having taken place previously to death; and on its surface were seen small blood-vessels filled with clot, whilst an ovum was also attached to it. The uterus, which was not removed, appeared to be normal.

The occurrence of hæmorrhage into the abdominal cavity, due to the rupture of a Graafian follicle during menstruation, is undoubtedly rare; but it is notwithstanding, admitted by various writers on obstetrics, and notably Dr. Graily Hewitt. Hæmorrhage, in this case, evidently took place very slowly, occupying at least nine hours, while the quantity of blood extravasated was enormous. It seemed as if the whole body had been drained into the abdominal cavity.

SUICIDES IN GREAT BRITAIN.

Science gives an abstract of an interesting paper read before the Statistical Society, on February 17, by Dr. W. Ogle, on "Suicides in England and Wales in relation to Age, Sex, Season and Occupation." The proportion of suicides is 72 annually per million persons living. The suicide-rate increases rapidly until after middle life, but, in the more advanced periods, again diminishes. The maximum rate is in the 55–65 years period, when it reaches 251 per million. The male rate is far higher than the female, with the exception of the period between 15 and 20 years of age, when the female rate is slightly in advance. The occupations in which suicide-rates are lowest are those which imply rough manual labor, carried on mostly out of doors. The occupations with the highest suicide-rates are those which are sedentary, like the learned professions, and also such as notoriously lead to intemperance. As regards farmers, suicides nearly doubled in the two years 1879–80, when agricultural distress was most acute; and simultaneously with this rise in their suicide-rate, there was a corresponding rise in their registered bankruptcies. The amount of suicides varies with the seasons, forming a regular annual curve, of which the minimum is in December, and the maximum in June. The commonest method of suicide is hanging; then follow in order drowning, cutting or stabbing, poisoning, shooting. Women, however, select drowning before hanging, and poisoning before cutting or stabbing. Women take any poison indifferently; men choose painless and sure preparations. The choice of method is also affected by age, the young showing a comparative preference for drowning, poisoning and shooting; by occupation, men preferring the instruments of their trades; by season, drowning being avoided in cold months.

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EXTRUSION OF FŒTAL MEMBRANES AT THE SEVENTH MONTH WITH SUBSEQUENT RETRACTION.

Dr. F. E. Chatard, Jr., reported to the Baltimore Gynæcological Society (*New York Medical Journal*, April 3, 1886), a case of considerable rarity. He thus describes it:—"Mrs. B., was in her second pregnancy and up to March 7th, the thirty-third week, nothing unusual had occurred. On that date I was hurriedly summoned, and obtained from the husband the following data: That afternoon she had taken a walk of considerable length, and decidedly more than was her custom, and, as a result, she felt more than usually fatigued and complained of a sense of weight and fullness about the genitals. Her husband found a purplish mass protruding from the external genitals; he at once directed her to keep quiet in bed, and sent for me. I saw her about three hours after her walk, and, in making an examination, found, protruding from the vulva, a soft fluctuating tumor of about the size of a small chicken-egg. This could be traced by the finger within the vagina, and extended up to and within the external os uteri, which was dilated to about the size of a silver quarter-dollar. The tumor was nearly cylindrical in shape, moderately tense, with walls of about the thickness of the membranes at term, and its contents were perfectly fluid. There was no apparent uterine contraction or pain at the time of my visit, and the sensations complained of immediately after the walk had almost entirely disappeared. I directed her to remain quiet in bed and, if labor pains came on, to check them with an anodyne mixture of chloral and morphine, as she was still six weeks from her expected date of confinement. At my visit the next morning I learned that the patient had passed a comfortable night, and had experienced no pains or uncomfortable feelings. The tumor had retracted so that the lower portion was about half-way between the os uteri and the external genitals. I directed continued rest in bed. On the third day I found the tumor projecting only slightly at the mouth of the womb, which was now contracted to about the size of a three-cent piece. On the fourth day the os had returned to its normal size and condition; and no membranes could be felt. The patient completed her term of pregnancy and was confined on April 11th; the labor was normal, the bag of waters forming as usual."

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THE "ROYAL OPERATION."

The *Cincinnati Lancet and Clinic* has been making medico-historical researches into the times of *le Grand Monarque.* It tells us that Louis XIV, of France, was the friend and patron of physicians; especially well did he support Dr. François Felix. Louis started in young with numerous doses of clap; then he had small-pox, measles, pneumonia, dyspepsia, finally, to cap the climax, a perineal abscess and beautiful fistula in ano; then a carbuncle in the back of his neck, and chronic gout, then gravel, and finally died of a gangrene. All these evil afflictions kept his favorite doctor, Felix, busy. On November 18, 1686, at Fontainebleau, Dr. Felix operated on the king for fistula, in the presence of Madame de Maintenon and a few other friends. The cure was marvellous, and so was the pay, for Louis XIV presented his physician with a fee of $750,000 and a farm. During various illnesses, he paid Dr. Felix over five millions of dollars. The king having set the fashion of being operated on for fistula, most of the French nobility and the Parisian *demi monde* followed suit, and a brilliant historical writer of the period states that "the nobility, male and female, flocked to Dr. Felix at Versailles, and no matter whether suffering from fissures or from hæmorrhoids, presented their backsides to the surgeon, begging him to make a neat incision of the sphincter ani. More than thirty court ladies left in tears when they discovered they owned no real fistula." The operation in those days was called the "royal operation," and Dr. Felix reaped a harvest.

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SHALL THERE BE LIBERTY OF DISCUSSION IN MEDICAL MEETINGS?

A case in which all physicians are interested is now under trial in the courts of Philadelphia. The facts, as explained by the *Philadelphia Medical Times*, are, briefly, these: Dr. Carl Seiler, several months ago, before the Alumni Association of the College of Pharmacy of this city, and within the hall of the College, delivered a lecture upon "Hay-Fever." After he had explained the modern views of the neurotic nature of the disease, he stated the fact that it was often excited by pollen from various plants, as well as by particles of dust in the air; and he pointed out the fact that in the treatment, all powders are therefore injurious, since they act as irritants to the inflamed mucous membrane. In impressing this point upon his audience, speaking extemporaneously, he condemned all powders for this reason, and told his audience not to use them. Among the examples which he mentioned, was a proprietary article in the form of a snuff, which had been advertised in Philadelphia as a "cure" for hay-fever. The professional experience of the lecturer, and his knowledge of the nature of the disease in question, he believed, enabled him to form, and qualified him to express, a positive opinion as to the dangers of a remedy of the kind indicated, when used in this highly objectionable manner.

For this statement, made before a medical audience (for pharmacy is a branch of medicine), Dr. Seiler has been prosecuted by the owner of the nostrum, who claims exemplary damages for injury to his business. If the case is decided in favor of the plaintiff in this case, medical men, as our contemporary remarks, may consider it as an intimation that the patent-medicine business has grown so powerful that it may now issue its mandates directly to the profession, and that hereafter, if proprietary medicines are mentioned at all in our discussions, it shall only be in terms of commendation, and with due respect.

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A SUSPENSION OF DIAGNOSIS IN CASES OF PSEUDO-HERMAPHRODITISM.

Attention of French writers on Forensic medicine has lately been occupied with pseudo-hermaphroditism, as an impediment to the declaration of the sex of a new-born child. It appears that in France the sex of a child must be declared within three days after its birth, and it cannot in the course of its life enjoy the rights of other than the declared sex, without an appeal to a legal tribunal. Garnier and Leblond have each contributed papers on this subject to *Annales d' Hygiène Publique*, Sér. 3, T. xiv., p. 285. (See also *Medical Record*, March 15). The authors point out the injustice of this law in cases of pseudo-hermaphrodites, who at puberty find themselves of a sex opposite to that which had been declared; and Garnier gives, by way of illustration, an account of a case which has recently come under his notice. Both authors strongly urge that, as there is sometimes much difficulty in correctly determining the sex at birth, it should be open to the accoucheur, in such cases, to report the sex as undetermined or doubtful, leaving the final declaration of a sex to a later and more favorable period.

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COMMUNICATION OF TUBERCULOSIS THROUGH THE FOOD.

Fischer (*Archiv. f. exper. Pathologie u. Pharmak.* January, 1886, *Practitioner*, March, 1886), has made a series of experiments on this subject on rabbits, with the result that he comes to the conclusion that such a method of the conveyance of the tuberculous poison is beyond all doubt. His experiments were made with beaten-up fresh lungs of rabbits which had died of tuberculosis, and later on with such lungs after putrefaction had commenced in them. From his first series, the results showed that after the animals had partaken only once of this material (3-8 ccm.), a typical tuberculosis of the intestinal mucous membrane, of the mesenteric glands, and liver was developed within a period varying from six to eight and one-third weeks. The spleen, omentum, kidneys, pleura and peritoneum were, on the contrary, never found affected, the part chiefly involved being the intestinal mucous membrane, the extent of this depending on the duration of the experiment and the richness of the tuberculous material in bacilli.

Falk had previously shown that the digestive juices, contrary in this respect to their action on the anthrax bacilli, have little or no effect on the tubercle bacilli, neither killing them nor even weakening them, and Fischer has arrived at a similar conclusion. On the other hand, putrefaction has a most distinct effect on the tuberculous poison; on feeding the animals with putrefactive tuberculous material, either no changes at all were found, or they were slight and limited for the most part to the mesenteric glands and vermiform process, and as the number of the bacilli in such material was in no way diminished, the difference in the action could only be ascribed to a weakening of the pathogenic activity of the organisms, brought about by prolonged contact with putrefactive organic substances.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 3, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Whooping Cough.	Diphtheria and Croup.	Typhoid Fever.
New York	1,439,039	726	257	13.72	14.26	13.08	3.64	1.82
Philadelphia	971,363	460	160	10.73	—	.22	4.40	1.22
Brooklyn	690,000	277	99	14.74	10.44	2.16	5.76	5.04
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	183	53	8.15	17.05	.31	2.48	.62
Baltimore	417,220	198	78	10.71	16.83	.51	.51	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	106	38	6.58	23.50	—	1.98	—
New Orleans	238,000	94	38	8.48	10.60	1.06	1.06	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	84	31	13.09	15.47	2.38	2.38	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	—	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	6	13.65	27.30	—	9.10	—
Charleston	60,145	26	11	23.10	7.70	15.40	3.85	—
Worcester	68,383	30	8	16.66	10.00	3.33	10.00	—
Lowell	64,051	35	13	20.00	8.58	—	20.00	—
Cambridge	59,660	30	9	13.33	16.66	—	6.66	3.33
Fall River	56,863	23	10	13.05	21.75	—	8.70	—
Lynn	45,861	23	8	8.70	17.40	—	—	—
Lawrence	38,825	9	0	—	44.44	—	—	—
Springfield	37,577	22	10	18.20	4.55	—	—	4.55
New Bedford	33,393	19	5	10.52	5.26	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	—	—	—	—	—
Holyoke	27,894	6	1	16.66	—	—	—	16.66
Chelsea	25,709	7	2	14.28	—	14.28	—	—
Taunton	23,674	6	1	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	3	—	28.56	—	—	—
Brockton	20,783	4	3	25.00	25.00	—	—	25.00
Newton	19,759	10	2	30.00	—	—	—	20.00
Malden	16,407	8	3	—	25.00	—	—	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	5	2	20.00	20.00	—	—	—
Newburyport	13,716	3	1	33.33	—	—	33.33	—
Northampton	12,896	1	1	—	—	—	—	—
90 Massachusetts Towns	—	45	9	6.66	22.22	—	4.44	2.22

Deaths reported 2,483: under five years of age 864; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 299, consumption 301, lung diseases 374, diphtheria and croup 102, whooping-cough 30, scarlet fever 42, diarrhœal diseases 29, malarial fever 24, typhoid fever 22, erysipelas 20, cerebro-spinal meningitis 13, measles seven, puerperal fever five, small-pox four, typhus fever one. From diarrhœal diseases, New York 12, Philadelphia and Boston three each, Brooklyn, Baltimore and District of Columbia two each, Cincinnati, New Orleans, Cambridge, Lynn and Springfield, one each. From malarial fever, New York 12, New Orleans four, Baltimore three, Philadelphia and Brooklyn two each, District of Columbia one. From typhoid fever, Philadelphia six, New York five, New Bedford two, Brooklyn, Boston, Cincinnati, District of Columbia, Nashville, Lynn, Springfield, Newton and Waltham one each. From erysipelas, New York eight, Philadelphia seven, Brooklyn two, Boston, Cincinnati and Springfield one each. From cerebro-spinal meningitis, New York four, Philadelphia and Cincinnati two each, Baltimore, District of Columbia, Nashville, Worcester and Fall River one each. From measles, Baltimore five, New York and Brooklyn one each. From small-pox, New York four. From typhus fever, Philadelphia one.

In 108 cities and towns of Massachusetts, with a population of 1,262,875 (population of the State 1,941,465), the total death-rate for the week was 18.28 against 19.29 and 18.54 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 20th the death-rate was 29.3. Deaths reported 5,101: infants under one year of age 1,024: acute diseases of the respiratory organs (London) 917, whooping-cough [illegible], measles 103, diarrhœa 44, scarlet fever 32, fever 32, diphtheria 20, small-pox (Blackburn) one.

The death-rates ranged from 18.7 in Norwich; to 39.6 in Blackburn, Birkenhead 22.4, Birmingham 25.5, Hull 26.7, Leeds 20.9; Leicester 21.3, Liverpool [illegible]; London [illegible]. Manchester 35.7; Nottingham 27.1; Sheffield 23.8, Sunderland 22.5.

In Edinburgh 24.0, Glasgow 34.0; Dublin 40.5.

For the week ending March 20th in the Swiss towns, there were 55 deaths from lung diseases, consumption [illegible], small-pox nine, whooping-cough, diarrhœal diseases, diphtheria and croup each seven, measles and puerperal fever one each.

The death-rates were: at Zurich 20.9, Geneva 19.2; Basle 17.8, Berne 36.4.

The meteorological record for week ending April 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Mar. 27, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...28	30.364	36.5	40.9	32.3	92.0	73.0	84.0	83.0	N.E.	S.E.	S.W.	10	10	2	O.	F.	C.	—	—
Monday,..29	30.429	37.7	40.1	31.9	83.0	81.0	100.0	88.0	E.	S.E.	E.	11	22	13	C.	O.	R.	—	—
Tuesday,..30	30.078	38.0	40.5	36.6	95.0	95.0	96.0	95.3	N.E.	S.E.	S.E.	12	14	4	O.	R.	G.	—	—
Wednes., .31	29 959	54.6	64.3	37.2	100.0	86.0	86.0	90.7	N.E.	S.	S.	2	24	24	G.	O.	T.	—	—
Thursday, 1	29.804	49.6	61.2	42.5	80.0	39.0	73.0	64.0	S.	S.	S.W.	20	18	10	O.	O.	C.	—	—
Friday, ... 2	29.973	45.1	58.2	38.3	75.0	38.0	53.0	55.3	S.W.	N.W.	W.	12	22	6	C.	C.	C.	—	—
Saturday,. 3	30.129	35.4	39.5	31.3	72.0	77.0	89.0	79.3	N.W.	N.	N.	5	9	3	N.	N.	C.	50	0.77
Mean, the Week.	30.105	42.4	49.2	35.7				79.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 3, 1886, TO APRIL 9, 1886.

Hartsuff, Albert, major and surgeon. Granted leave of absence for fifteen days. S. O. 71, Department East, April 7, 1886.

McElderry, Henry, major and surgeon. Ordered for duty as post surgeon, Fort Wayne, Mich. S. O. 69 Department East, April 2, 1886.

Merrill, James C., captain and assistant surgeon. Granted leave of absence for three months. S. O. 81, A. G. O., April 7, 1886.

Biart, Victor, captain and assistant surgeon. Sick leave of absence further extended one year on account of sickness. S. O. 79, A. G. O. April 5, 1886.

Johnson, Richard W., assistant surgeon. Relieved from duty at Fort Buford, D. T., and ordered for duty (temporary) at Fort Snelling, Minn. S. O. 28, Department of Dakota, March 29, 1886.

Robertson, R. L., assistant surgeon. On expiration of his present leave of absence, will be relieved from duty in Department of Texas and will report in person to commanding general Department of Dakota, for assignment to duty. S. O. Department Dakota, April 3, 1886.

Lauderdale, Jno. V., captain and assistant surgeon. From Department of Dakota to Department of Texas.

Adair, Geo. W., captain and assistant surgeon. From Department of Dakota to Department East.

Finley, Jas A., captain and assistant surgeon. From Department of Texas to Department of Dakota.

Kilbourne, H. S., captain and assistant surgeon. From Department of Dakota to Department of Columbia.

Gardner, E. F., captain and assistant surgeon. From Department of Columbia to Department East.

Gray, Wm. W., captain and assistant surgeon. From Department East to Department of Dakota.

Banister, J. M., captain and assistant surgeon. From Department East (upon the expiration of his present leave of absence) to Department of Columbia.

Carter, E. C., first lieutenant and assistant surgeon. From Department of Arizona to Columbus Barracks, Ohio.

Johnson, R. W., first lieutenant and assistant surgeon. From Department of Dakota to Department East.

Wilson, Geo. F., first lieutenant and assistant surgeon. From Department of Columbia to Department Dakota. S. O. 79, A. G. O., April 5, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 10, 1886.

Drake, N. H., passed assistant surgeon. Detached from duty at Naval Hospital, Philadelphia, Penn , and ordered to duty at Naval Hospital, Brooklyn, N. Y.

Fitts, H. B., passed assistant surgeon. Detached from duty at Naval Hospital, Brooklyn, N. Y., and ordered to duty at Naval Hospital, Philadelphia, Penn.

Anderson, Frank, passed assistant surgeon. Detached from Naval Laboratory, New York, and granted six months' leave from May 1, 1886, with the privilege of going abroad.

SOCIETY NOTICES.

Suffolk District Medical Society. Surgical Section.— There will be an extra meeting of the Section at 19 Boylston Place, on Monday evening, April 19th, at 8 o'clock. Communications: Dr. John Homans, "A Successful Case of Laparotomy for Perityphlitic Abscess, with exhibition of Patient." Dr. J. J. Putnam will demonstrate a case of recovery after late suture of the musculo spiral nerve, with a few remarks. Dr. H. W. Cushing will exhibit a case of resection of the elbow-joint showing the result of the operation after four years.

S. J. Mixter, M.D., *Secretary.*

Suffolk District Medical Society. Obstetric and Gynæcological Section. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, April 21st, at 8 o'clock. Communications: Dr. S. W. Driver, "Obstetric Gleanings; or Expedients and Mistakes." Dr. Charles Sedgwick Minot, "The Actual as compared with the Supposed Structure of the Placenta." Dr. E. W. Cushing will show a Liomyoma, or Uterine Fibroid. Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman.*
Robert B. Dixon, M.D., *Secretary.*

Middlesex South District Medical Society.—The Annual Meeting will be held in Social Union Hall, 15 Brattle Street, Cambridge, on Wednesday, April 21, 1886, at 12 o'clock. The annual address will be delivered at 1 o'clock p.m., by Dr. A. F. Holt, of Cambridgeport. Dinner will be served at 2 o'clock p.m., after which the Society is invited to visit the Cambridge Hospital which will be shown by the kindness of Dr. M. Wyman. The Censors of the Society will meet at the same place at 11.30 a.m. of the same day to consider applications for admission to the Massachusetts Medical Society. Members wishing to go as delegates to the meeting of the American Medical Association, May 4th, at St. Louis, may give their names to the President or Secretary. Walter Ela, *Secretary.*

PRELIMINARY NOTICE.

New York State Medical Association. Fifth District Branch.— The Fourth Special meeting of the Fifth District Branch will be held in Kingston on Tuesday, June 15th, 1886. All Fellows are cordially invited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens. The Secretary will be glad to receive the title of any proposed paper as early as convenient.

J. G. Porteous, M.D., *President.*
E. H. Squibb, *Secretary*, P. O. Box 94.

DEATHS.

In Sudbury, Levi Goodenough, M.D., M.M.S.S., aged eighty-two years.

Died on the 11th inst., in Brandon, Vt., of apoplexy, Anderson Dana Dyer, M.D., M.M.S.S. aged twenty-seven years.

BOOKS AND PAMPHLETS RECEIVED.

A Brief Synopsis of the Various Points involved in the Coarse Examination of the Brain and Spinal Cord. By Francis X. Dercum, M.D., Pathologist to State Hospital for the Insane at Norristown; Instructor in Nervous Diseases. University of Pennsylvania, Pathological Laboratory, State Hospital for the Insane, Norristown, Pa.

Hawes's Physician's Record. Entered according to Act of Congress in the Year 1886.

Original Articles.

A CASE OF ALCOHOLIC PARALYSIS PRECEDED AND ACCOMPANIED BY AMBLYOPIA EX ABUSU, WITH REMARKS THEREON.[1]

BY MYLES STANDISH, M.D., OF BOSTON.

On Sept. 22d, 1884, I was consulted by a gentleman, fifty-two years of age. He was above medium height, of heavy frame and by profession a practising physician. Patient reported that he had never experienced any severe illness in his life except an attack of acute rheumatism at sixteen years of age. He never had syphilis, he had experienced several epileptiform convulsions in his life occurring at long intervals. The last one was in the spring of 1882. That he had used alcohol for many years daily, that he had used both alcohol and tobacco to excess, but that of late he had smoked less and drank more. For three months his vision had been failing until it appeared to him that he walked continually in a thick fog. Upon examination I found that his vision had fallen to 0.1 in each eye, and could not be improved by glasses. There was no astigmatism. Color vision was perfect except for a slight hesitancy on a very light green. The field of vision in each eye remained at nearly normal limits both for form and for colors. There was a distinct central color scotoma for green in each eye with a somewhat imperfect one for red. Upon an ophthalmascopic examination the nerve was seen to be congested but the fundus was otherwise normal. A diagnosis of amblyopia ex abusu was made and the patient was warned, that, unless he stopped the use of alcohol and tobacco absolutely, he stood in danger of blindness. Abstinence was advised and pil. strych. sulph. gr. 1-32 was ordered twice daily. I requested him to report to me from time to time.

I saw nothing farther of the patient until the 9th day of April, 1885, somewhat more than six months later, when I was called to see him in consultation with Dr. J. A. Dow; I was then told that he had abstained from alcohol and tobacco for a week after consulting me in September, and then returned to his former habits with even more devotion than before. His vision had steadily failed, until he could barely distinguish figures on the street. His walk had become peculiar and unsteady at all times. That recently, when he came in, he had complained of great fatigue and seemed quite exhausted. He sometimes on such occasions complained of rheumatic pains in his feet and legs. He had, however, continued to walk out to a friend's place of business and back, about three-fourths of a mile, every day until April 1st. On that day he came home reeling from side to side and experienced great difficulty in getting up the steps to his door, indeed, he only did so by helping himself with his hands, grasping posts, etc. He was not intoxicated. Soon after his return home, he said he was perfectly blind. During the night he appeared quite ill and had delusions. He thought that he had been called to see a patient and must go out. When his family tried to restrain him, he became very violent. The next morning his vision was so poor that he could not distinguish even large objects before him. His delusions for the next four or five days were very marked. He thought that he was in the home of his childhood with his father and mother (both of whom are dead) and constantly tried to escape in order to return to his own house. Although violent if restrained, yet, if he was not supported, he would fall after half a dozen steps from the bedside. Sleep was only obtained by the use of liberal doses of bromidia. When I saw him, he was constantly talking to the people of his father's household, whom he supposed to be about him.

Nevertheless, when I spoke to him and told him who I was, he talked rationally and described his sensations clearly. He made much complaint of a coldness with occasional burning sensations in the feet and legs combined with great hyperæsthesia. There were no anæsthetic areas. He walked with a little assistance, but feebly and clumsily, and turned with some difficulty. He stood with his eyes shut without reeling. There was complete absence of the patella tendon reflex. There was no incontinence of urine or fæces or girdle sensations about the thighs or waist at this or any subsequent period. He buttoned and unbuttoned his clothing quickly and easily. His appetite was good. The examination of the eyes showed no paresis of the palpebral or ocular muscles. Vision equalled bare perception of light. The pupils were large and regular, and contracted very slightly and sluggishly to light. The reaction to light fully corresponded to the amount of perception present. There was pronounced gray-blue atrophy of both optic discs with the calibre of the vessels decidedly diminished. The fundus was otherwise normal.

On the 16th of April, at his earnest solicitation, he was allowed to smoke a couple of pipes full of tobacco, and when I saw him on the evening of that day, in company with Dr. Dow, the pupils were widely dilated and failed absolutely to react to light. There was no perception of light even when cast into the eye by means of a powerful condensing lens.

On May 1st, I found him complaining bitterly of the hyperæsthesia of his legs and feet. He could not sit up in bed or arise from a chair except by the use of his hands. If left standing unassisted, he stood tolerably firmly for a few moments, then abruptly fell, not forward or sideways with a reeling motion, but directly downwards, as if he had suddenly relaxed all the muscles of the legs. His mental condition was much more disturbed and he failed to recognize the members of his own family. His speech was somewhat thick. The perception and projection of light had returned and the pupil reacted slightly. I may say here in passing that afterwards he was indulged on one occasion to the extent of allowing him to smoke once more, and that he again lost perception of light, which subsequently returned.

On May 9th, his mind was somewhat clearer. He still had delusions: that he had been out during the day attending to his patients, visiting his friends, etc. This particular delusion was quite constantly present for a number of weeks subsequently, and has been described by Dreschfeld as a very constant peculiarity of this disease. His speech was much clearer. He still suffered much from restlessness and insomnia. His legs were much wasted and the measurement about the greatest diameter of the left calf was only fourteen inches. The hyperæsthesia was very great. He shrank away when any person approached the bed for fear that his feet or legs would be touched. The painful sensations were very much increased by deep pressure and were greater in the left leg than in the right. His arms were not diminished in size and the power was but slightly diminished and that only in the left. The left arm and hand were slightly hyperæsthetic accompanied by lack of sensation in the tips of the fingers of the left hand. His pupils were only moderately dilated and reacted promptly to light. Vision equalled fingers at 60 cm. The intra-ocular appearance remained the same.

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[1] Read before the Cambridge Medical Improvement Society, March 22, 1886.

On May 15th, he was mentally in a much better condition and recognized me. His delusions were still prominent and he related to me on this, as often on subsequent occasions, the particulars of the cases he had attended throughout the day. He was quite helpless and unable to attend to his slightest want; he could not even feed himself. The pain upon deep pressure or voluntary movements was now marked in both arms and legs, but very much less in the right arm than in the other limbs. The pain caused by the examination was extreme. He no longer moved his left arm, always lifting it with the right hand in order to avoid the pain caused by voluntary movements. There was marked impairment of the power of the right hand. He said that his legs and left arm had a strange sensation, as if there was a fluid under the skin. In examining for anæsthetic areas on this occasion I noticed a distinct delay in the transmission of sensation.

On the 6th of June our patient continued to complain of freezing and burning sensations in the limbs at intervals. He could not stand. He had lost power over the left arm. He could only raise himself in bed by the aid of his right hand, and then only with the greatest labor. He could cross the left leg over the right only with extreme difficulty. The measurement about the calf of the left leg was twelve inches and that of the right leg twelve and one-half inches.

On June 22d, I found him much improved and his mental condition was good, except that his memory of events happening from day to day was very poor. The extreme sensitiveness of the legs had given place to a tingling sensation, which gave much discomfort. Pain could only be produced upon deep pressure. He could stand with a little assistance. The leg measurements were each one-half inch less than at the last observation. There was a marked increase of power in the right hand. He could raise the left hand as high as his head without assistance from the right. There were still several points near the axilla on the left arm, that were very painful to the touch. Voluntary movements of the left arm also caused pain. Vision 3-200, intra-ocular appearances the same.

From this time forward he continued to improve, and on the 21st of July went down stairs, but was unable to return, as he could not lift his feet from one step to another. On that date pain on deep pressure had disappeared from both legs except from a tender point on the front of each ankle. The leg measurements had increased slightly to twelve and one-half and thirteen inches respectively.

In September our patient was able to walk up stairs for the first time. At the present date, March 18th, 1886, he is somewhat forgetful concerning passing events. He can walk up and down stairs without effort and easily rise from a sitting posture. The measurement about the calf of the left leg at its greatest diameter is thirteen and one-half inches, and about the right is fourteen inches.

The patella tendon reflex is still absent on both sides. All sensitive points have disappeared from the left arm, but he cannot completely close his left hand. The examination of the eyes reveals the following condition: vision equals 0.1, certainly a remarkable improvement. Vision for colors perfect. Fields of vision, of nearly normal size and containing no color scotomata. An ophthalmoscopic examination shows marked blue-gray atrophy of both optic discs with small vessels.

During his illness he had two epileptiform attacks, such as he had previously experienced, but they did not seem to have any influence upon the progress of the disease. His treatment with the exception of bromidia given in the early stages to produce sleep at night has been simply complete abstinence, rest, and iodide of potass. given in increasing doses until forty-five grains, three times daily, was reached. Whenever intolerance of the drug presented itself its exhibition was omitted for a week or ten days and then resumed.

This case certainly presents a group of symptoms striking in the extreme, motion, sensation, and mental condition are all affected, and in seeking for a lesion which could explain these facts, we naturally turn to the cerebro-spinal system. No brain lesion could explain them all as thus associated, and if we look to the spinal cord for the location of the lesions, which could produce at the same time the motor paralysis with atrophy of the muscles, and also abolish the patella tendon reflex, we should be obliged to suppose that there was present either acute myelitis or acute anterior poliomyelitis combined with locomotor ataxia, but many symptoms of these diseases are absent, such as the girdle sensations, the pareses of the sphincters, etc.

Moreover the particularly prominent group of subjective symptoms, namely, hyperæsthesia to touch and to passive motion, loss of tactile sensibility, sensations of heat and cold, pain on deep muscular pressure, delay in the transmission of sensations, suggests at once a multiple neuritis such as has been so well described by Leyden.[2] This disease is an affection of the peripheral nerves, which does not extend to the spinal cord. When we have a multiple neuritis due to the long-continued use or abuse of alcohol, we have added cerebral symptoms, and in our case we have a typical clinical description of the condition to which of late has been given the name of alcohol paralysis. This form of the disease differs from other cases of multiple neuritis. (1) The history of the abuse of alcohol. (2) It runs a less acute course and is less progressive. (3) The paralysis is more confined to the extensor muscles. (4) The cerebral symptoms. The peculiar delusion before mentioned occurs also in chronic alcoholism without paralysis. There is a return of the patella-tendon reflex in cases of recovery but it is very late.

Within the last three years eight different observers namely, Lauceraux,[3] Moeli,[4] Dèjèrine,[5] Broadbent,[6] Hun,[7] Strumpel,[8] Muller,[8] Dreschfeld,[9] have published reports of autopsies in cases of alcoholic paralysis. In every case the spinal cord was found to be normal and the peripheral nerves showed degenerative changes. In Dr. Hun's case the specimens of the peripheral nerves were unfortunately not preserved, but an examination of the brain revealed "a degeneration and atrophy of the nerve cells in the cerebral cortex, a congestion of the pia mater, and an effusion of serum into the sub-arachnoid space." From the above list it would appear that the pathology of the disease is well determined and consists of a degeneration of the peripheral nerve fibres and of the nerve cells of the cerebral cortex.

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[2] Zeitschrift für Klin. Medicin. Vol. 1, p. 387.

[3] Gazette des Hopitaux, No. 46, 1883.

[4] Berlin Klin. Wochen. No. 14, 1884.

[5] Archiv. de Physiologie, No. 2, 1884.

[6] Royal Medical and Chir. Society, February 14, 1884.

[7] American Journal of Medical Sciences, April, 1885.

[8] Schultz in Neurol. Centralb., January, 1886.

[9] Brain, January, 1886.

I have purposely omitted in the foregoing any consideration of the ocular symptoms of this case, as I wish to treat the subject in some detail. Amblyopia ex abusu is an affection rarely met with before the age of thirty years. The patient comes complaining of a gradually progressive loss of sight extending over several months until it appears to him, as if he now "walked in a continual fog." He can no longer read ordinary type. He thinks he can see better after dusk or in the house. Upon examination we find that his visual acuity is reduced to from 0.1 to 0.3 of normal vision. His vision is the same in each eye. His fields of vision for form and color are of normal size, but he has an oval central color scotoma for red and green covering about 20° horizontally and 10° perpendicularly as measured on the arc of a perimeter. This scotoma includes the macula and blind spot. Upon the examination of the eye-ground with the ophthalmascope we see nothing abnormal except perhaps a slight congestion of the disc. If the patient has delayed somewhat longer before seeking advice, we shall find the discs markedly white, especially the temporal half; or if the case is one of considerable duration, the whole disc will be blue-white and present the ordinary appearance of atrophy optici. This loss of vision although accompanied by whiteness of the nerve, differs materially from the atrophy occurring in ataxic, cerebral, and glaucomatous disease, as well as from that of hysterical amblyopia; for in amblyopia ex abusu although the central vision is much impaired, the fields both for form and color are good; while in other forms of atrophy, on the contrary the field for form is much diminished and the color fields are greatly contracted, or even color sense itself, especially for red and green, may be absolutely wanting before the centric vision is lost to any very considerable extent. A patient coming with these symptoms will report that he has used tobacco steadily and excessively for many years, or what is much more common, that he has used tobacco constantly but not excessively, and drank spirits daily to a considerable extent for a long time. I have repeatedly seen patients with this complaint, who drank spirits continuously, but who did not use over two ounces of tobacco per week. If such a patient can be induced to stop his tobacco and alcohol entirely, he is certain to recover his vision. The vision does not perhaps return to normal acuity, but 0.7 to 0.8 is recovered. This is the disease that is commonly called tobacco amblyopia. Much has been written to prove that tobacco, and tobacco alone, is the cause of this trouble. The English writers as a rule have followed Hutchinson, who first described the disease, attributed it to tobacco, and gave it the name generally accepted. von Græfe, Sichel, Galezowski, and others, have maintained that alcohol bore a part in the production of a majority of these cases. Hirschberg[10] says that there is a centric amblyopia, that is produced by alcohol, and quotes Brudend Carter as saying that this affection was rarely or never met with among the Turks, who notoriously smoke excessively. He does not speak of it, yet it is a fact, that the Turks as a nation, are very moderate in the use of spirits.

I have compiled all the reported cases, in which there is a record of the use of alcohol. I have not included in my list any cases, in which there is no record of the examination of the field of vision or of the existence of a central scotoma; the result is as follows:

	Number of Cases.	Used Alcohol.	Used Tobacco.	No Record.	Teetotalers.
Nettleship[11] .	26	26	26	0	0
Shear[12] . . .	40	38	40	0	2
Hartridge[13] . .	20	16	20	3	1
Morton[14] . . .	1	0	1	0	1
Webster[15] . .	20	19	20	0	1
Totals . . .	107	99	107	3	5

From which summary it will be seen that, out of a total of one hundred and seven cases, there were only five teetotalers, ninety-nine are recorded as using alcohol to a greater or less extent, and in three cases there is no record.

Nettleship, in commenting upon his cases, says that alcohol is a predisposing cause. This, I think, may be accepted as a fact, and to this I would add that the greater the abuse of alcohol, the less the quantity of tobacco necessary to produce the toxic effect. As alcohol is at least such a powerful adjuvant in the production of this disease of the eyes, I prefer to call it amblyopia ex abusu, and it does not seem strange to find this condition co-existent with alcohol paralysis.

For the purpose of determining whether such an association may not often be the case, I have collated all the published cases of undoubted alcohol paralysis with especial reference to their eye symptoms. I find the total number of cases reported to be fourty-four, as follows:

Glynn[16] four, Fischer[17] two, Kruche[18] seventeen, Dèjèrine[19] two, Hun[20] two, Dreschfeld[21] eight, Moeli[22] two, and Strumpel[23], Muller[23], Schultz[23], Lowenfeld[24], Lilienfeld[23], Myrtle[25], Broadbent[26], one each. In none of these cases is there any record of the amount of vision, either centric or peripheric, but there cannot be deduced from this a conclusion that it was not often, and even seriously, impaired, for a sick person can easily lose a very large proportion of his acuity of sight without noticing it.

In consequence of this non-examination of vision, we must depend for our evidence upon the recorded results of the ophthalmoscopic examinations and upon observed abnormalities of the pupil. The total number of cases reported is forty-four. An examination of the fundus of the eye is noticed in twenty-three cases; of these, seven are recorded as having no change in the eye ground, ten as having congested discs, four as having white discs, and finally two cases, in which the temporal half of the disc was distinctly white. In all these cases there was no other intraocular abnormality recorded. All of these appearances would be explained, by the supposition that an amblyopia ex abusu existed. Moreover, the whitening of the temporal half of the disc is quite characteristic of this disease.

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[10] British Medical Journal, November 22, 1879.

[11] St. Thomas Hospital Reports, 1878.
[12] British Medical Journal, June 21, 1884.
[13] British Medical Journal, January 20, 1886.
[14] Shears in British Medical Journal, June 21, 1884.
[15] Medical Record, 1880.
[16] Liverpool Med. Chir. Journal, July, 1883.
[17] Archiv. Phychiatrie u. Nervenkrank. Vol. xii.
[18] Deutsche Medizinal Zeitung, September 8, 1884.
[19] Archiv. de Physiologie, No. 2, 1884.
[20] American Journal of Medical Sciences, April, 1885.
[21] Brain, July, 1884, and January, 1886.
[22] Charite Annalen, No. viii, 1883. Berl. Klin. Wochenf, No. 14, 1885.
[23] Neurol. Centralb., No. 2, 1885.
[24] Archiv. Phychiatrie u. Nervenkrank, Vol. xv.
[25] British Medical Journal, August, 1882.
[26] Lancet, February 16, 1884.

In addition to these cases in which there is a record of the condition of the fundus, three other cases are reported as having large pupils, which reacted slowly to light. Such a condition of the pupil is always present when the amblyopia has considerably advanced. From which it will be seen that although only fifty-two per cent. were carefully examined with reference to their eyes, forty-three per cent. of the total number present symptoms which at least suggest the presence of a toxic amblyopia.

There is one case recorded by Shears in his report of cases of tobacco amblyopia, which is extremely interesting in this connection, and is recorded in substance as follows:

The patient had a vision in each eye of 20-200. Discs pale on temporal half. Central scotomata. He almost ceased smoking but continued the use of alcohol. His vision did not improve in three months, while under observation. The patient subsequently had alcoholic paraplegia. This case is certainly entirely parallel with ours, and in connection with the suggestive statistics given above, would indicate that the acuity and fields of vision should be examined in every case of alcoholic paralysis.[27] It would be interesting also to know what proportion of these cases used tobacco. This association of a multiple peripheric neuritis, the pathology of which is known, with a toxic amblyopia, the pathology of which is unknown, as it never terminates fatally, is particularly interesting, and it does not seem improbable that the morbid processes may be identical. In both diseases the tendency of the disease is to recovery, if the use of the toxic agent or agents can be prohibited.

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EDUCATION AND CARE OF THE IDIOT.[1]

BY ASBURY G. SMITH, M.D.,
Superintendent of the Massachusetts School for the Feeble-Minded.

This paper will not aim at presenting any new feature of this work nor at exhausting any particular branch of it; idiocy, its care and treatment, has received the attention of scientific men for but little more than half a century, and when first it was noticed, it was with the greatest lack of sympathy and interest on the part of all but a very few. To-day but little is really known about it, even among the members of the medical profession, and hence the writer ventures to offer some general information.

The history of the work of educating idiots can be briefly told, for although idiots have existed from the earliest time, and likewise, kind-hearted and true mothers, who doubtless labored earnestly for the improvement of their defective offspring, yet of these cases we have no record, and the earliest account of any scientific attempt to ameliorate the condition of an idiotic person, is that which relates the efforts of Itard with the savage of the Aveyron, at the very beginning of the present century. Far back in the middle ages, the professional jester or court-fool had been sought from among the less defective of the feeble-minded; the hideously deformed and dwarfed had also been selected as prizes for the tyrants and rulers of that period. Fortunate were those who had a spark of wit or a grotesque deformity, by which to secure for them at least a certainty of freedom from want, while the less fortunate were a curse among the people and to themselves. They were neglected, and left to perish from want and exposure, and when houses of refuge and the like seemed to offer the much-needed shelter for the poor outcast idiot, it was sought by himself or his friends only to be found a place where cruel and abusive treatment made his life miserable, until death put an end to his existence.

It was not until after the reform in the care of the insane had begun, that idiocy received any attention, and not at all as a sequel of that reform.

The savage of the Aveyron had been found and brought to Paris as a scientific wonder; no one supposed him to be an idiot, but he became the subject of a good deal of scientific study. It was then universally admitted that the condition of idiocy could not be relieved. *Once an idiot, always an idiot.* Starting with a belief in this proposition, and not considering his strange pupil an idiot, Itard labored for several years to educate the savage, with results which convinced him that he had been dealing with an idiot, and that he had very much improved his condition, showing at once the prevalent belief in the improvability of idiocy to be false. This produced something of a sensation in scientific circles at the very beginning of this century, and the French Academy of Sciences made official mention of this savage, and his improvement under the care of Itard.

Notwithstanding this announcement, the matter slept for a score of years, and idiots still remained objects of the common people's hatred. The seed had been sown, however, and the history of this savage became the first recorded case of the amelioration of the condition of an idiot. Earlier scientific mention of idiots may be said to have been made by the great naturalist, Linnæus, who collected the histories of several similar cases, although he regarded them as a distinct species of the genus homo, and did not recognize what we now know to have been idiocy.

About the year 1827, observations were made on some idiots at the Bicêtre, who were noticed to improve intellectually while in the Hospital, and some zealous French physicians and psychologists set about the work of teaching these persons. In 1835, a school for idiots was established in Paris, the first in the world, and a few years later, more were organized in other countries.

About the same time, in 1842, observations were made in America, in the Blind Asylum in South Boston, by Dr. S. G. Howe, upon some feeble-minded children admitted to that institution unintentionally, and he became convinced of the plausibility of educating idiots in America, and at once became an enthusiast in the work. Further experiments and observations resulted in a few interested men bringing the matter before the Legislature of Massachusetts in the year 1846, and a commission was appointed to inquire into the condition of idiots in this Commonwealth. An experimental school was established and opened in October, 1848, which was the first attempt at State provision for the education of idiots in America. About the same time, Dr. Wilbur opened a private school at Barre, Mass. Thus began the work of educating the idiot in the old world and in the new, and from this inception, the work has rapidly grown both here and abroad, till to-day there are many large and prosperous institutions for the education of the feeble-minded. What was fifty years ago just beginning, is to-day a colossal enterprise, and idiots now receive an education adapted to their particular needs.

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[1] Read before the Boston Medico-Psychological Society, February 18, 1886.

[27] Since writing the above, Dr. G. L. Walton has related to me two cases of alcoholic multiple neuritis, which he had seen, and upon referring to his notes found in each case dimness of vision recorded as a symptom.

Everybody knows there are schools for idiots, but the most erroneous ideas about their work are prevalent. The three most common questions asked, are first, "can you really teach them anything?" to which an affirmative reply always brings out the second question, "what can you teach them?" and the third, "how do you teach these things?"

It should be borne in mind that there are different degrees of idiocy, and that success is obtained just in proportion to the degree. It is true, that because of the use of the term *idiot* indiscriminately, the improvability of idiots has been over-stated. There is a class of feeble-minded persons who have some intellect, which can be very largely developed by training, and because these are termed idiots alike with the lowest grades of the feeble-minded, the idea has sometimes prevailed that all idiots could be improved to the same extent. This is not so, yet all can be improved somewhat. Very many of the feeble-minded can be taught just as other children in the public schools, only not as much and not as rapidly.

The classifications which are recognized must be understood before going further. We may start out by saying, there is no sufficient scientific classification, and all methods now in use are purely arbitrary, and therefore faulty.

Under the generic term idiocy, may be included every degree of mental deficiency in youth, from the most profound state of idiocy or entire absence of mind, with or without perverted functions, and malformations of every sort, to the mere weak-minded individual who passes through life as a dullard, spoken of as "not quite bright" or a "little lacking," although it may be really difficult, if not impossible, to tell how much less of mind he has than some other individual more favored by circumstances and surroundings, whose deficiencies are less marked on that account, especially if they be not dependent on their own resources for a livelihood.

The task of dividing up these cases is a difficult one, because no sufficient scientific basis for a classification has yet been proposed. Not enough is known about the causation to form a complete classification on that basis; nor has there been sufficient pathological work done, to make a classification from lesions or abnormalities of the brain and nervous system. Clinically, there are no constant symptoms yet noted or arranged. I do not mean by this that no system of classification has been offered, for there have been different ones produced by different writers, but all are open to objection; it may be urged that no system of classification should be attacked unless a better one is substituted, but we mean to show simply that for every-day practical purposes, the systems proposed are of little or no use, and we are therefore narrowed down to the use of terms which merely describe the degree of deficiency in the individual; and here obviously great difficulties will be met with.

There is no unit or standard from which to make a start. The normal mind is so varied in its capacities and qualities that a standard cannot be taken, nor any test applied, which will place an individual on one side or the other of a line. In judging of the degree of deficiency, each observer will form his own divisions, and use his own terms, and will very likely use terms similar to those of some other observer, while referring to a different condition. All of the terms now in use are synonymous with idiocy, and are applied to different conditions arbitrarily by each man.

It is evident that we can divide all cases into congenital and acquired, or accidental cases; under the former, we should include not only those cases known to be defective from birth, but also those cases found to be defective when, at the school age, it is learned they cannot be taught as other children, and yet no cause can be assigned which may have resulted in an injury to the brain subsequent to birth; hence we may suppose they were born with a condition of brain which prevented normal development. Under the second class, would be included those in whom the deficiency can be directly attributed to, and dated from, an attack of convulsions, measles, scarlet fever, or vice, later in life, and the like.

The hydrocephalic, epileptic, paralytic, microcephalic, etc., may be classed by themselves only because the direct cause for the condition is apparent. But none of these terms are really descriptive of the mental condition.

The term *imbecile* is applied to cases born with a normal brain, but which have become idiotic after birth, and the term *idiot* to cases obviously born with that condition. Sentiment, well grounded, is leading to the disuse of the words idiotic and imbecile, and substituting for both the one term *feeble-minded*, which applies equally well to all cases, and is less objectionable to the friends of the afflicted.

Another class of the feeble-minded are sometimes called insane, but there are objections to the use of this term. The question may well be asked, can a person who has never been sane, be called insane, although he may present many of the characteristics of the insane. There are cases in which excitement occurs analogous to that of acute mania, and others where a fair degree of intellectual development exists, without any inhibitory power or judgment; this intellectual power may be therefore strangely perverted and simulate insanity; still the term insanity does not seem applicable. (Unless indeed we admit the doubtful theory that the mind exists in a normal condition in every idiot, but there is some defect in the relation between the mind and the body, which latter is only the medium through which the power of the mind is manifested.)

Cretins, of course, form a distinct class by themselves, but one not much considered in this country.

Any attempt so far at finding terms to express the degree of idiocy has failed of universal adoption, and we fall into the way of speaking of the idiot as of a low or high grade of intellect, with the use of any number of adjectives to express the distance on either side of an imaginary, arbitrary line, that of the medium grade.

To go back to the questions so often asked, first, Can anything be done for the idiot? The emphatic answer is, Yes! Second, what can be done? This we cannot answer as quickly; it depends upon the grade of intellect of the child, that is, how far removed from the mental state of normal children. To begin with the higher grades of the feeble-minded; we can do for them the same things as are done for the children in the public schools, only taking more time and stopping far short of the normal child's capacity. We expect to do no more than to teach the child to read; enough to read simple stories, newspapers and the like; to write enough to read and write letters; a very little of local and general geography, and enough of arithmetic to count and reckon money; also to tell time; to know the days, weeks, months, seasons, etc.; and perhaps a very slight knowledge of the physiology of their own bodies. This can only be done in the best cases, but in addition to this intellectual training we may be able to accomplish much more by industrial education; the child can be taught to work; if a girl, domestic work, sewing and some fancy work; and if a boy, domestic work, farm work, and many simple occupations in the shop, like making brooms, seating chairs, repairing shoes, making mats, etc.

These are the things for which "the world is to give them a (whole or a part of a) living for knowing or doing," and in many cases it can be done. But there are cases less fortunate, those who cannot learn as much, and without being able to read or write, intellectually, they only improve in so far as to understand what is said to them, without being able to articulate themselves; but industriously they can learn to do much in the way of domestic duties, chores, etc. If, of a lower grade of intellect still, perhaps all that can be done, will be to teach the child better behavior, to attend to his natural wants, to feed, dress and bathe himself, and in many cases to amuse and occupy himself: in short to do enough to make himself less a burden to his friends. In the case of the lowest grade, the drivelling idiot, even less can be done. There is no intellect to develop, and perhaps none ever is awakened, or at most only a very few symptoms of intelligence may be shown, and here the education of course can only be that of attention to his own person to make known his natural wants, that he may be assisted, and in a measure to care for himself, also to induce a kind of instinctive or reflex habit or education. By this he becomes less an object of disgust and less a burden to his friends.

How is the idiot educated? It cannot come within the scope of this paper to do anything more than to allude to the general methods of teaching these persons. As already intimated, the higher grades are the same as the very dull or backward children in the public schools, and the methods of teaching are much the same as in the ordinary schools, except that more time is allowed; objects are associated with the lessons, and every aid possible given to assist the feeble memory to retain certain impressions with certain letters or words.

It may be made more clear how difficult this work is, and how much patience and persistence is required, by relating how in many cases the success is very satisfactory, if a child twelve or thirteen years of age has learned its alphabet after one year of hard work, and it is apparent from this that the learning is largely mechanical, hence it requires thereafter very much tact and skill to lead up the slow mind to the comprehension of an idea conveyed by a lesson. Training the child to work is sometimes done with the same difficulty, though not always. Judgment, however, can never be expected save in very few instances. In rare cases, proficiency in something seems to exist, chiefly, however, because of its great contrast with the other deficiencies.

For younger children and new beginners the Kindergarten system works admirably, and develops the mind to such an extent, that the child can be put into other rooms for more purely intellectual training. In the school rooms an important object of the teacher is to find methods to aid the memory of the child, and help it to call up ideas by the association of special sensations.

This may be illustrated by the method of teaching small words by color, as in the Kindergarten training. A child has learned its letters, and is attempting to learn the monosyllables, but cannot remember so much, the teacher prints on the black-board these words with different colored crayons and then puts them on a great many times in different places, but always the same word in the same color. After a time the child learns to recognize the word by noting the color, which he does for a long time until he fixes the shape of the letters in his mind, and then he will recognize the word anywhere in white chalk, or printed in black ink. By this method the memory is at first assisted by the color, and the children in many cases are found to learn more rapidly than when they are required to fix only the image of the letters without the additional aid of color.

In the lower grades all these things may fail and the methods used in teaching them will be worked into some sort of game, something to amuse them, and yet lead the mind in such a way that if possible it may retain some little idea. To detail more the methods of education would be to rehearse the routine of daily labor of the teachers and instructors engaged in the work.

In addition to the school work and industrial training, amusements, calisthenics, dances, health invigorating exercises, out-of-door sports, and music are employed largely in developing the children.

After all in the way of educating the feeble-minded is done, it must be remembered that the object is not to make them independent of protection, but to make them as far as possible self-sustaining and in some slight degree producers, but they must always be dependent, and hence can never be anything legally but minors; perhaps self-sustaining but not self-controlling.

Medical attention is of more importance in the lower grade cases than in the higher. As a rule in the higher grade cases, the physical system is in good condition and resembles more or less closely normal children, and here the principal efforts will be of a purely educational nature, while in the cases where little or no intellect exists, the ordinary educational efforts cease to be of value, and medical attention is obviously necessary not only to discover the physical weaknesses of the child and apply such remedies as may be appropriate, and to direct proper hygienic treatment, but also to recognize the defects of the child which may be remedied by physiological methods and to direct on the part of attendants and teachers attention to such means as may lead to a development of reflex or instinctive powers. In the congenital cases of very low grade it is very probable that medical treatment can do nothing to relieve the abnormal conditions of the physical system and so far as intellect is concerned, it is often impossible to develop any, while reasoning power is always wanting. Yet if the organs of special sense are normal, either one or all, cases in which there are no spontaneous or reflex actions may be made to respond reflexively at least, and if nothing else is accomplished, we may succeed in controlling the various physiological functions of the child. The low grade cases may be taught more exclusively by physiological methods than others, and regularity in the habits and in feeding, sleeping, recreation, etc., all assist to this end. Medically too there is something to be done for the imbecile classes, and treatment may possibly lesson the aggravation from causes which operate to disturb and prevent development even when it cannot hope to remove it.

The physical illnesses which occur with these children are of course to be treated under the same and even more difficulties than the maladies of normal children. They often, not only cannot speak, or if they can, cannot tell where the pain is nor what it is; add to this the insensibility to pain which many have, and we then have a combination of difficulties quite troublesome.

Since the subject of provision for, and education of, the idiot is now before the Legislature of Massachusetts, it may be desirable to explain the existing organization of the Massachusetts School for the Feeble-minded.

This school was incorporated as an educational institution in 1851 for that class of defective children not provided for in any other way. The Commonwealth had already made laws providing for the education of the normal children in the public schools; it had also established a special school for the education of the blind, and provision had been made for the education of the deaf-mutes. Now another class of defective children had been shown to need a special school where training peculiarly adapted to their requirements could be given them, and this school was established to meet that end. It was something of an experiment for many years, although the practicability of educating the feeble-minded had been established beyond a doubt. The school has grown, of necessity, but sums have been very sparingly meted out to it by the Legislatures of successive years.

With the growing importance of all the charities of the country, philanthropists began to give attention to this work as a charity, and so far did this idea gain ground, that its educational character was partially lost sight of. This resulted in an entire change of law in 1883, when a law was passed making this school in effect a pauper institution, on a par with lunatic hospitals; more a retreat for idiots, less a school for them. A sum of $3.25 per week was allowed for each pupil to defray expenses of his support, and this constituted about the only income of the institution. It is obvious that on that sum difficulty would be experienced in a small institution in furnishing bare support, let alone the extra expense of maintaining schools, and all the corps of employés necessary for educational purposes.

Then, too, the overseers of the poor of the various towns and cities, men zealous for apparent economy in the pauper expenses of the towns often interfered and refused to support a child at the school, and in some instances the parents refused to have their children *educated* as *paupers*. This resulted in keeping away very many of the most improvable children, and pressing for admission many of those cases more custodial in character, as well as lowering the standard of the school.

For these reasons an attempt is being made to have the institution made dual in character. It is desired to have it primarily a school, and to have a secondary department for the care of custodial cases, the school department to be supported by the Commonwealth, by an annual appropriation, and the *custodial department* to receive reimbursement at the rate of $3.25 per week for each child from the place where settled, or from the Commonwealth if not settled.

When additional room shall be provided it will be possible to receive all the custodial cases now collecting in almshouses, asylums and other institutions which ought to be in a place especially adapted to them. This, too, will offer the needed protection for the many adult females, whose weakness of mind causes them especially to be subjects for the strictest protection to prevent the unnatural increase in the number of idiotic persons, which is certain to occur if this class is allowed their liberty.

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REPORT ON THE PROGRESS OF DERMATOLOGY.

BY G. H. TILDEN, M.D.,

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TUBERCULOSA VERRUCOSA CUTIS.[1]

Riehl and Paltauf describe, under the above name, a hitherto unrecognized form of cutaneous disease of uncommon occurrence. In persons of both sexes, but much more frequently in men than in women, there develop upon the dorsal surface of one or both hands, sometimes on the extensor surfaces of the fingers, or between them, and more rarely, upon the palmar surface of the hands, patches, which at first sight resemble strongly in appearance patches of lupus verrucosus or collections of warts, in a condition of inflammation. These patches vary in size from that of a pea to that of a thaler, are of rounded or oval shape, and sometimes, in consequence of the coalition of several lesions, present a border of serpiginous form. Increase in the size of these patches takes place always by reason of the development at their edges, of new efflorescences, while at the same time, retrograde changes may be going on in the central portions.

The outside edge of any patch which is in the process of active development, consists of an erythematous band several millimeters in width, which surrounds the older portion of the growth. The color of this band is bright red, and disappears entirely under pressure of the finger. Its surface is scarcely, if at all, elevated above the level of the skin, is smooth, and upon it, the orifices of the cutaneous follicles are plainly visible. Next to this zone, and on its inner side, there is another of a darker, brownish, or livid red, offering a marked contrast to the bright red of the extreme periphery.

The surface of this inner zone is covered with superficial pustules of small size, which readily break, or with small crusts and scales of a rounded shape, which are the residue of such pustules. Under the pressure of the finger, the brownish-red color disappears, but there still remains a yellowish discoloration of the skin. and there is evident to the touch a certain amount of solid infiltration. The pathological changes in the skin become more marked towards the central portion of these patches. The surface is here elevated from two to five millimeters above the cutaneous level, and presents an irregular, nodulated appearance, and in the centre or oldest portion of the lesion, are apparent wart-like growths composed of rounded or more pointed protuberances. These papillary excrescences vary in size and are generally covered with scales and crusts, upon the removal of which the brownish-red color of the patch comes to view. Between these papillomata, which are thickly crowded together, are cracks, excoriations, and pustules, and pressure causes to exude from numerous small openings, plugs of inspissated pus. The openings of the cutaneous follicles are not to be made out, and with the above appearances, the pathological process reaches its highest phase of development. Retrograde changes now begin to take place in the central portion of these lesions, the papillary outgrowths become flatter, the minute abscesses disappear, and the surface becomes smooth and cicatricial in appearance.

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[1] Vierteljahresschrift für Derm. und Syph., 1886, Heft. 1, s. 19.

The resulting cicatrix is superficial, thin and flexible, and presents the appearance of a fine network of glistening, white, cicatricial fibres, enclosing minute portions of hyperæmic skin, which have not been entirely destroyed. The pathological process always remains confined to the skin and does not extend to the subcutaneous tissues, and there is rarely any spontaneous manifestation of pain in connection with its development, the only subjective symptom being more or less sensitiveness to pressure. The subjects of this affection were all of them robust persons in good health, and of middle age, and the disease is chronic, lasting from two to fifteen years. The progress of the malady is not a continuous one, but long periods of complete repose alternate with shorter periods of renewed pathological activity. For the complete exhibition of the pathological process from its beginning to the period of its greatest development, one or two months are required, and after this, several months elapse before cicatricial changes take place. A noteworthy fact in connection with this disease is that each one of the fourteen cases which came under the observation of the writers, occurred in an individual whose occupation brought him into continual contact with domesticated animals.

The following is a list of the occupations and sex represented by the patients: butchers, 5 males; coachmen, 3 males; cooks, 3 females; wheelwright, 1 male; farmer, 1 male; stable-worker, 1 female.

The diagnosis of this affection is based upon the peculiar combination and successive development of the different pathological processes which combine to make up the complete picture of the disease, rather than upon any single characteristic. It is to be distinguished from lupus verrucosus, from ordinary inflammatory papillomata, and from the papillary excrescences which occasionally develop upon the basis furnished by syphilitic ulceration.

Histological examination shows the changes in the skin to consist of thickening and accumulation of the horny layer of the epidermis, above and between the papillæ of the skin, which are greatly hypertrophied and deformed, the picture presented resembling, in this respect, that seen in ichthyosis hystrix. The upper layers of the corium shows infiltration, not only with the suppurative products of ordinary inflammation, but also the presence of tubercles composed of granulation tissue, and containing giant cells and the bacillus of tuberculosis. In the purely inflammatory portions of the diseased region of skin were found numerous cocci, but no bacilli, and the latter were also absent in the portions of tubercle which had undergone cheesy degeneration. This pathological process is, therefore, to be regarded as a form of tuberculosis of the skin.

RÖTHELN, OR "GERMAN MEASLES."[2]

In a lecture before the Association for Internal Medicine in Berlin, in June, 1885, Dr. A. Klaatsch, after a review of the literature of the subject, describes this disease as observed by himself in two epidemics, the first of which occurred in 1861, the second in 1884–5. During the latter epidemic, he had had opportunity to observe forty instances of the disease, occurring in seventeen families, the majority of which cases had already had measles.

The manifestations of Rötheln are those of a mild disease, and the eruption appears, as a rule, without any prodromata. As is the case with all the exanthemata, the eruption may be of various grades of intensity, and every stage from the ill-defined and incomplete, to the well-marked and characteristic form of eruption, may be witnessed. In typical cases, the body is covered with highly-colored red spots, universally distributed. There are two different forms of eruptions. It may either be punctate in appearance, and resemble a collection of numerous small dots made with a pen dipped in red ink; or it may consist of larger spots of one-half to one centimeter in diameter, which are of lighter color in the centre than in the periphery. These maculæ are not circular in shape, like those which form the eruption of measles, but are nearly always possessed of a border, which is irregular and composed of projecting angles and indentations, which may be discerned, even when the eruption is very thickly distributed, and in such cases, also, the individual lesions are separated by skin of normal appearance. The author is unable to state with certainty whether the larger form of eruption is developed from the smaller, although, in some instances, such seemed to be the case. As a rule, the eruption is manifest over the whole body, from head to foot, being most marked, however, upon the face, the shoulders, the extensor surfaces of the arms, the lower part of the back, and on the buttocks. The color of the eruption is generally less vivid upon the lower than upon the upper part of the body. Sometimes portions of the body, such as the face, remain entirely untouched by the eruption, and occasionally it is grouped in an irregular and limited manner. One of the most striking instances of curious distribution of the eruption was the case of a boy, in which only the lower part of the body below the waist was affected. In another case, the eruption formed a red band around each thigh. Oftentimes, the skin between the individual lesions of the eruption is reddened by erythema, so that the whole skin is of a uniform redness, reminding one of scarlet fever. A coalition, however, of the individual lesions, such as takes place in measles, has not been observed by the writer. Occasionally, these maculæ are so thickly distributed that the whole cutaneous surface appears of the same red color, and it is only by pressure with the finger and the production of temporary anæmia, that the individual lesions may be detected, as the redness of the skin re-appears. Occasionally, minute pustules are developed upon the hyperæmic base furnished by the eruption. A hæmorrhagic variety of eruption, such as occurs in measles, has never been seen by the writer, but the eruption, however, if of an intense character, may leave behind it a yellowish discoloration of the skin, which lasts for some time. It is only in rare instances that the appearance of the eruption was accompanied by itching. The eruption follows the same course of development as that of measles, appearing first upon the head, and afterwards upon other parts of the body, but its spread takes place much more quickly than is the case in measles, often twelve hours, and rarely more than twenty-four hours, being sufficient time for its entire development. As a rule, lasting about three days, and in severe cases five days, its departure is as rapid as its appearance.

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[2] Zeitschrift für Klin. Medecin, 1885, Band X, Heft. 1 and 2, s. 1.

In about one-half the cases of the disease there was a rise of temperature rarely reaching 39° C., which made its appearance with the eruption and continued for one day only, while the general subjective feelings of the patients were in no way disturbed. As constant and accompanying symptoms, were observed injection of the conjunctiva, reddening of the pharynx and enlargement of the lymphatic glands. The expression of the eyes was peculiarly dim, but there was observed neither photophobia nor hypersecretion of tears. The redness of the pharynx was diffuse, not spotted as in measles, and was confined in its distribution to the back wall of the pharynx, the pillars of the fauces, the tonsils and the lower part of the soft palate. In no case was there observed any severe "sore throat" as a result of this reddening of the mucous membrane of the same. Almost characteristic of the disease was the well-marked enlargement of the cervical lymphatic glands and the lymphatic glands over the mastoid processes, which could be detected in every case without exception. A similar enlargement of the lymphatic glands has never been observed by the writer in connection with measles. In most of the cases of Rötheln, there was also moderate enlargement of the lymphatic glands in the axillæ and groins. This enlargement of the lymphatic glands, however, does not occur in all epidemics, since Thomas, who observed the disease very carefully, expressly states that he was unable to make out any enlargement of the lymphatic glands.

While the course of the disease occurring in children who have been previously in good health, is always a favorable one, a few cases of death were observed in children already sickly and debilitated from other causes. The writer considers the disease to be contagious but to a limited degree, since he has repeatedly observed instances where the disease was confined to one child of a family. The most marked expression of its contagiousness was furnished in a girl's boarding school. One of the scholars having been attacked, all the other inmates were sent home, and of these, eleven were attacked by the disease. The apparent incubation of the malady, as far as could be made out, varied from fourteen to twenty-two days. The disease was not confined to children, the writer having met with it eight times in persons of from eighteen to thirty-five years of age.

IDIOPATHIC MULTIPLE PIGMENTED SARCOMA OF THE SKIN.[3]

At a meeting of the Association of Physicians in Vienna, in October last, Kaposi presented an example of this disease and made the following remarks: The malady, of which twenty-five instances had come under his observation, all occurring in men of middle age, first shows itself simultaneously in both hands and both feet, oftener on their flexor than on their extensor surfaces and afterwards appears on the forearms, legs, upper arms, thighs, and finally on the face. Its first manifestations consist in nodules, varying in size from that of a small shot to that of a pea, of a bluish or brownish-red color, rounded in shape, moderately hard in consistence and situated in the corium. When these lesions appear in the palms of the hands and soles of the feet they may easily be mistaken for manifestations of syphilis. The disease may also begin with the development of more diffuse, discolored, cyanotic and hyperæmic maculæ which shortly become transformed into dense infiltrations of the corium, at first of smooth surface and afterward becoming nodulated in appearance. In this manner may ensue elevated, hard and irregularly nodulated patches varying in size from that of a cent to that of the palm of the hand. Both the individual nodules and those which have coalesced to form patches, may in the space of a few months, diminish in size, become depressed and finally disappear, leaving behind wrinkled cicatricial spots of a brownish pigmented or glistening white color. These patches of infiltration may also undergo atrophy in the central part, while at the same time the nodules in the periphery increase to the size of hazel-nuts.

During the course of the disease, which lasts for years, fresh tumors continually develop, the hands and feet become greatly deformed, the fingers thickened, stiff and spindle-shaped, while the skin is densely infiltrated, nodulated and atrophied in spots, hard like wood, and of a dark bluish-red color. From the first there is generally pain of a spontaneous nature in the extremities and great tenderness upon pressure, which may be severe enough to interfere with sleep and render locomotion impossible. After the lapse of years there appear fresh nodules in the arms and legs, nose, lips, and eyelids, which consist of succulent, soft, elastic, bluish-red, smooth tumors of various sizes, and which only in rare instances become hæmorrhagic and partially suppurate. Similar infiltrations also take place in the mucous membrane of the nose and give rise to frequently occurring hæmorrhages. In the few cases in which there has been an autopsy large numbers of similar nodules were found in the lungs, liver, spleen, kidneys, and more especially in the large intestine, where they are so rich in bloodvessels as to give the impression of being cavernous angiomas. The disease is always fatal, generally lasting from six to ten years.

PEMPHIGUS FOLIACEUS VEGETANS.[4]

At a meeting of the Society of Physicians in Vienna, held January 8th, 1886, Neumann made some remarks concerning the above affection. There is hardly a disease the result of which is so uniformly fatal as that of this variety of pemphigus. A small excoriated region in the armpit, one or two bullæ on the mucous membrane of the lips, even in persons of the most robust type, are sufficient in such cases to warrant the prognosis of a fatal termination of the disease in the course of a few months.

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[3] Wiener Med. Wochenschrift, No. 44, 1885.

[4] Allgemeine Wiener medizinische Zeitung, No. 2, 1886.

The clinical signs of the disease are as follows: The first cutaneous manifestations consist in bullæ about the size of peas, the epidermal covering of which is wrinkled and only becomes tense with increase of the subjacent exudation of fluid, which fluid is of a dull white color. Upon removal of the epidermal covering there is to be seen in the centre of the exposed excoriation a slight elevation which rapidly increases in size, so that in a short time, there are formed uneven, carunculated, wart-like growths, surrounded by a ring of excoriation, which in its turn, is surrounded by a zone of epidermis which has been lifted from its bed by the exudation of fluid. This process of sub-epidermal exudation spreads in serpentine curves from the excoriated region as a centre. From the surface of the above, red-colored, slightly elevated, and wart-like patches, is exuded a thin, badly-smelling fluid of alkaline reaction, which dries to a thin crust, the removal of which exposes an uneven surface partially covered by a thin, unstable film of epidermal detritus, and is, in part, excoriated. In this manner may be affected in women, the labia majora and minora, the mucous membrane of the mouth and lips, the skin of the axillæ, of the folds of the nates, the mucous membrane of the vagina and rectum. In the male, together with the mucous membrane of the mouth, the skin over the symphisis pubis and on the inner surface of the thighs are first attacked by the disease, which thus in the beginning bears some resemblance to eczema marginatum in its manner of distribution. As the disease advances there ensue in all parts of the body, excoriated regions covered with dirty yellowish exudation. The mucous membrane of the tongue, of the uvula, of the tonsils, of the pharynx and of the larynx become involved in the disease, so that the acts of deglutition and of respiration are painful. The patient breathes with open mouth and dreads the taking of nourishment. These bullæ may develop upon any part of the body, the tendency to the formation of papillary excrescences gradually diminishes, and finally, the process of the formation and extension of bullæ becomes the main feature of the disease. Toward the end of the malady the epidermis is cast off in large sheets from the surface of the skin, and the general appearance is that of a burn of the second degree. At this stage of the disease it is only the permanent water-bath which is capable of giving the patient any relief from his sufferings.

When the wart-like excrescences mentioned above are developed upon the mons veneris, the inner surfaces of the thighs and on the nates around the anus, it is apparent why such patients are often supposed to be suffering from syphilis and treated accordingly. For the differential diagnosis between the manifestations of this form of pemphigus and the mucous patches of syphilis, the following three points are to be borne in mind:

1. The character of the periphery of the growths. In pemphigus foliaceus these growths are always surrounded by a ring of epidermis which has been elevated from its bed by the exudation of fluid. Mucous patches, on the other hand, are surrounded by a sharply defined border of solid infiltration.

2. The loss of epidermis and epithelium from the surface of these growths peculiar to pemphigus foliaceus, is, so to speak, punctate or in spots, while in syphilitic condylomata the loss of epidermis and the covering of secretion which takes its place is evenly distributed over the surface of the lesion.

3. The course and symptoms of the disease in general. In the case of pemphigus foliaceus its lesions increase and multiply in spite of any treatment which may be directed against them.

Neumann described the nine cases of this disease which had come under his observation and the histological changes which were found to take place in the skin. The pathological changes affect principally the epidermis and the upper layer of the true skin, while the deeper portions of the skin, with the exception of the sweat glands are but slightly involved. In three of these nine cases, besides the high grade of marasmus which soon developed itself, there were also symptoms of myelitis, and in two of these three cases an autopsy confirmed the clinical diagnosis of myelitis. Neumann was disposed to regard the occurrence of myelitis as accidental and having no relation to the pathogenesis of the disease. This was also the opinion of Riehl and Kaposi, who took part in the discussion.

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Hospital Practice and Clinical Memoranda.

AURAL CLINIC OF NEW YORK EYE AND EAR INFIRMARY.

SERVICE OF DR. SAMUEL SEXTON.

REPORTED BY DRS. W. A. BARTLETT AND C. J. COLLES.

ACUTE NON-SUPPURATIVE CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

The cases of acute catarrhal inflammation of the middle ear having a tendency to stop short of drumhead perforation are not of infrequent occurrence; the following, which have been selected from the records of some fifty cases of this kind recently treated, are typical examples as regards these symptoms and the results of treatment.

Case I. *Inflammation of the atticus tympanicus; symptoms due to blowing the nose. Catarrh of the upper air tract. Decayed teeth giving rise to reflected neuralgia. Recovery in three days.*

Patient, male, aged fifty-three, tailor; "has head catarrh and is deaf in both ears." He has had frequent attacks of ear-catarrh with pain. After blowing his nose forcibly yesterday he experienced sudden pain in the right ear, followed by tinnitus and some increased hardness of hearing. He slept well, however, and there has been no discharge from the ear. On examination of right ear, the membrana flaccida, posterior fold and parts about short process are found hyperæmic. A number of vessels of the manubrial plexus are injected, their course being traced by delicate, fine thread-like lines, giving the whole an aborescent appearance. The membrana tympani of the left ear is lustreless, humid and somewhat retracted, with marked opacity in the posterior inferior segment. Patient hears ordinary voice only in both ears. There is catarrh of the upper air passages. The teeth are in a carious condition, a few old shells remaining.

Aconite and belladonna were administered in minute doses, repeated often. Patient next seen three days later when it was found that the vascularity had subsided, as had also the subjective symptoms.

Case II. *Acute inflammation of the atticus tympanicus and atrium after sea-bathing. Recovery in six days.*

Male, aged fifteen. There is no history of previous ear trouble. Patient went in bathing twenty-four hours ago, diving frequently. He does not remember having snuffed up any water into his nose or mouth. A few hours afterwards he was seized with tinnitus and pain in left ear, the latter being so severe, as to entirely prevent sleep. There was also autophonous phenomena present, but no discharge. On examination of left ear, the membrana flaccida is found fleshy in appearance, partially detached and bulging considerably. The membrana tympani is uniformily hyperæmic and denuded, the surface being puckered and swollen. The right ear is unaffected. Hearing in right ear, normal; in left, ordinary voice only is distinguished.

Patient was treated with calx. sulph., gr. 1-50 every two hours, aconite and belladonna being given for the pain. The following day patient returned, stating that after taking three doses of the aconite and belladonna the pain had subsided, and that he had slept well for the first time in forty-eight hours. The membrana tympani presents no change in its condition. During the following forty-eight hours patient had some pain in the daytime but rested well at night after taking a few doses of the aconite and belladonna. On the sixth day the membrana tympani and membrana flaccida were found, on examination, to be clearing up. The pain had subsided and patient experienced no further trouble.

Case III. *Acute catarrhal inflammation of atrium from "cold." Catarrh of upper air tract. Decayed teeth. Spontaneous recovery.*

Female, aged ten. Patient has long suffered from frequent attacks of otalgia in and about the right ear, not accompanied by tinnitus, deafness or discharge. After "taking cold" one week since, severe pain and tinnitus appeared in the right ear, continuing without intermission until the present time, and preventing sleep. No discharge, however, was noticed. On examination of right ear the membrana tympani is found denuded, bulging, and the landmarks are not visible. There is a crust of exfoliated epithelium lying in front of the drum-head. The membrana tympani of the left ear is somewhat clouded in its posterior segment, the anterior segment being brilliant in appearance. Hearing, right ear, loud voice; left ear, low voice; at ten feet distance.

The posterior wall of the pharynx is covered with adenoid vegetations and the tonsils are hypertrophied. Several shells of carious teeth retained in the upper and lower jaws, and an abundant accumulation of tartar, causing reflex irritation in the ear, would seem to account for the tendency to recurrent attacks of aural catarrh. She was advised to have the carious teeth removed. Four days later when again seen the exacerbation had subsided without having taken any medicine.

She was advised to have the fragments of the carious teeth and the tartar removed, as it was believed that she would then be much less liable to a recurrence of the aural trouble.

Case IV. *Acute catarrhal inflammation of the atrium after sea-bathing. Exudation cyst of the drum-head (membrana vibrans). Chronic catarrh of the upper air-tract. Cured in seven days.*

Male, aged seventeen, epileptic. Patient is subject to frequent attacks of toothache and pain in the ears. Bathes very frequently in summer and indulges a good deal in diving and sporting in the water of the sea. During his last bath, two and a half weeks ago, he got "water in his right ear, and has not been able to get it out," (by the usual method of hopping on one foot.) There has been some tinnitus aurium and sensations of "gurgling, snapping, and sounds of bubbles" in the ear. No autophonous voice, deafness or discharge. During past twenty-four hours some pain in affected ear.

Examination of right ear. A large, oval, cyst-like swelling occupies the whole of the posterior segment of the membrana tympani. The surface has a dermic, lustrous appearance. Only a portion of the anterior quadrant can be seen. Left ear normal. Hearing, low voice in both ears.

In twenty-four hours pain subsided under the administration of aconite and belladonna. As the symptoms were not of an aggravated type, and as the cyst was not increasing in size, incision was delayed. On examination, forty-eight hours afterwards, the vesicle on the drum-head had disappeared, leaving the dermic tissue of the latter puckered in appearance. Aconite and belladonna discontinued. On the seventh day the subjective symptoms had subsided; the drum-head was seen on examination to be resuming its normal appearance. Patient discharged cured.

Case V. *Acute catarrhal inflammation of atrium and attic. Odontalgia. Recovery in ten days.*

Female, aged forty. No previous ear trouble. Two weeks ago, after exposure and wetting of feet, contracted an acute catarrh of the upper air passages. In forty-eight hours was taken with pain in right ear accompanied by deafness and autophonia. The pain has increased in severity and is aggravated by coughing, sneezing, and by exposure of person to cold air. During the past week all the teeth in both upper and lower jaws, right side, have been painful. Patient has noticed no discharge. General malaise and anorexia.

Examination of right ear shows the drum-head and adjacent walls of canal to be denuded and intensely injected. The flaccid membrane is bulging slightly. Landmarks not seen. No perforation detected. The left drum-head shows evidence of trophic changes. Hears loud voice in right ear, low voice in left. Pharynx is congested. Right lower sixth year molar is pulpless, and there is catarrhal inflammation of gums and accumulations of tartar on the teeth.

Patient was given calx. sulph. (gr. 1-20 every three hours) and was sent to dentist to have molar tooth extracted. In twenty-four hours there was decided amelioration of pain. The inflamed parts, however, were still hyperæmic, and the bulging of flaccid membrane had not increased. During the next six days, there was gradual subsidence of subjective symptoms and treatment was discontinued on the seventh day. On the tenth day after admission the drum-head was clearing up, low voice was heard in the affected ear, and patient had no further trouble.

Case VI. *Acute catarrhal inflammation of attic and congestion of membrana flaccida. Atrium and membrana vivrans not involved.*

Male, aged twenty-three. Three years ago, had earache in right ear, without discharge. "Takes cold easily." Three days ago was taken with pain in the left ear, aggravated by coughing, mastication, sneezing, etc., and by pulling on the auricle. He has noticed autophonia and deafness, but no discharge. Sleeps well.

Examination of the left ear shows the membrana flaccida and superior adjacent wall of canal to be injected; the membrana vivrans is normal in appearance. Some ten minutes after first examination, a second examination was made (the patient having complained of more pain), when a very marked increase in the intensity of the congestion was observed. The right ear was normal. Patient heard low voice in the left ear, lowest voice in the right. Calx. sulph. (1-50 of a grain) administered every two hours, and aconite and belladonna every fifteen minutes, results in relief.

The frequent failure of patients to return again after one or two visits to the Infirmary often prevents the completion of records; the interest felt in such cases sometimes induces the surgeon to look them up and ascertain what course the disease subsequently took. It is in this way that the *vis medicatrix naturæ* may be studied, since one finds that the course of aural disease is often self-limited; treatment, therefore, should be based upon such expectations and instead of "attacking" the disease, the regressive course should be anticipated by mild measures. Of course, the experienced observer will nearly always be able to judge from the constitution of the patient, and the progress the disease has already made, as to its probable severity. Some of the cases above reported, very well illustrate the effects of the rapid effusion which sometimes takes place in the attic, especially in the early stage of inflammation, in consequence of which there is detachment of the dermic layer of both drum-head and canal walls immediately in front of this region, with more or less tumefaction. The early recognition of grave cases of acute aural catarrh is important, especially where the attic is chiefly involved; in the latter a familiarity with the anatomical limitations is essential in order that prompt measures may be taken, and drainage secured and maintained.

These cases are noteworthy on account of the absence of perforations in the drum-head and consequently of otorrhœa. The vibrating portion of the drum-head being unaffected there was but little deafness, and there was no autophonia. In a certain number of these cases there would doubtless have been a rupture of the drum-head but for the escape of fluids via the Eustachian tube. The exudation-cyst described in Case V, was not large and did not, therefore, prevent a diagnosis being readily made; when these cysts are large, involving the greater portion of the drum-head, the appearances are misleading, even to an expert, since all of the natural landmarks are obliterated. It will be observed that in Case VI, the careful introduction of a speculum for the inspection of the deeper parts was followed by an increase of hyperæmia and pain; attempts at establishing a complete diagnosis by prolonged examination, and the thorough removal of epithelial products and the like from the ear, are therefore often inadvisable, since these procedures are liable to injure the inflamed parts.

In the treatment of these cases it is good practice to let well alone, persevering and fussy local manipulations nearly always doing harm. Under rest and the internal administration of very simple remedies, severe pain is usually relieved, although the prudent application of dry heat, or the vapor emanating from hot cloths, etc., may also be serviceable.

In a number of these patients the presence of dead teeth in the jaws, accumulations of tartar, and catarrh of the upper air passages, were causative through reflex irritation of the ear; and the removal of dead teeth and tartar, and alleviation of throat troubles were necessary adjuvants to other remedial measures.

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Therapeutical Memoranda.

DOES THE SULPHATE OF QUINIA, WHEN GIVEN IN MODERATE DOSES, INCREASE THE NUMBER OF THE RED BLOOD CORPUSCLES?

BY HOBART AMORY HARE, M.D., UNIV. OF PENN.,
Physician to the Children's Dispensary of the University Hospital, and to St. Clement's Dispensary.

The very general use of quinine as a tonic, apart from any anti-periodic effect, shows that it must in some way improve the condition of the system, not only by acting as a simple bitter tonic, but also by means of some power peculiar to itself. The question with which this article is headed has been probably answered mentally in the affirmative by every one who has read it; but while this opinion is now prevalent among the profession, there has been no experimental proof of the correctness of this belief. On the contrary, all the experimentation of which we have any record is contradictory to the general idea. As long ago as 1855, Briquet[1] made the assertion that quinine in continued therapeutic doses lowered the proportion of the red blood-corpuscles. Notwithstanding the fact that Briquet's experiments were very thorough, his statements seem so contrary to all our clinical experience, that I made the following observations, in order to decide, if possible, which belief was the proper one. With this object in view, I first made counts of the red corpuscles to the number of forty-two on my own blood, at a time when I was under the influence of no drug, and also made another series of observations while taking ten grains of the sulphate of quinine a day. While forty-two counts were made in each appended table, it will be seen that only fourteen counts appear, the explanation being that each of the numbers given in the table is the average of three counts made at each of the times named. This taking of the average of three counts was for the purpose of avoiding error. It will also be observed that strict attention was paid to the hours at which counts were taken, as variation in this respect would nullify all results, owing to the constantly changing proportion of the blood discs at various portions of the twenty-four hours. These precautions having been taken, there is left but little room for fallacious results, since, in addition, I was careful as to my diet, and maintained a regular mode of life.

At the time that Briquet published his paper, the methods for making careful estimates of the corpuscles were very crude, comparatively speaking, and even at the present day, all of the hæmatocytometers are in part unsatisfactory, and to a certain extent, unreliable. That they are accurate enough to be useful adjuvants to the armamentarium of the clinician is certain, but he who does much blood-cell counting must be impressed with the thought that the old methods must have given very uncertain results.

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[1] Briquet. Traitè Thérapeutique de Quinquina, Paris, 1885. Quoted by H. C. Wood.

The following figures are the estimates by various observers of the number of red corpuscles to the cubic millimeter, and are quoted for the sake of illustrating the difference not only between the estimates of many years ago, but also as showing that even at present, with our comparatively perfected instruments, we often find considerable discrepancies in results.

Welchker found	4,600,000
Cramer "	4,726,000
Malassez "	4,000,000
Gowers "	5,000,000
Nancrede and Henry found . .	5,751,000
The Writer found	5,942,000

The observations are in chronological order.

While our apparatus is therefore somewhat inaccurate, it makes little difference in the results obtained in an investigation such as the one before us, since the object is not to find out the exact number of the corpuscles, but to discover if their number, under the same circumstances, is increased or diminished, the same blood-cell counting apparatus being used in each and every count.

The writer used the apparatus of Malassez, with the mixer of potain. In taking the doses, the following order was adhered to: Four grains at bed-time, and three grains each after breakfast and after dinner, at mid-day.

The tables show a very considerable increase in the red blood-corpuscles when the system is under the influence of quinine. It is proper to state that, owing to idiosyncrasy, ten grains of this drug a day produced positive symptoms of cinchonism.

No Drug Used.			Drug Used. 10 Grains of Quinine per Day.		
Date.	Hour.	No. of Red Blood Corpuscles in a cub. millimetre.	Date.	Hour.	No. of Red Blood Corpuscles in a cub. millimetre.
Dec. 28,	10, A.M.	5,740,000	Jan. 4,	10, A.M.	5.750,000
"	6.30, P.M.	5,040,000	"	6.30, P.M.	5,640,000
Dec. 29,	10, A.M.	6,142,000	Jan. 5,	10, A.M.	5,940,000
"	6.30, P.M.	5,820,000	"	6.30, P.M.	6,000,000
Dec. 30	10, A.M.	6,840,000	Jan. 6,	10, A.M.	6,120,000
"	6.30, P.M.	6,080,000	"	6.30, P.M.	5,940,000
Dec. 31,	10, A.M.	6,120,000	Jan. 7,	10, A.M.	6,180,000
"	6.30, P.M.	5,640,000	"	6.30, P.M.	6,120,000
Jan. 1,	10, A.M.	5,940,000	Jan. 8,	10, A.M.	6,840,000
"	6.30, P.M.	5,220,000	"	6.30, P.M.	6,380,000
Jan. 2,	10, A.M.	6,060,000	Jan. 9,	10, A.M.	6,540,000
"	6.30, P.M.	5,830,000	"	6.30. P.M.	6,420,000
Jan. 3,	10. A.M.	5,940,000	Jan. 10,	10, A.M.	6,500,000
"	6.30, P.M.	5,100,000	"	6.30, P.M.	6,340,000
Average number before Drug, . .		5,822,286	Average number with Drug, . . .		6,194,285

Reports of Societies.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

February 18th, 1886, Dr. W. B. Goldsmith in the chair.

Dr. Asbury G. Smith read a paper on

EDUCATION AND CARE OF THE IDIOT.[1]

Dr. Fisher did not think that the money spent in educating idiots was wasted, but that it was well spent in improving them. He thought that much was done for them at South Boston, and that the farm at Dover had its advantages. Dements and idiots were somewhat alike in that both required education, and in this way some or even considerable progress is made, though the educational process may not be carried far enough. In dements the developed brain has been damaged, while idiots are sent to school in early life when the process of development is incomplete. We often see a surprising improvement in dements after such process of education have been carried on; they are taught to be neat, to feed themselves, to dress, and to control bad habits, and they may be able to return home and become a source of comfort to their friends. Dr. Lalor, of Dublin, had an elaborate system of schools and put many of his patients through courses of education which he thought of value.

Dr. Smith, in answer to a question by Dr. Ayer, said that acute diseases were not more prevalent or more fatal, and that medicines acted as usual. In answer to Dr. Tuttle, he said that their school hours were from 9 to 12.30 and from 2.15 to 5, keeping like the public schools. Everything, even their play, must tend to educate. In school they learn to keep still; the lower grades have fifteen-minute exercises, with times for recess. They have no free time without restraint. They play like other children, and would run away if not watched. The large boys go to the farm at Dover, which they enjoy, but the farm is of but little service to the institution except as a home for training ten or fifteen large boys. It is not easy of access, and cannot furnish produce for the school. The institution ought to be in the centre of a large farm.

Dr. Stedman asked, *apropos* of the training of such children, whether there was the same difficulty with idiots in whom the mental loss was of a fixed nature that there was with dements in whom the impairment was a progressive retrograde process. In the former does a lesson once learned, or a habit once formed through teaching stay by them, or is the *same* amount of labor required to fix it on the mind as is the case with the demented patient?

Dr. Smith said that the idiots of the lowest grades forget persistently, and are sometimes given up as hopeless, when they surprise us by remembering some one thing. In the higher grades constant repetition may teach something.

Dr. Stedman had been struck with the large percentage of idiots and imbeciles now living in the almshouses throughout the State.

Dr. Smith, in answer to Dr. Cowles, said that the capacity of congenital as well as of acquired idiots may be of a high or low grade. There was nothing characteristic in the two forms. Their intellects have only a very limited capacity of reasoning, which may be developed by teaching. Many can return home and, under the care of their friends, become useful members of society.

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[1] See this Journal, page 364.

Dr. Cowles asked if some were not very slow in development, as was seen in healthy minds, who finally attained a good standard of intelligence.

Dr. Smith said that few such cases got into the school. They were recommended to be sent back to the public schools. If in the school they have special instruction, more adapted to their minds, but as a rule public schools are better.

Dr. Cowles asked if some were not defective in special mental traits, like memory, the emotions, or the moral sense, as we see at times in criminals or stupid children. Could a classification be based upon these special defects, or treatment be adapted to them?

Dr. Smith said that such cases were seen at South Boston, but that any classification would need observation in a larger institution.

Dr. Jelly saw many idiots at present, and had seen improvement in some cases which were not at all hopeful. There were two greatly neglected classes, at present not received at South Boston: the epileptic and the violent. They have to go to the insane asylums, which is an outrage, as they are unfit cases, do not get proper care, and are not agreeable to the other insane patients. Epileptics might also improve at South Boston, though it has not at present the room or the means to care for them as it ought. In poorhouses they have no care.

Dr. Denny said that while imbeciles are not necessarily irresponsible before the law, and may under favorable conditions in some cases even support themselves, independent of any constant system of supervision, all idiots are both irresponsible and incapable of self-support. This distinction should not be overlooked when the reader's classification of idiots and imbeciles together as "feeble minded" persons is adopted. The report of the New York City Lunatic Asylum for 1882, which fortunately states the occupation in connection with the form of disease, registers three among the eight imbeciles discharged that year, whose occupations were severally that of messenger, peddler, and ship-caulker. Defect of sense — perception, epilepsy, paralysis, etc., are frequently so associated with complete idiocy as to render necessary the question of care like that concerned in the provision for the final stage of general paralysis of the insane, where special difficulty is encountered in maintaining cleanliness and preventing bed-sores. The precautions adopted by Prof. Sanders of the University of Berlin to ensure the best results in these respects among those of this class in his wards in the Insane Hospital at Dalldorf, commend themselves as applicable to the care of helpless idiocy. The speaker had the pleasure of visiting his wards recently, and saw some twenty-five cases of general paralysis in its most advanced stages, in one dormitory that was free from odor. These patients lie, without anything interposed, directly upon a loose, soft, thick bedding of "wood wool" contained in a box-shaped bedstead. The advantage claimed is that the material is so cheap as well as comfortable, that it can be renewed whenever soiled, with almost no expense, so that the patient can have a new, sweet bed several times daily with comparatively little trouble. If this material were prepared from the antiseptic and sweet-smelling wood of the fir it might better enhance its value. While there are undoubtedly stages of imbecility in its lowest degree that are extremely difficult to distinguish from the highest stage of idiocy, yet where there is memory, power of association of ideas, recognition of persons, and an understanding of language, there is strictly speaking, imbecility, so that the constant and persistent repetition of object lessons with judicious control may result in developing the mind to large extent, although it is difficult to realize the vast amount of skilful, patient labor demanded. The interesting statements as to methods and results obtained by the reader contribute toward a better appreciation of the successful operation of the class of institutions with which he is connected. A custodial department, which also might relieve the insane asylums is highly desirable.

Dr. Knapp spoke of Gilson's classification into idiots, imbeciles, feeble-minded, the latter class including those with some slighter or some single mental defect, such as may be seen in almost every town; those who are fairly capable of caring for themselves, but who are generally regarded as "not very bright," or a "little lacking."

Dr. Goldsmith said that when defect of the mental faculties is apparent at birth, or in early infancy, the child is classed as an idiot, but when there is more or less complete arrest of development of a mind which has begun and progressed normally through early infancy, the condition is imbecility. An imbecile may therefore show any grade of intelligence between idiocy and that of the normal adult. He was interested in the proposed plan of dividing the school into an educational and custodial department, as a somewhat superficial investigation of the work of the existing institution for these defective classes had caused him to believe that their advantages were too largely bestowed upon the few who are susceptible of considerable education, while the great mass of those who can only learn to be in a greater or less degree decent, are left entirely without expert training, and placed in unsuitable associations in insane asylums and almshouses. An asylum in connection with a school for idiots would be able to do a great humanitarian work in saving the hopeless cases from the degradation which is sure to ensue, unless there is persistent, organized, skilled effort to prevent it.

He had been impressed by reading and by conversation with educators of idiots, with the extreme zeal and earnestness with which they tried every expedient and utilized every avenue to the child's mind. He thought that those who treated the insane might imitate with advantage their example in the cases of some demented patients, though he fully appreciated the wide difference between the re-education of the demented brain and the education of one imperfectly developed, and should expect much poorer results, but it is apparent that the work is not utterly hopeless, from the occasional marked improvement that are seen in such cases under the influence of some especially skilled attendant. I know of no hospital for the insane where there is organized effort in this direction similar to that practised in schools for idiots. Dr. Lalor in his school system at the Richmond Asylum, near Dublin, Ireland, approaches it more nearly than any other asylum physician of whom I have knowledge, but his practice is much less complete and thorough.

NEW YORK NEUROLOGICAL SOCIETY.

Stated meeting, March 2, 1886.

The Vice-President, Leonard Weber, M.D., in the chair.

Dr. Spitzka exhibited the

BRAIN OF A PORPOISE,

demonstrating the absence of the pyramid tract in this animal, and the enormous size of the auditory nerve, which nearly equalled the lumbar cord of the same animal in transverse section. The comparatively small diameter and shortness of the segments of the lumbar cord, as compared with the dorsal segments, was dwelt upon. The brain weighed a few drachms short of forty-five ounces; the animal (a bottle-nosed dolphin) weighed 286 pounds, and was obtained through Mr. Eugene Blackford.

Dr. Spitzka then presented the specimens and history of

A CASE OF NEUROGLIOMATOUS HYPERTROPHY OF THE PONS OBLONGATA.

The facial, pneumogastric, and hypoglossal neuclei were distinctively involved.

The following was the condition of the tumor and the involved structures:

While the infiltration was diffused over a large area of the oblongata and pons, it was only in a comparatively limited compass that it could be considered as a destructive lesion. It had not advanced uniformly from a given original focus, but had extended in the direction of special tissues which seemed to favor its progress. Thus, compact nerve strands seemed to oppose resistance, while ganglionic tissue acted as a guide. The consequence was that the raphe, most nerve roots, and the great strands, such as the ascending root of the fifth pair and the restiform column, were either perfectly free or so slightly involved that it was difficult to determine whether they were affected. The vascular districts, particularly of a capillary character, which abound in the reticular field of the tegmentum, also favored the extension of the growth.

Where the lesion was at its maximum no trace of the normal tissues could be discovered. A finely molecular basis substance, crowded with bodies resembling neuroglia nuclei, but mostly of larger size, and others resembling the small variety of ganglionic cells, but without well defined processes, predominated over the basis substance to such an extent that even in fairly thin sections nothing but these nuclei and granules could be seen. Many of these bodies were surrounded by a halo, resembling the cell capsule hydropsia, described by Hurbich and Forel; others were imbedded in a hyaline material, presenting an appearance like that of a cell body, including a nucleus. This stained brown in alum-hæmatoxylin, while the nuclei stained a deep blue. The former were not stained by carmine.

But the most remarkable feature were the blood-vessels of the neoplasm; these, distended to their utmost capacity, abounded in at least four fold the number and size of the opposite side, where they were affected. They presented every evidence of rapid growth and enlargement and many were evidently newly formed, while signs of vascular new formation were common. They were contorted in the most bizarre fashion imaginable. The blood within these vessels was in a condition of stasis; the vascular walls were exceedingly thin, and in many places ectatic; in several places the infiltration had undergone rarification, probably owing to softening and absorption of its hyaline products. An irregular spot of this kind was situated immediately caudad of and in the concavity of the genu facialis. Another was in the corresponding situation at the head of the roots of the vagus nerve, a third in the very center of the reticular field mesad of the pneumogastric rootlets. A fourth has been described as situated in the interolivary layer. In some sections the neoplasm did not cut well, and did not remain in the section, the cut surface showing the appearance usually presented by spots of malacia that have been hardened. This was the case with a spot in the very center of a focus of the disease which accurately corresponded to the middle abducens nerve roots.

The motor nucleus of the right trigeminus was seriously involved. Sensory nucleus of the same in the exit level slightly involved. Right lower facial nucleus destroyed. Right abducens nucleus scarcely involved. Right vagus glosso-pharyngeal nucleus nearly destroyed in higher levels, free in the lowest. Left vago-glosso-pharyngeal nucleus slightly involved in intermediate levels. Hypoglossal nucleus destroyed on both sides in its upper, on the right side in the middle third. The nuclei of the fasciculi testes cannot be identified anywhere.

Of nerve tracts, the pyramids, the transverse pons fibres, and the cerebellar peduncles with their continuations, appear to be entirely free from disease.

The posterior longitudinal fasciculi are both normal above the abducens nuclei; in that level they show slight infiltration on the right side; in the hypoglossal level the right is intensely involved. The right solitary bundle, also known as the round and trineural bundle, is greatly involved in its proper substance in the exit level of the tenth and eleventh pairs; singularly enough its cephalic termination in the nervous intermedius, is free, the ganglionic substance in which the fascicle is imbedded is entirely destroyed in the affected levels, and the destruction extends in the direction of the afferent and efferent fibres.

The nerve rootlets are mostly normal where identifiable. In all but the most intensely affected areas they pierce the lesion without showing any signs of disease. This is notably the case with the abducens nerve; some of the glossopharyngeal levels were lost. The abducens and vagus fibres, however, are distinctly less numerous on the right than on the left side. The right facial nerve, whose peripheral overhardened portion appears normal, is the seat of intense degeneration; the axis cylinders are destroyed.

The reader thought that in the light of the post mortem findings, deducing from the intensity of the lesions its age, and corelating it with the observed symptoms, we may infer that the neoplasm originated in the reticular field, which it involved diffusely at the start, including in its area the emerging root of the right abducens and the facial nucleus; that it extended from the latter backwards into the deep nucleus of the mixed system, and progressing towards the raphe and ventricular floor; in the transverse direction extended to the trigeminal nuclei, cephalad, and to the hypoglossal nuclei and posterior longitudinal fasciculi afterwards; its latest invasion being the interolivary layer.

The gastric vagus nerve functions were the first to be involved in the thirteen months' illness; nausea and vomiting inaugurating the illness, and culminating in attacks of vertigo, during the first four months of her illness; drowsiness, aggravated when the stomach was full, was a prominent symptom, and bulimia preceding death. The cardiac functions were involved seven months after the disorder first manifested itself, and became aggravated sub finem, as well as the dyspnœa and precordial fears which are dependent on disturbances of the same nerve. The motor functions of the lateral set of nerves were also considerably involved. Difficulty of deglutition was experienced after four months in constantly increasing severity, so that swallowing finally became impossible. The paralysis of the palate was extreme for the last six months, and had been noticed in lesser degree since the fifth month of her illness.

With the above symptoms the destructive involvement of the right vagus nucleus, the invasion of the left nucleus, and the destruction of a part of the vagus roots is in accord. The considerable involvement of the deep or motor nucleus in its upper levels, which I have proposed to term the nucleus of the pharyngeal muscles, is equally in harmony with the progress of their functional insufficiency.

Symptoms of irritation, in several instances, preceded the evidences of nuclear paralysis, or existed alone. Thus, spasm of the muscles of mastication preceded a slight evanescent paresis of these muscles. The motor trigeminus nucleus was involved, but not destructively so. The total paralysis of the facial nerve was preceded by facial spasm, and the last step in the extinction of the facial nerve functions, the paralysis of the uvula, was preceded by what can be interpreted in no other way than a contracture of the subsequently paralyzed half. It is an interesting fact that the stapedius paralysis, which probably accounts for the tinnitus went parallel with the paralysis of the external branches of the facial nerve, and not of the pharyngeal rami.

The subjective hemi-numbness, which at no time involved the left side of the face, was a crossed symptom, in harmony with all earlier observations. It began four and a half months after invasion, and as it increased became associated with hemi-paresthesia, hemi-paralysis of the pressure sense, and ultimately with hemi-ataxia due to hemi-paralysis of the muscular sense. As the focus of the lesion lay in the mesal half of the reticular field, we may attribute the maximal disturbance of the weight and pressure sense to it, and the lesser disturbances, due to irritative pressure of nerve tracts, to the infiltrated but undestroyed fields near the ascending fifth root. The terminal loss of muscular sense is to be attributed to the terminal lesion of the interolivary layer.

The paper concluded with the following propositions: sensory disturbance of the extremities, when existing on the side opposite to a facial nerve paralysis, if due to a single focus of disease, is as pathognomonic of a unilateral pons lesion as alternate paralysis of motion is. The difference between the two is merely one of altitude; in the former case the lesion is in the tegmental part of the pons. In the latter case in the transverse fiber mass of the pons, which, as is well-known, includes the sagittal bundles of the pyramid tract.

Paralysis of associated eye movements to the side of the lesion are peculiar to affections of the brain axis; they are, when thus situated, always due to disease of the tegmental part of the pons, and to that part of it which lies inside of the emerging root series of the fifth and seventh pairs. The interolivary layer and the other part of the lemniscus are to be excluded from this area, whose focus appears to be near or in the posterior longitudinal fasciculus, as well as in the neighboring reticular area and raphe, and rather cephalad of the abducens nucleus than in the same level.

That form of associated eye movement paralysis which manifests itself in inability to move the eye globes in one lateral direction in the horizontal plane can be produced by lesion situated in and cephalad to the level of the abducens nucleus. It is for this reason that absolute paralysis of the external rectus muscle of that eye which is on the side of the lesion is commonly combined with the associated movement disturbance, as in the case presented.

Nystagmic oscillation in the plane of the disturbed movement may occur in such a case, as is shown by the one to-night related. I believe that this is the first observation of the kind in which the cerebellum and transverse or cerebellar pons fibres were intact. This was not the case with Graux's patient, whose cerebellum was the primary seat of the tumor.

Dr. E. C. Seguin, being requested to open the discussion, said that he thought the paper was one which was hardly open to debate, but he welcomed it as a very valuable addition to our literature of these cases.

Dr. M. A. Starr had observed in the specimens and diagrams presented, an apparent implication of the acoustic nerve.

Dr. Spiztka said this nerve was entirely unaffected, and explained its seeming implication.

Dr. C. L. Dana made a brief preliminary report of a case which he thought would be interesting in connection with lesions in this region. The man, about forty-five years old, was brought into his ward with a history of having been ill a very short time. He was strong and robust looking. He was found to have static ataxia; was unable to walk or stand. There was no motor paralysis in any of the extremities. There was anæsthesia of the temperature sense, of the tactile sense, and of the pain sense on the right side from the shoulder down, involving the right arm, right leg, and right side of the trunk; the right half of the face was not involved. There was no anæsthesia of touch, temperature, or pain sense on the left side; but in the left hand and arm there was the most marked ataxia which the speaker had ever seen. The arm showed no tremor nor paresis, but any attempt to place it in a particular position would cause it to fly about in a most senseless manner. There were some cerebral symptoms, but the intellect was clear. In a few days there developed some signs of vagus trouble; there was some difficulty in swallowing, partial paralysis of the vocal cords, inability to speak aloud. The patient died after about three days, from the entrance of food into the respiratory tract.

At the post mortem examination there were found a small aneurysm of the basilar artery, a recent thrombus of both vertebral arteries; near the upper aspect of the right half of the floor of the fourth ventricle was a small spot of softening. The latter lesion, it seemed to him, would account for the ataxia of the left arm. He had not yet prepared the brain further than to photograph it.

Dr. A. D. Rockwell said the difficulty in locating cerebral lesions was greater than one's reading might lead him to suppose. Out of a large number of cases of hemiplegia which he had seen, there was only one in which the symptoms were so distinct that he felt quite sure as to the location of the lesion. This occurred about a year ago, in a man whom he saw with Dr. A. R. Carman. The patient had a profound apoplectic stroke; deep coma supervened, with unconsciousness for some time; there was hemiplegia upon the right side; upon the left side there was facial paralysis. There was conjugate deviation of the eyes. The symptoms were so distinct that he ventured to locate the lesion in the lower lateral portion of the pons. The patient died within a few days, but an autopsy was not obtained.

Recent Literature.

Local Anæsthesia in General Medicine and Surgery. By J. L. Corning, M.D., Formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. New York: D. Appleton & Co. pp. 103. 1886.

This volume, composed mainly of a reprint of articles and cases already published, presents in a complete form the author's method of producing prolonged local anæsthesia. This consists in confining cocaine, injected hypodermically, to a selected region by causing stagnation of circulation, and thus obtaining a continued effect from prolonged contact of the drug with peripheral nervous filaments.

The introductory chapter on the history of anæsthetics in general contains nothing of especial interest in this connection, it being a subject so well known that repetition is scarcely necessary. In Part II, however, the author describes a method of producing local anæsthesia, which, should experience corroborate the statements of its originator, will be a most valuable addition to the resources of operative surgery. It is clearly presented to the reader, while diagrams and illustrations add to the conciseness and accuracy of the description, and increase greatly the ease with which details are comprehended. The appended cases illustrate the method previously described, and its adaptability to especial operations.

To those interested in this subject this little book will well repay the time spent in its perusal.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D. Sixth Edition, thoroughly revised. With Forty Illustrations. Philadelphia: Lea Brothers & Co. 1886.

In reviewing this excellent work on the Diseases of Children, we are at once struck with the fact that the whole book has been thoroughly revised, and the advances which have been made during the last five years, in this branch of medicine, have been introduced carefully throughout the text. A number of entirely new plates has been added to the illustrations, and twenty-nine pages additional reading matter. The articles on scarlet fever and cerebro-spinal fever have been entirely rewritten and much enlarged, and valuable additions have been made to the articles on rachitis, tuberculosis and food.

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A PATIENT'S ACCOUNT OF A CASE OF INSOMNIA.

The account which an intelligent man gives of his own sufferings is often as instructive as the doctor's report of the case, and when the story is practically the history of a lifetime, the patient is usually the only one capable of telling the story. In the *Homiletic Review*, a religious monthly magazine, the Rev. Dr. Ormiston, of New York, relates the story of a lifetime passed with what would seem to most men a very small amount of sleep.

He prefaces his story with the remarks of Sir Andrew Clark, who after a most thorough, painstaking and minute examination, said: "Dr. Ormiston, you were born to be a sleepless man, and your profession is exceedingly unfavorable to your repose. Had you been a ploughman or a shepherd you might have slept soundly." In infancy he seldom ever slept a whole hour at a time. In boyhood, though healthy and active, he never slept as long as his playmates. From fourteen till nineteen, though at work on a farm, he never slept continuously all night. When he commenced to prepare for college, he taught all day and studied the greater part of the night; he "frequently spent the whole night at work without any consciousness of fatigue or sense of weariness." Soon after entering college and while doing his work as a student he accepted an appointment as tutor, which compelled him to teach five hours a day for five days in the week. To accomplish this double amount of work he restricted himself to four hours in his bedroom. Practically such a course was pursued for six years. During the last year of theological study he taught five days in the week and on Sundays preached twice, riding forty miles and back in all kinds of weather. During all this time and the first years of his ministry he enjoyed habitually four hours sleep, sometimes five, seldom more. In his forty-second year, after a season of prolonged extra work he lost the power of sleeping entirely, and then began to realize that he had been long overtasking and abusing a rarely healthy vigorous constitution. He resorted to every expedient and tried every remedy "which the skill of science or the common sense of experience could suggest," but with little or no avail. "After exhausting all the resources of pharmacy and baffling the tried skill of the best physicians," though a conscientious teetotaler from his youth, he consented to try the use of brandy. Its effect for a time was to induce a few hours of sleep, but it soon failed, as did also ale. Hydrate of chloral came into use about that time, and was recommended by his family physician, and his experience with the drug is highly interesting. "It worked like a charm." It gave him at once and with certainty from three to four hours of sound, refreshing, dreamless sleep, and its continued use for twelve years produced no perceptibly injurious effects. The dose was never increased, but diminished from thirty to fifteen grains, with a like amount of bromide of potassium. Most of the physicians consulted strongly disapproved the use of chloral, some of them condemned it altogether, but they could furnish no substitute. Chloral was used until 1879, when sore domestic bereavement brought on "congestion of the brain," and he became so weak that he slept from exhaustion without a narcotic. Up to 1883 he used the drug only occasionally, and yet had usually about four hours' sleep, which seemed to be his normal amount. Suddenly in that year sleep again left him and his nervous system seemed to be shattered as by a shock. This time, melancholy, nervous depression, and marked dyspepsia shrouded all the future in "impervious gloom."

Of all the efforts to effect a cure it is not necessary to speak in detail. Suffice to say that after various trials and failures in New York and Canada, a sea voyage and tour abroad was advised and unwillingly submitted to. The details of four months in England comprise an account of Dr. Milner Fothergill, Ventnor, Sir Andrew Clark, and a water-cure at Huntley, South Devon, but no improvement followed, and a return home seemed advisable. Here massage was resorted to and some improvement in appetite and strength followed, but no more sleep which now amounted to about two hours, and was procured by whiskey and milk taken nightly. The summer was spent at the seaside and on Lake Ontario, with warm and tried friends, and in the autumn he returned to the city resolved to try to work again. The work was a burden rather than a delight, but he slept quite as much as when living in enforced and irksome idleness. The next summer was spent in the Catskills and in Canada, and sleep approximated three hours. Health and vigor began to return and horseback exercise for two hours every morning was made a part of his daily routine. His former energy and vigor returned, and sleep grew to four hours, which the reverend doctor believes to be his normal amount.

The inferences of the reverend gentleman contain much of interest and positive value, though like all judgments on personal matters, tinctured perhaps by personal prejudice. Like most conscientious laborers with the pen, he belittles his own labor. He does not attribute his insomnia to overwork, but to work performed often for a great length of time without due cessation for repose, not infrequently for several successive days and nights and crowding one duty and public engagement after another in rapid succession, sometimes at late hours of the evening and working for many years without other reaction than change of employment.

"The same amount of mental work might have been performed as well, if not better, without inflicting any injury upon the nervous system, had proper precautions been taken to secure occasional rest and the invigorating refreshment of some rational and commendable recreation. . . . It is the manner rather than the amount of work which tells upon the constitution."

"To cease altogether from work and leave home and friends is not the wisest or kindliest method of treating insomnia and its effects on the nerves and stomach. It were better to diminish the amount of labor and to increase the amount of social and domestic enjoyment. Mere change of locality will avail but little, a change in the mental and social habits is what is required."

"While medicine has its place and may often avail much, the less medicine of any kind the better." While chloral is almost unanimously condemned, he was able to use it constantly for many years while performing full duty and often much extra work, without perceiving any injurious effects or being tempted to increase the dose.

The doctor is convinced that had he at the time of the last acute attack, quietly resorted to the use of chloral, lessened the amount of work for a year, and daily mounted a horse, he would have suffered less and been sooner restored to a condition of health and hopefulness.

From his experience the doctor strongly recommends early retiring and rising, the performance of all hard mental work in the early part of the day, the avoidance of all excitement late in the evenings, and the practice of taking exercise of some kind in the open air, in all weathers, unless very stormy, and whenever practicable this exercise should consist of a ride on horseback of not less than two hours every morning.

The doctrine of climacterics is invoked by the sufferer to explain the breakdown in the forty-second and sixty-third years: a more generally accepted doctrine give a reasonable explanation. The first breakdown certainly, and apparently the second, followed unusual exertion in a man who worked continually to the full extent of his ability, leaving no reserve force to meet an emergency, a not uncommon history in these cases.

The reverend doctor sets his parishioner sa good example in his manner of regarding his medical advisers. Their inability to set right by drugs the effects of an abuse that had extended over a lifetime does not seem to have soured him against the profession or driven him to believe in astrologers and faith cures. He says, "more skilful practitioners and more devoted friends in the faculty no man could have than I have been favored with, and I give them my esteem and affection in return, but in no instance did I derive any cognizable advantage from their treatment."

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THE INFLUENCE OF SEWERAGE AND WATER SUPPLY ON THE DEATH-RATE IN CITIES.

The superior attractiveness as places of residence of those cities which enjoy sewerage and water-supply systems is patent to every intelligent person. Yet for the benefit of legislators and tax-payers who sometimes look grudgingly at the heavy expense account involved by the construction of these twin works (never rightly to be put asunder), it is desirable that something should be presented more cogent as an argument than mere olfactory sensations.

This has been done by Mr. Erwin F. Smith in a paper read at the Sanitary Convention of Ypsilanti, Michigan, in July last, and printed as a supplement to the Annual Report of the Michigan State Board of Health for that year. While the paper does not claim to present anything novel, it yet puts in an available and clear form the results of much collated information, taken, as the author regretfully says, from foreign more than from domestic sources simply because the carelessness of many of the States in regard to the collection and publication of vital statistics wastes a great deal of the material in this country which might be turned to good sanitary account.

The results of Mr. Smith's studies are presented in charts which show with the clearness of the graphic method what these measures have done for the mitigation of some of the infectious diseases. A chart, for instance, indicates the deaths from typhoid fever per 10,000 inhabitants in a number of cities for the periods before, during, and after the introduction of sewerage and water supply. In Munich the mortality fell from 21 deaths before the sewerage and water were introduced to 6.3 afterwards. In Boston from 17.4 to 5.6. All of the other localities given, Dantzic, Breslau, Frankfort, Berlin, Vienna, Brussels, London, New York, Brooklyn, and all England show a uniformly downward direction of the mortality curves corresponding to the time of the introduction and completion of these improvements. To compare with this we have another chart showing the typhoid mortality for the five years, 1880–84, on the one hand in a series of well sewered and watered cities to average about 2.4 per 10,000 of the inhabitants and on the other hand in a group of cities with imperfect sewers or none at all to average 10 per 10,000.

The cholera chart for the epidemic of 1866, is equally striking in its differences for the two classes of cities. In those whose water supply was good, they being also generally well sewered, the deaths per 10,000 inhabitants were for New York 12.8, for Brooklyn 16.5, Boston 0.6, London 18.4, Glasgow, 1.6. While in the group of those cities either incompletely sewered or entirely destitute of modern sewers and very dirty, the water supply also being deficient both in quantity and quality, the mortality rate ranged from 43.7 the lowest, that of Chicago, to 268 the highest, in Memphis, with Breslau, Toulon, Palermo, and St. Louis, in a slowly descending series from that maximum.

Upon diphtheria, on the contrary, the author's statistics seem to show that the existence or non-existence of sewers has little effect. For of the well-sewered districts we find Berlin and Boston with the respective mortality per 10,000 inhabitants of 16.5 and 16.3, which are very nearly the highest rates recorded, Brooklyn also having a death-rate of 13.7, and New York of 12. London, Brussels, Frankfort and a few other European towns serve to bring down the average of the well-sewered cities to only 8.8, while that of the non-sewered cities is 10, Baltimore having the highest, 16.7, and New Orleans the lowest, 2.9. The average of the mixed districts (sewered in part), is only 9.5, Massachusetts heading the list at 13.1, and England bringing up the rear at 3.

Besides the sanitary aspect, of the question, Mr. Smith introduces another which will perhaps appeal as strongly to some legislators, the economic. Statisticians have not neglected this feature of the case before, and Sir James Paget, in his address before the International Health Exhibition in 1884, brought out some striking facts regarding the economic loss from preventable diseases, which were referred to in the Journal of July 17, 1884. On this point Mr. Smith says: "It is entirely within bounds to say that the general introduction of proper sanitary measures, meaning thereby the provision of an abundant supply of pure water and the proper disposal of excreta, would reduce the annual loss in the United States from one single cause, the preventable typhoid-fever, two-thirds to three-fourths, with an economic husbanding of at least $25,000,000 a year,— enough, in the course of a few generations, to sewer every city and village from the Atlantic to the Pacific."

Whence he legitimately concludes that the introduction of sewerage and water supply systems at any cost is the soundest social and financial economy.

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INSANITY IN VERMONT.

Dr. Joseph H. Draper, superintendent of the insane asylum at Brattleboro, has recently written a paper on the "History of Lunacy in Vermont during the last Fifty Years."

Vermont is one of the few States in this country which has no public or State lunatic hospital, though as long ago as 1880, there were nine hundred lunatics in the State. She sends her paupers to the asylum at Brattleboro, as well as all insane criminals. The total amount of her benefactions to this institution has so far reached only $23,000!

Here is a lesson for Massachusetts publicists to ponder! The State of Vermont, with an insane population probably aggregating, by this time, a total of one thousand, has, so far, expended only a sum equal to the *per capita* cost of ten lunatics in some of the Massachusetts hospitals! Blessed are the lessons of adversity! and Vermont should profit by these lessons in the present case.

Though the Vermont asylum has so far been large enough to receive all applicants, the time will soon come for the State to make further provision for her insane. She can do this at a small expense by putting up simple, unpretentious buildings especially adapted for her pauper class, leaving the upper and middle classes at the present asylum, which is properly and peculiarly adapted to their case.

In this connection, it is well to remember that a large number belonging to both these classes become impoverished because of disease. They are not *paupers* in the sense the word is generally used, and we should use the word *indigent* in speaking of and classifying them, as is done in other places, to contra-distinguish them from paupers.

Insanity is to be peculiarly dreaded, because it so often destroys the bread-winning capacity of its subjects, and in this way, upsets the financial prosperity of many families, and throws a heavy burden on the State. Once the disease gets a foot-hold in a family, it may be years before it recovers from its paralyzing or depressing influences.

It seems unfortunate that the asylum at Brattleboro should be obliged to receive insane criminals, as it is an incorporated or private institution, and never intended to receive such persons; yet we see that fifty-three of this class have already been under treatment. For the last six years, there have been about twenty in the asylum. Provision for them in connection with one of the prisons has been repeatedly urged, yet without effect.

Dr. Draper refers to the fact that it has been customary in America to ignore social distinctions in providing for the insane. The injustice of such a lack of classification is now, however, pretty well understood, and the tendency is becoming stronger to consider the social and moral, as well as the mental condition, of the insane.

While the disease requires hospital treatment alike in all cases, the worthy citizen, the debased criminal, and the foreign pauper, need not be thrown together under one roof, and into a juxtaposition absolutely impossible in ordinary sane life. Each class should be furnished with separate buildings, adapted, as far as circumstances admit, to their former mode of life.

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MEDICAL NOTES.

— The Committee of the American Medical Association on the Rush Monument will meet on Monday, May 3d, at 4 P. M., in the large parlor of the Lindell house, St. Louis, Mo., which will be the headquarters of the Committee during the meeting of the Association.

— The mortality from rabies in Philadelphia for the last twenty-five years has been sixty. The largest number of cases (seven) occurred in 1869. In 1881 there were five cases. In 1860 and 1884, none.

— The Contagious Diseases Acts of Great Britain, by which prostitution was regulated in the garrison towns, have been repealed by a vote of 245 to 131. English medical opinion, as a rule, supported the acts. The *Lancet* expresses regret at the repeal, and says that henceforth "disease and immorality in their most revolting forms are to riot in the midst of our garrison towns."

— The various instances of abbreviatory slang which have been cited in evidence of "American rush," seem to be paralleled on the other side of the water. We have heard much in recent summers, of the "Healtheries" and the "Inventories." And now the "Sike" and the "Sikes" are familiarly spoken of, referring to the Society for Psychical Research, and the members of the same.

— Among the absurdities into which the arrogance of high station leads some men, is the following ukase issued by the King of Servia on Dec. 12 last: "Whereas, it is irrefutably proved by science that the so-called antiseptic treatment of wounds yields more beneficial results than all other methods, we are pleased to order that henceforward the said antiseptic plan of treatment be solely employed in all hospitals of Our Kingdom, and that corrosive sublimate and iodoform be used until Our further dispositions."

— A curious story, recalling the myths of early Rome, is given in the *Medical Press and Circular*, of a woman of Toulouse who while working in the fields left her baby in a shady corner whither she went occasionally to nurse it. Meantime a bitch was left to protect the child. After a time, the latter not seeming to be as hungry for the breast as usual, the mother watched it, and found the bitch standing over the baby who was nursing with relish. The mother saw no objection to the proceeding and allowed it to continue. The child throve, and the arrangement proved eminently satisfactory to all concerned.

— Important changes are in progress at Oxford which will give the university a real faculty of medicine. It has hitherto conducted medical examinations for graduates in arts who have obtained their professional education elsewhere, generally at one of the great London hospitals. Hereafter, however, Oxford men will be able to enter the university as medical students, as has long been the case at Cambridge. It will still be necessary for them, however, to graduate in arts, which will practically mean in the school of natural science, before they can proceed to a medical degree. Men who pursue natural science are to be exempted from some of the classical examinations heretofore required. Among the professors already secured, are Dr. Arthur Thomson of Edinburgh for the chair of anatomy, and Profs. Bagley Balfour, Burdon Sanderson, and H. N. Moseley for the departments respectively of botany, physiology, and zoology.

BOSTON.

— Glanders is reported to have appeared among horses at the South End of Boston and also at the Cambridge Railroad stables. A jockey who attempted to sell a horse affected with this disease at Brighton, was pursued by the authorities, and for the time escaped. But having succeeded subsequently in selling the animal in a neighboring town he was arrested. The horse was killed.

— The annual meeting of the Massachusetts Infant Asylum took place at the home in Jamaica Plain last week, Mr. Thomas Parsons in the chair. Dr. H. P. Bowditch was chosen president of the association for the ensuing year, Mr. Parsons and Dr. Wells of Brookline the vice-presidents, Edward S. Philbrick treasurer, and Charles P. Ware secretary, and nearly all the old directors were reëlected. The expenses of the past year have exceeded the appropriation, but the asylum has been enabled, through the receipt of several legacies, to come out with a clean balance sheet. The health of the children is good, and many of them have been adopted during the year.

NEW YORK.

— The late Wm. H. Vanderbilt's magnificent gift of $500,000 to the College of Physicians and Surgeons has now been supplemented, not only by that of his daughter for the founding and maintenance of the Sloane Maternity Hospital in connection with that institution, but also by an additional gift from his three sons, Cornelius, William, and George, of $62,500 each, or a total of $250,000, for the erection and endowment of a new building, to be known as the Vanderbilt Clinic of the College of Physicians and Surgeons.

This, with the exception of the lower floor, which will be used for a free dispensary, is to be entirely devoted to clinical instruction. Of the $250,000 thus donated, $150,000 will be expended in the construction of the building, the balance being reserved for the running expenses of the various clinics, and the maintenance of the dispensary. The new building will be erected at the corner of Tenth Avenue and Sixtieth Street, adjoining the Sloane Maternity Hospital, and, like the latter, will cover an area of seventy-five by one hundred feet. These two structures will conform in general architectural appearance and design, to the new college now in process of erection on the Ninth Avenue end of the lot. The corner-stone of the latter is to be laid on Saturday, April 24th, on which occasion Mr. Chauncey M. Depew will deliver the oration.

The erection of the building, the investment of the surplus funds, and the equipment and furnishing of the Vanderbilt Clinic, will be entrusted to a board of five managers, in which Frederick W. Vanderbilt will represent the donors; Dr. John C. Dalton, President, the College of Physicians and Surgeons; Dr. William H. Draper, the Board of Trustees of the College; and Drs. H. B. Sands and James W. McLane, the Faculty of the College. The institution will not be in the nature of a hospital, as it will be devoted to clinical teaching in cases not confined to bed, the branches included being diseases of the eye, ear, throat, lungs, skin, and nervous system, as well as diseases of women and children. The total gifts of the Vanderbilt family to the College of Physicians and Surgeons, with this new benefaction, thus amount to almost one million dollars.

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Miscellany.

TYNDALL'S THEORY OF VACCINATION.

Professor Tyndall explains the philosophy of vaccination as follows: "When a tree or a bundle of wheat or barley straw is burned, a certain amount of mineral matter remains in the ashes — extremely small in comparison with the bulk of the tree or of the straw, but absolutely essential to its growth. In a soil lacking, or exhausted of, the necessary constituents, the tree cannot live, the crop cannot grow. Now, contagia are living things, which demand certain elements of life just as inexorably as trees or wheat or barley; and it is not difficult to see that a crop of a given parasite may have so far used up a constituent existing in small quantities in the body, but essential in the growth of the parasite, as to render the body unfit for the production of a second crop. The soil is exhausted, and until the lost constituent is restored, the body is protected from any further attack from the same disorder. Such an explanation of non-recurrent diseases naturally presents itself to a thorough believer in the germ theory, and such was the solution which, in reply to a question, I ventured to offer nearly fifteen years ago to an eminent physician. To exhaust a soil, however, a parasite less vigorous and destructive than the really virulent one may suffice; and if, after having, by means of a feebler organism, exhausted the soil without fatal result, the most highly virulent parasite be introduced into the system, it will prove powerless. This, in the language of the germ theory, is the whole secret of vaccination."

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THE MECHANICAL TREATMENT OF PLEURITIC EFFUSION.

A somewhat novel treatment of pleurisy with effusion is mentioned in the *London Medical Record*, March 15, as having been recommended by Dr. Cimbali of Siena (*Lo Sperimentale*, October 1885). This writer treated several cases of pleuritic effusion by massage and by compressed air, or rather by forcing air into the lungs. The period suitable for this treatment is when the acute symptoms have subsided, and before the condition has become chronic. The massage is carried out by rubbing with firm pressure the greased chest in the intercostal spaces, from vertebral column to sternum, two or three times a day. Apart from the revulsive action on the skin, this probably exerts a directly stimulant action on the pleura, and may even detach pieces of fibrine. The compressed air was administered in rather a novel fashion. By means of an elastic tube with a mouthpiece, air was forced into the lungs from an ordinary pair of bellows, during each inspiratory act, for five or ten minutes, and this was repeated four or five times a day. The object of forcing air into the lungs was two-fold: to prevent collapse of the air cells, and to exert compression on the effused fluid. Of eight cases so treated, seven were completely cured in from twenty-five to forty days. The remaining case, one of enormous effusion of eight months' standing, was entirely unaffected by the treatment. In no case was the slightest inconvenience complained of by the patient.

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THE LAYING OF THE FOUNDATION-STONE OF THE NEW EXAMINATION HALL IN LONDON.

The London papers of the 24th of March are at hand, containing a report of the scene at the laying of the corner-stone on that day, by her British Majesty, of the new examination hall of the Royal Colleges of Physicians and Surgeons of England. The edifice, which will occupy a prominent site upon the Thames embankment, is to be about one hundred and fifty feet square and seventy feet in height, and will contain examination rooms, laboratories, offices, etc., sufficient for the needs of both the Colleges.

The ceremony on the 24th ult., was carried out with the elaborateness of circumstance with which our English brethren invest formal occasions. The physicians appeared, to the astonishment of the populace, in the caps, robes and hoods of their colleges, with a brilliant display of color. The various officials who took part in the celebration were received as they arrived, by the officers of the college. With the punctuality which has been well said to be the politeness of Princes, the Queen arrived very punctually, and the Royal group in the area at once moved out, accompanied by the Chancellor of the Exchequer, and the Chancellor of the Duchy, and by the Presidents of the two Colleges, to the entrance, where her Majesty was received on alighting with all the stately ceremonies and Courtly usage due to so great an occasion. A magnificent bouquet was handed to the Queen, and a procession was formed, which led her Majesty to the scene of the ceremonial in which she was to bear so important a part. Her Majesty, as usual, wore black, only slightly relieved by a single white ostrich feather in the bonnet. The formal reception was the work of the Chancellor of the Duchy and of the Presidents of the two Colleges, to whom her Majesty accorded a most gracious reception. Sir William Jenner and his colleague, Mr. Savory, led the way to the dais, where Mr. Childers and Mr. Engleheart, the Clerk of the Council of the Duchy, were waiting to receive her majesty and lead her to her chair of state. As her Majesty slowly advanced, greeted with a tremendous burst of cheering as soon as she was seen by the large assembly inside, their Royal Highnesses the Prince of Wales and the Princess Beatrice took post on her right hand, the Princess Christian and Princess Louise, and the Duke of Connaught, on her left. The august group accompanied her Majesty to her seat, and remained standing in the relative positions they had taken up. Directly they became stationary, and the cheering had subsided, the choir of the Chapel Royal, Savoy, sang the National Anthem, the assembly joining in unison with admirable effect. A prayer, somewhat quaint in diction, and most appropriate to the occasion, selected from the prayers of Francis Lord Bacon, was then offered by the Archbishop of Canterbury.

After the chanting of the Lord's prayer and the singing of a hymn, an address to the Queen from the two Presidents, Mr. Savory and Sir William Jenner, was read, to which her Majesty briefly responded. The Presidents then handed to her Majesty a short account of the origin of the proposed Hall, and a list of the members of the two corporations. Then the Treasurer gave to the Queen coins of the present year's mintage, and these were placed by her Majesty in a glass vase, which, with the assistance of the architect (Mr. S. Salter), was placed in the cavity made for its reception beneath the stone. The architect then handed a gold trowel to her Majesty, who stooped and spread the mortar on the bed stone, the Prince of Wales bringing his somewhat extended experience of such operations to her Majesty's aid. The rope of the tackle was then slowly loosened, and the stone, guided by the two masons, was lowered into position. Again the Prince of Wales came to his Royal mother's assistance showing her how to apply the square, and then the Queen, with a black ebony mallet, gave the customary three taps, and declared the stone to be well and truly laid. Loud cheers from the assembled spectators, which were taken up in sympathy by the crowd outside, followed the Royal announcement. The ceremonies concluded with the presentation to her Majesty of a number of the distinguished guests.

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THE OPERATIVE TREATMENT OF FACIAL NEURALGIA.

A long and elaborate paper on this subject, by Dr. George R. Fowler, appears in the *Annals of Surgery* for April. Among other valuable material, it contains tabulated records of some eighty-three cases of neurectomy, in twenty-six of which Meckel's ganglion was removed, in an equal number the infraorbital nerve, and in thirteen the entire nerve-trunk from beyond Meckel's ganglion. The effects of nerve-stretching are also considered, as is the subject of carotid ligature. Eighteen cases of the latter operation, performed for trifacial neuralgia are given.

In conclusion, the author admits that, owing to the obscurity in which the morbid process underlying many of these cases is involved, it will often be found difficult to decide upon the precise operative procedure indicated. The following conclusions, however, may be advanced as the result of the experience of surgeons up to the present day:

1. Neuralgias of the fifth cranial nerve, of peripheral origin, which have resisted methods of treatment other than operative, may be expected to yield to the operation of neurectomy of the trunk or trunks whose branches are distributed to the painful area. In this class of cases the neurectomy should be carried, if possible, to the point at which the nerve makes its exit from the cranium.

2. Cases of central origin should be first submitted to a limited neurectomy, conjoined with nerve-stretching, in the hope that the process of degeneration thus set up, together with the rest gained by interrupting the centripetally conducted stimuli may favorably influence the diseased central organ. In case of relapse this may be repeated, providing the period of rest thereby gained corresponds to the length of time which Waller's investigations show to be usually occupied by the pro-

cess of degeneration and regeneration. If no relief is gained, a similar operation should be performed upon all of the divisions of the fifth nerve. This failing, a complete neurectomy of each division accessible should be done; and finally, ligature of the common carotid may be tried as a last resort.

3. In cases of doubtful origin, a complete neurectomy followed, in cases which relapse by ligature of the external and the common carotid, in turn, hold out the best prospect of cure.

4. A complete neurectomy of the second division of the fifth necessarily involves the extirpation or destruction of the spheno-palatine ganglion; and to this fact, rather than to any intrinsic tendency of the ganglion itself to keep up the irritation causing the neuralgia, is to be attributed, in all probability, any increasing immunity from relapse claimed to have been obtained in those cases in which Carnochan's operation has been performed.

5. No patient should be denied, other things being equal, the chance which any one, or all of these operations in turn may give him of escaping, even for a short time, the intolerable suffering incident to an intractable or otherwise irremediable facial neuralgia.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 10, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diph. and Croup.	Cer. Spinal Meningitis.	Scarlet Fever.
New York	1,439,039	701	204	16.94	17.08	5.32	2.66	1.40
Philadelphia	971,363	414	137	12.96	12.96	3.84	1.20	3.84
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	191	50	11.66	21.20	3.71	.53	2.12
Baltimore	417,220	174	73	12.54	14.82	3 .99	1.14	.57
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	98	35	6.12	12.24	1.02	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	91	31	16.50	16.50	1.10	1.10	1.10
Pittsburgh	190,000	65	27	19.89	13.77	4.59	1.53	7.65
Milwaukee	142,400	46	22	10.85	8.68	8.68	—	—
Providence	118,070	66	19	15.15	15.15	7.57	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	41	13	4.88	7.32	2.44	—	—
Worcester	68,383	26	9	11.55	19.25	3.85	—	—
Lowell	64,051	37	16	16.20	13.50	2.70	2.70	—
Cambridge	59,660	18	2	—	22.22	—	—	—
Fall River	56,863	19	7	—	22.04	—	—	—
Lynn	45,861	18	3	—	22.22	—	—	—
Lawrence	38,825	12	2	—	16.66	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	13	9	—	7.69	—	—	
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	—	—	20.00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	5	—	25.00	—	—	—
Taunton	23,674	5	2	20.00	20.00	—	20.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	4	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	3	—	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	5	2	—	—	—	—	—
Newburyport	13,716	4	—	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
89 Massachusetts Towns	—	42	7	—	16.80	—	—	—

Deaths reported 2,121: under five years of age 680; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 279, consumption 335, lung diseases 318, diphtheria and croup 88, scarlet fever 37, cerebro-spinal meningitis 31, whooping-cough 28, diarrhœal diseases 25, typhoid fever 17, malarial fever 15, puerperal fever 14, erysipelas 12, measles 11, small-pox (New York) one. From whooping-cough New York 20, Boston, and District of Columbia three each, Philadelphia and Pittsburgh, one each. From diarrhœal diseases, New York 11, Boston three, Worcester two, New Orleans, District of Columbia, Pittsburgh, Providence, Lowell and Cambridge one each. From typhoid fever, Philadelphia 10, Providence three, Lowell two, New York and Baltimore one each. From malarial fever, New York seven, Baltimore and New Orleans three each, Philadelphia two. From puerperal fever New York three, Philadelphia and Baltimore two each, Boston, New Orleans, District of Columbia, Pittsburgh, Providence, Lowell and Cambridge one each. From erysipelas, New York eight, Boston three, Pittsburgh one. From measles, Baltimore six, New York three, Philadelphia two.

Cases reported in Boston: scarlet fever 36, diphtheria 20, measles 16, and typhoid fever three.

In 107 cities and towns of Massachusetts, with a population of 1,246,491 (population of the State 1,941,465), the total death-rate for the week was 18.00 against 18.28 and 19.29 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 27th the death-rate was 26.4. Deaths reported 4,603: infants under one year of age 940; acute diseases of the respiratory organs (London) 710, whooping-cough 164, measles 128, diarrhœa 32, diphtheria 28, fever 28, scarlet fever 22, small-pox (Bristol) four.

The death-rates ranged from 18.3 in Hull to 40.2 in Plymouth; Birkenhead 29.0; Birmingham 24.7; Bradford 23.3; Leeds 24.6; Leicester 24 7; Liverpool 27.4; London 26.9; Manchester 31.0; Nottingham 26.6; Preston 30.9; Sheffield 22.3; Sunderland 19.6.

In Edinburgh 23.8; Glasgow 30.6; Dublin 34.6.

For the week ending March 27th in the Swiss towns, there were 48 deaths from lung diseases, consumption 47, diphtheria and croup six, whooping-cough six, small-pox three, puerperal fever three, scarlet fever two, erysipelas two, measles and typhoid fever each one.

The death-rates were: at Zurich 19.1; Geneva 18.2; Basle 23.7; Berne 36.4.

The meteorological record for week ending April 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Apr. 10, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,… 4	30.228	32.2	38.1	26.9	65.0	64.0	76.0	68.3	N.	S.E.	S.W.	11	12	4	O.	O.	O.	—	—
Monday,.. 5	30.261	36.3	40.0	31.3	77.0	66.0	87.0	76.7	N.E.	S.E.	E.	4	8	10	F.	O.	R.	—	—
Tuesday,.. 6	29.760	36.5	41.2	33.8	100.0	100.0	100.0	100.0	E.	E.	N.E.	32	43	16	R.	R.	R.	—	—
Wednes., . 7	29 808	36.2	42.9	33.3	100.0	91.0	90.0	93.7	N.E.	N.E.	N.E.	4	12	12	G.	O.	O.	—	—
Thursday, 8	29.028	34.8	40.1	30.2	88.0	81.0	70.0	79.7	N.W.	E.	N.	9	4	9	O.	O.	C.	—	—
Friday, … 9	30.130	49.5	63.9	31 2	66.0	37.0	48.0	50.3	W.	N.W.	W.	8	12	10	C.	C.	C.	—	—
Saturday, .10	30.148	51.8	66.1	41.3	49.0	31.0	59.0	46.3	W.	N.W.	N.	10	20	14	C.	F.	C.	38	1.49
Mean, the Week.	30.052	39.6	47.5	32.6				73.6											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 10, 1886, TO APRIL 16, 1886.

Patzki, J. H., captain and assistant surgeon. Relieved from duty at Jackson Barracks, La., and ordered for duty as post surgeon at Mt. Vernon Barracks, Ala. S. O. 75 Department East, April 12, 1886.

Hoff, Jno. Van R., captain and assistant surgeon. Leave of absence extended eleven months, with permission to leave the United States. S. O. 85, A. G. O., April 12, 1886.

Barnett, Richards, captain and assistant surgeon. Granted leave of absence for two months. S. O. 16, Division of the Atlantic, April 12, 1886.

Birmingham, H. P., captain and assistant surgeon. (Camp Grant, New York City). temporarily assigned to duty at Fort Columbus, New York Harbor. S. O. 72, Department East, April 8, 1886.

Wales, Philip G., first lieutenant and assistant surgeon. Granted leave of absence for two months. S. O. 85, A. G. O., April 12, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 13, 1886.

Crawford. M. H., passed assistant surgeon. Detached from the "Shenandoah" on the 8th inst., and wait orders.

Rush, C. W., assistant surgeon. Detached from the "New Hampshire" on the 15th inst. and ordered to United States Revenue Steamship "Franklin."

SOCIETY NOTICES.

Norfolk District Medical Society.—A meeting for Scientific Improvement will be held at Room 7, Palladio-Hall Building, corner of Warren and Dudley Streets, Roxbury, April 27. at 7 45 p.m. Communications: I. "A Case of Tetanus," H. P. Mansfield, M.D. II. "Writers' Cramp," I. H. Hazelton, M.D. The discussion will be opened by Seranus Bowen, M.D. III. Exhibition of fœtal bones, taken from a case of combined extra-uterine pregnancy and dermoid cysts, Edw. G. West, M.D. Members of other Districts are welcomed.

S. Allen Potter, M.D., *Secretary.*

Suffolk District Medical Society. — The annual meeting will be held at 19 Boylston Place, on Saturday, April 24, 1886, at 7.45 p.m. Papers: Dr. James R. Chadwick, "Cases of Atresia of the Genital Canal." Dr. A. L. Mason, "Clinical Cases." Incidental Business: Reports of the Treasurer, Librarian, the Committee on Social Meetings, and the Nominating Committee. Election of Officers. Supper after the meeting.

Charles M. Green, *Secretary.*

NOTICE.

Arrangements have been made by the Fitchburg R. R. Company for special rates from Boston to St. Louis and return, in connection with the meeting of the American Medical Association. Palace sleeping-cars, the "New Zealand" and "Lancaster," are run via. this line and Niagara Falls to St. Louis, leaving Boston at 3 p.m. daily, arriving at St. Louis the second morning at 7 o'clock. Those who pay the full fare to St. Louis can secure return tickets for one-third the usual rate. Delegates who may choose this route are invited to send their names to J. R. Watson, General Passenger Agent, who will have sleeping car accommodations assigned for them.

The Boston and Albany R. R. will, upon application at their office, 232 Washington St., Boston, sell to delegates and *their families*, tickets to St. Louis for one and one-third fares for round trip. A parlor-car to run through from Boston to St. Louis without change will be attached to the train leaving Boston at 3 p.m., May 1st.

BOOKS AND PAMPHLETS RECEIVED.

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromo-lithographs and wood engravings. Edited by Albert H. Buck, M.D. Vol. II. William Wood & Co. New York.

A Bill to Promote Mendicancy. Facts and Figures showing that the South does not need Federal Aid for her Schools. (A Reprint of Editorial Articles published in the New York Evening Post during January, February and March, 1886.) New York Evening Post Publishing Co. 1886.

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Original Articles.

SHOULD NURSES WHO ARE TUBERCULOUS BE ALLOWED THE CARE OF CHILDREN?[1]

BY W. W. GANNETT, M.D., OF BOSTON.

To prevent any misapprehension, it may be stated that the term nurse, as here used, does not include wet-nurses, but is intended to apply to those having the ordinary care of children.

Although the question of the transmissibility of tuberculosis is by no means a new one, yet the general opinion in the past has been that tuberculosis was not to be regarded as a contagious disease, and that attendance upon one ill with this disease was not likely to lead to its reproduction in a nurse, or members of a family having the care of such a person.

Recently, however, cases have been reported in which the suggestion was direct that tuberculosis had been transmitted from man to wife, or *vice versa*, such transmission occurring either through the sexual apparatus, the one locally infecting the other; or through the air passages, the air inspired by the healthy spouse having been rendered infectious by the diseased one.

The question to which your attention is called to-night, is one which, so far as the writer knows, has not yet been discussed, and relates to the possibility of children becoming tubercular by direct infection from their nurses, who are already tubercular.

It may not be expedient to separate a man and wife, the one being tubercular, or to isolate a member of a family in a like condition; but the readiness with which one can discharge or make other provision for a nurse-maid who may be tubercular is so apparent, that no objection can be urged against removing from children this possible source of infection.

Before describing the two cases which directed the writer's attention to the subject of the paper, a few preliminary points will be mentioned.

From the time of Villemin's inoculation experiments in 1865, to the publication of Cohnheim's paper on the "Infectious Nature of Tuberculosis," in the latter part of 1879, the arguments in favor of the idea of tuberculosis being an infectious disease had become so numerous and convincing, that only the climax of Koch's discovery of the tubercle bacillus was needed to place the disease among those classed as infectious; by which is meant a disease brought about by the introduction into the system of a material capable of reproducing itself, capable of transfer in the organism, and capable, by its presence, of setting up tissue changes, which are often of a specific character, and are closely allied to inflammatory processes. In the present state of knowledge, these requirements can be fulfilled only by micro-organisms.

The isolation of the tubercle bacilli, their pure cultivation outside the body, in appropriate media, for repeated generations; the never-failing reproduction of tuberculosis in many of the lower animals by inoculation with micro-organisms so cultivated, are sufficient proof that tuberculosis is an infectious disease, and that Koch's tubercle bacillus is the infective agent, although the manner in which it acts is not known.

Granting, then, that tuberculosis is an infectious disease; granting, further, if you will, that the infective agent is Koch's tubercle bacillus, then it, of necessity, follows that tubercle bacilli are present in every case of tuberculosis, in its active stage, at least.

If, then, tubercle bacilli cause tuberculosis, and if in every case of tuberculosis tubercle bacilli are present, then every individual who is tuberculous must in his organism have the necessary factors for causing tuberculosis. Further, if the tubercular lesion is so situated that the tubercle bacilli may, by any channels, be set free from the body, then that individual becomes a possible source of infection to those around him; and if the bacilli find lodgement, and develop in another person in whom a favorable soil is present, that second person thereby becomes tubercular.

In the sputa of those whose lungs are the seat of a chronic tubercular process, and in the expired air of the same individuals, tubercle bacilli are present. Such sputa expectorated on a handkerchief, in a vessel of any sort, or upon the floor, readily dry, and the bacilli may be floated in the air.

Hence it follows that patients with chronic tuberculosis of the lungs are a possible source of danger to those around them, through the medium of their expired air and their sputa.

Your attention is now asked to two fatal cases of tuberculosis occurring in young and previously healthy children, with no hereditary predisposition to the disease, surrounded by otherwise good hygienic conditions, but who were both for a considerable time under the daily care, and for a shorter period, under the daily and nightly care, of nurses who were tubercular.

In connection with the cases, two questions arise: First, can it be proven that the infection of the children resulted from association with their nurses? Second, on the ground of probabilities, is such an inference allowable? To the first question a negative answer must be given; to the second, a consideration of the facts leads the writer to an affirmative.

If this conclusion be a warrantable one, then it behooves parents to use especial care in the selection of nurses, lest they be tubercular, calling the aid of a physician, if need be, to decide the point; and further, to remove at once children from the care of a nurse, who, during her service, shows the least evidence of beginning tuberculosis.

Case I. A child of four years, eleven months, previously healthy, except for occasional attacks of tonsillitis, dies under symptoms of meningitis, after an illness of three weeks. [For a full account of the clinical report of the case, see report by Dr. Jacques in the *Boston Medical and Surgical Journal*, July 2, 1885.] The autopsy was made by the writer eighteen hours after death.

Diagnosis. Tubercular meningitis; acute hydrocephalus; acute ependymitis; tuberculosis of velum interpositum; chronic, circumscribed, tubercular broncho-pneumonia; chronic tuberculosis of the bronchial lymph-glands; miliary tuberculosis of the spleen; tubercular ulceration of a slight degree of the intestine. Body medium-sized (for age); well developed; much emaciated; slight lividity of dependent portions; rigor mortis present.

Nothing unusual was observed about the calvaria or dura; the sinuses of the latter contained partly coagulated blood. The pia of the convexities of the brain very dry; the vessels minutely injected. The convolutions flattened, the sulci obliterated. The pia of the base along the chiasma, and in the fissures of Sylvius, was thickened, and opaque yellowish-gray, from the presence of fibrino-purulent material in its meshes. In the above situations, also on the under surface of the frontal and temporal lobes; also on the pons and inner borders of the occipital lobes, were to be seen very numerous, gray, translucent nodules, the size of a pin's head. The lateral ventricles contained each about fifty c.c. of a slightly opaque fluid. The ependyma thickened, grayish, and opaque. The choroid plexuses and velum interpositum markedly injected. In the latter, were to be seen several small nodules, similar to those described in connection with the pia of the base.

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[1] Read at the Boston Society for Medical Improvement, April 19th, 1886.

Section of the hemispheres showed nothing remarkable, the puncta cruenta being of the usual size and number.

The basal ganglia, pons, medulla, and cerebellum showed no appearances worthy of special note.

The heart of the usual size, and so far as its valves, cavities and muscular substance are concerned showed nothing unusual.

The pleural surfaces on both sides free from adhesions; the pleural cavities contained no fluid.

Both lungs retracted; everywhere crepitant except at the apices, where small nodules could be felt within the lungs.

On section at the top of the left lung, was an opaque, grayish-yellow, cheesy nodule the size of a pea, surrounded by a narrow border of gray, translucent tissue. At the top of the right lung were several closely aggregated nodules of a similar appearance, forming, together, a mass the size of a small walnut. Otherwise the lungs showed nothing remarkable.

A microscopic examination of these nodules, after hardening, showed the central portion to be finely granular, cheesy; the peripheral gray translucent zone to be made up of numerous well-marked tubercles, with giant-cells, the neighboring alveoli containing round cells.

The bronchial lymph-glands were enlarged to the size of filberts, showing on section a yellowish, opaque, crumbling material.

The spleen was of the usual size, color, and density. On section, follicles and trabeculæ fairly distinct; pulp firm, pale-red in color. Two or three gray, translucent sharply defined, slightly projecting nodules, the size of the prick of a pin were to be seen.

Kidneys not remarkable.

In the lower third of the ileum were several circumscribed losses of substance of the mucous membrane: the edges elevated, the bases granular.

Liver showed nothing unusual.

Although no examination for the tubercle bacilli was made in this case, yet they were doubtless present, as the appearances in the organs were so characteristic of tuberculosis as to leave no doubt as to the correctness of the diagnosis.

Attention is now called to those points in the case which may throw light upon the origin of the tuberculosis, and relate to the antecedents of the child and its relations to its nurse.

Family History: — The paternal parent, grandparents, great grandparents and all collaterals, so far as known, were free from tuberculosis. The maternal parent, grandparents and great grandparents were also free from tuberculosis. Among the collaterals a possible case of tuberculosis exists. It is a great aunt now living at the age of seventy-two, who is said to have been delicate since her twentieth year, and is said to have a posterior curvature of the spine, which may be due to Potts' disease. The child in question was remarkably healthy as a baby, was nursed at the mother's breast until nine months old, from then till the eighteenth month had cows' milk in addition to other food, but after this period took scarcely any milk. At the age of fourteen months the child came under the care of the nurse in question. She was a Prince Edward's Island woman, then about twenty-six years old, of a healthy appearance, though rather pale. She had lost one sister of consumption, but any further details of her family history are not now obtainable. This nurse remained in the family caring for the child a period of three years and five months, from the fourteenth to fifty-fifth month of the child's life.

The first two years of the nurse's term of service were spent in Europe, the parents travelling. During this time the child was in the care of the nurse daytimes, sitting much in her lap with his head on her left shoulder. She was an excellent story-teller, and for hours the child would sit in this position listening to her tales. The mutual affection became in this way very strong. At night the child slept with his parents. The nurse was apparently cleanly in her person and habits, and during her stay abroad was well, so far as known, except for occasional dyspepsia.

On the return from Europe a similar method of life was carried out.

When the child was four years and two and a half months old the parents made a journey leaving the child in the sole charge of the nurse, it sleeping with her at night as well as being in her care during the daytime. This was from early in May till the twenty-second of July.

In June of this period she consulted a well-known physician in Boston for emaciation, cough, and loss of strength. He found evidences of consolidation at one of the apices. After the return of the parents the child continued under the constant care of the nurse until the latter part of August, when, from increasing weakness, she became unable to do her work and was sent to Colorado Springs, where she still remains.

It was in December, four months after the separation of the child and nurse that the fatal illness occurred.

It can be positively stated in regard to the nurse that there were evidences of consolidation of the apex of one lung, but whether this was a tubercular process and whether or not tubercle bacilli were present in the sputa cannot be shown, but the chances are greatly in favor of an affirmative answer to both questions. It is also certain that the child was brought into the closest contact with the nurse during a period of three months when the latter was known to have disease of the lungs. How much further back than June the nurse's disease is to be dated it is impossible to say, but probably several months.

To return to the results of the autopsy. It showed definitely that the child died of tuberculosis. Does it give information in regard to the channel through which the infective material reached the body and in regard to the length of time that the process had been going on? It seems to the writer that there is both direct and indirect evidence in favor of the primary invasion having been through the lungs; direct, in that the tubercular process in the lungs and bronchial lymph-glands was the oldest found in the body; indirect, by exclusion, which may be explained as follows:

The presence of tubercle bacilli in the body may be accounted for, in general, in the following way:

First. By direct transmission in utero from the mother.

Second. By introduction from without during extra-uterine life. Under this latter head the avenues are as follows:

(*a*) By food, as milk, or through the agency of any articles put into the mouth on which tubercle bacilli are present.

(*b*) Through the genito-urinary tract.

(*c*) Through wounds of the external surface.

(*d*) Through the lungs by means of the inspired air.

Granting for the moment that it is possible for a tuberculous mother to transmit bacilli to her child in utero, this source is not possible in the present case, for neither the mother nor more remote generations are or were tubercular.

The bacilli could not have gained entrance by the milk during the first nine months of extra-uterine life, for the child had only its mother's milk, and she was not tubercular. It is *possible* that the infection occurred later through the alimentary canal, but not *probable*, in that the intestinal changes were slight and not of very long duration.

Entrance through the genito-urinary tract may be excluded in this case.

No evidence of an earlier external wound or peripheral cheesy focus could be found about the body of the child, although a careful search was made at the autopsy. Hence by exclusion of other avenues of infection, the air passages become the probable avenue.

Granting that the infection occurred through the air-passages, the inspired air then becomes the carrier of the infective agent, that is, it carried suspended in it tubercle bacilli. The next question is as to the source of the tubercle bacilli. It has been shown that the nurse had a process, probably tubercular, going on in the lung, hence she might have furnished the tubercle bacilli; moreover, there is no other known source in the child's surroundings, although it is of course possible that both nurse and child were infected from a third and common source.

It is here that the weak points in the argument come in, in that it cannot be proven that the nurse was discharging tubercle-bacilli from her lungs, although this is very probable; nor can it be proven that the bacilli from the nurse's lungs were the actual bacilli which entered the child's lung.

These are questions of probability, of a greater or less degree, and the facts having been stated as above, each hearer must decide according to his personal equation of scepticism, if one may be allowed the term. The writer cannot but feel, however, that the probabilities are in favor of the child having been infected by the nurse.

One more point is to be mentioned. The child was not associated with the nurse during the last four months of its life, and died of an acute disease of only a few weeks duration. This, however, is in no way an argument against the idea of the infection having occurred from the nurse; for meningeal tuberculosis is always a secondary infection, and finding it, one always looks in other parts of the body for an older tubercular process. This was to be found in this case in the lungs and bronchial lymph-glands, and there was internal evidence that the process in the latter situations had been going on for months rather than weeks. Hence, so far as time is concerned, the infection might have arisen from the nurse.

The second case is that of a child dying at the age of eighteen months, after an illness of four to six weeks, the details of which, together with the appearances of certain of the organs removed post-mortem will be mentioned later.

Family history: On the father's side there had been no case of tuberculosis for three generations in the direct line. Among collaterals a great aunt died of this disease, after having nursed her husband, who had died of this disease. This was the only case among families that had been unusually large.

A cousin of the mother died of phthisis, but in the direct line no case has occurred, and this is the only one among collateral branches.

The child was the youngest of three, and of a good constitution. The nurse of this child was a Scotch woman, twenty-two years old, of slender build, with round shoulders and flat chest, and had all her life been subject, at intervals, to coughs and colds. Of her family history nothing is known. She became nurse to the child when he was six weeks old and remained in this capacity till he was sixteen months old, leaving six weeks before his death. During the earlier part of her stay she was well except for occasional colds, but during the last four months she failed in strength, became pale and had a cough. Her leaving the family was due to inability to do her work on account of failing health and strength. She was examined by a physician here, who stated that she was in a "bad way." This probably means that he found evidences of disease of the lung; for the girl at once returned to Scotland, where, upon her arrival, she was examined by a physician who found undoubted signs of pulmonary disease. She has since steadily failed in strength, and at last accounts was too weak to leave the house.

From the time of the nurse's coming to the family in April, 1884, up to March, 1885, a period of eleven months, the child was in her care during the day, but did not sleep with her. She held him much in her arms with his head on her shoulder, and kissed him a great deal.

For a period of two months, from March to May, 1885, owing to the illness of its mother, the child was removed to its grandmother's house and was cared for constantly, day and night, by this nurse.

When the mother again saw the child, May 17th, two months having elapsed since she last saw him, she was struck by the change in his appearance. The eyes were unusually glistening, the skin clear, and white, both cheeks showing a pinkish hue. The nurse had also failed markedly.

This was May 17th, seven weeks before the death of the child. Soon after a cough ensued, which became severe, and on June 12th, a diagnosis of whooping-cough was made by a specialist in children's diseases.

Already symptoms referable to the central nervous system had set in. On June 15th the child had been first noticed to throw its head back and to utter a shrill cry; these symptoms attracted attention at once as the child had always been of a quiet disposition. These symptoms, with restlessness, continued. From July 1st to July 9th, the date of its death, there were three or four convulsions; deviation of the eyes; head drawn back much of the time, or else bored into the pillow, and great restlessness. Death.

The father, a doctor of medicine, though not a practitioner, feels confident that there was meningitis.

An autopsy was made, and the two specimens which will be shown, were brought to the writer for diagnosis, especially with reference to tuberculosis. They consisted of the lower portion of the trachea and upper portions of both bronchi, surrounded by a mass of enlarged and cheesy lymph-glands; also a small piece of the liver.

An examination of the cheesy material of the bronchial lymph-glands by Ehrlich's method showed the presence of tubercle bacilli. The liver was found by microscopic examination to contain very numerous miliary tubercles.

The lungs were described as dark, firm, non-aërated, with a few emphysematous patches, also numerous cheesy nodules scattered through the lungs. The first description might apply to an atelectasis, or a recent pneumonia. The cheesy nodules represents in all probability the result of a chronic tubercular bronchopneumonia.

The brain was not examined.

That the case was one of tuberculosis admits of no doubt. The tubercle bacilli in the bronchial lymph-glands and the miliary tubercles in the liver are sufficient proof of this.

As to the means of introduction of the bacilli, it probably occurred through the air passages, as in the other case, the same argument holding here as there, except with reference to the alimentary tract, about which there is no information in this last case.

As to the source of the bacilli, here, as in the other case, no definite one can be found except the nurse. That she was tuberculous, or at least had disease of the lungs, while caring for the child by day and night, admits of but little doubt, in that she had to give up this service on account of failing health and strength, at a time just after she had been in the closest contact with the child.

The writer thinks that the remarks made in connection with the first case apply also to this one.

In conclusion, the writer wishes to state again that he does not believe that the facts alleged prove that the children were infected by their nurses, but he does believe that the facts show a sufficient degree of probability of such infection as to render it important for physicians to caution the laity about allowing children of a tender age to come into too close or frequent contact with nurses or others who are tubercular.

A SUCCESSFUL CASE OF LAPAROTOMY FOR PERITYPHLITIC ABSCESS.[1]

BY JOHN HOMANS, M.D.,

Instructor in Harvard University in the Diagnosis and Treatment of Ovarian Tumors and Visiting Surgeon to the Massachusetts General Hospital.

In the *Medical Record* of March 6th, 1886, appeared an excellent article by Dr. W. T. Bull on the subject of early interference in cases of perityphlitic abscess. The case upon which I have lately operated is one of earlier interference than that of Dr. Bull if we date from the first symptom of pain, but a later one by about a day if we date from the time the patient took to his bed. At the same time as my patient was a boy of eleven, he may not have remembered his symptoms and the duration and locality of his pain as well as an adult would have done. Dr. J. S. Greene, of Dorchester, was called to see the boy on Saturday evening, January 9th, 1886. I operated on Monday, January 11th. Laparotomy was done without previous aspiration, over the most tender point, which was one and a half inches above and a little posterior to the right antero-superior spine of the ilium. You will notice that this laparotomy was done within forty-eight hours of the doctor's first visit, and while the patient had been in bed less than four days. The very first reported symptom of pain and uneasiness had appeared within five days. All the cases of acute perityphlitis that I had seen demonstrated by dissection had been at autopsies, and death had usually taken place about a week after the first symptom had appeared. Dr. Greene and I decided not to wait for the autopsy. Dr. Bull's patient had a steady, dull pain in the inguinal region for ten days before he took to his bed, so that if we date from the period of decubitus, Dr. Bull's operation is the earlier, if from the first symptom of disturbance mine is the earlier. But this is a question of little importance, and as I have hinted above, the boy may have had a dull ache and not have mentioned it. The point which Dr. Bull and I would agree in urging upon the profession is that in most of these cases an operation to be of any service must be done *early, very early.* I could not find a very dull place in which to pass a needle and so I thought it more intelligent to dissect down through the locality of greatest tenderness. I think the wisdom of this was shown by the operation, for I came down first on perfectly healthy bowel and it was only by separating and poking the loops of intestine apart that I was able to open the abscess. If I had thrust in the needle at the point where I made the incision I should have perforated the bowel at least four times before I could have struck the collection of pus and then I might have missed it. If I had aspirated just below the kidney in the right loin I should have hit the right spot, and perhaps this would have been better surgery in point of drainage and as not opening the peritoneum. However, as the patient was cured, it may be that my incision was as well placed as one further behind would have been. I will give you the history of the case that you may understand it more clearly. The patient was a boy eleven years old, never robust. On Wednesday, January 6th, he had some pain in the bowels, on Thursday more pain, but he kept about; on Friday his pain became worse and he called attention to it and remained in bed. On this day he had a dejection; Dr. Greene saw him on Saturday evening, the 9th, and found him in bed with a pulse of 120, and a temperature of 102.4°. His tongue was coated white. There was dulness on percussion over the right iliac and lumbar regions with the centre of tenderness about one and a half inches above the anterior spine of the ilium. There was no swelling. The other parts of the abdomen were somewhat compressible. Morphia was given and a poultice applied. On Monday, the 11th, the pulse was more frequent and the abdomen less yielding. Small quantities of liquid nourishment had been taken and retained. Dr. Greene called me to see the patient in the afternoon, and I performed laparotomy at the point above mentioned. No spray was used. An incision was made and the peritoneum opened; the healthy bowel presented itself; on passing my finger below and behind the presenting loops I felt coils of intestine filled with fæcal masses, or perhaps also enlarged glands. The loops of intestines were adherent to each other by a recent plastic process and by poking about with my finger and separating them I opened an abscess and about two ounces or more of foul smelling ("rotten egg") pus welled up out of the wound; so far as we could, we prevented the pus from running in among the coils of intestine and after emptying the abscess as well as possible, a double rubber drainage tube was passed into the cavity and the incision closed around the projecting ends of the india-rubber tube. The boy did not sit up out of bed till February 3d, about three weeks after the operation. His temperature varied from 99 to 102.9° and he required opiates for four days. His bowels moved on January 15th. The wound discharged freely for a fortnight and united by granulation. He is now well, hearty and strong and is gaining flesh. There is not the least tendency to hernia, but I have had an elastic abdominal supporter fitted, as I always do after a recovery from laparotomy from whatever purpose done.

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[1] Read before the Surgical Section, Suffolk District Medical Society, April 19, 1886.

[Dr. Homans now showed the boy undressed.] As you see, the boy is fat and strong, and here is the cicatrix of the operation.

The credit of the cure belongs more to Dr. Greene than to me, as I was only his instrument in the case.

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LOCALIZED AMYLOID DEGENERATION; AMYLOID LYMPHOMA. (?)

BY REGINALD H. FITZ, M.D.,
Shattuck Professor of Pathological Anatomy, Harvard University.

In the report[1] of a late meeting of the Boston Society for Medical Improvement it is stated that an amyloid submaxillary tumor was shown to the Society. Owing to the extreme rarity of the affection it seems desirable that a more detailed description should be given of the characteristics of the case. Mr. G. H. Francis of the Massachusetts General Hospital, has sent all the data there recorded. These were collected before the importance of the growth was fully appreciated. An attempt to obtain further information from the patient, after discharge, was unsuccessful.

She was an adult who had always been well. Three years ago she noticed a small, hard lump just below the jaw, and about an inch in front of the angle. The growth was very slow, and until within four months was of the size of a walnut. When she entered the Hospital the external tumor was about three-quarters of the size of a hen's egg. An operation for its removal was successfully performed by Dr. A. T. Cabot. He found the growth deeply seated but not closely adherent to the surrounding tissues.

The specimen was an elongated, globular, coarsely lobulated mass, about the size of a pigeon's egg, and of a density suggesting that of cartilage. The surface was smooth from the presence of a thin, fibrous capsule. The cut surface was smooth, homogeneous and translucent. Its color was a pale, reddish-gray sprinkled with occasional irregular, small, opaque, yellow spots, and became of a darker red on prolonged exposure to the air. The cut surface was streaked here and there with opaque gray lines. When a solution of iodine was applied, dark, reddish-brown patches appeared.

Sections of the fresh specimen were examined with the microscope. Numerous rounded and elongated patches and streaks of a homogeneous glistening appearance were seen. These become of a carmine tint when stained with methyl-violet, and of a blue color when treated with iodine and sulphuric acid.

After the tumor had been preserved for some days in alcohol, sections were prepared for microscopic examination. Although the greater part had undergone the amyloid degeneration certain portions still showed structural details. Numerous round cells corresponding in size with white blood-corpuscles, and for the most part with a single, relatively large, nucleus, were grouped together more or less abundantly, but without closely simulating known typical structures. The cells were occasionally accumulated in rounded and elongated cavities with a thin smooth wall, suggesting lymph vessels. There was but little intercellular substance and this was homogeneous or fibrillated, not definitely reticulated. Arteries and veins were readily recognized. There were no epithelial structures to be seen.

When iodine was added to the sections from the alcoholic specimen these became dark-brown in patches but elsewhere assumed a brick-red color. This difference in reaction corresponded with a variation in the distribution of the hyaline material. The dark-brown patches were the rounded masses, with indented border, at first suggesting concretions sharply defined by the surrounding fibrous tissue. When stained with lithium-carmine these apparent concretions were found to be traversed by rare delicate capillaries and more frequent lines of elongated cells with occasional fibres. The brick-red portions were composed of the hyaline material in the form of an irregular net-work of coarse lines between which were unaltered fibres and cells.

The micro-chemical examination of the tumor thus confirmed the diagnosis of amyloid degeneration indicated by the macroscopic reaction with iodine. The nature and origin of the tumor was less apparent. Its shape, size and seat suggested a lymphoma. The absence of epithelial structures and the presence of abundant cells resembling leucocytes favored this view. The arrangement of cells though not characteristically lymphadenoid, more nearly resembled that of a lymphatic gland than of any other normal structure. The presence of degenerated lymph-follicles was directly suggested by the amyloid clumps already described.

The occurrence of localized amyloid disease is well recognized in all the recent works on pathological anatomy. It is stated to have been found in old blood-clots, in endocardial thrombi, and in a nodule of old hæmorrhagic infarction. It has been observed in syphilitic scars, chronic ulcers, tumors of the larynx and conjunctiva (trachoma) and in cancer of the stomach. Its presence in keratitis and in degenerated cartilage has also been noticed. Virchow[2] found evidence of amyloid disease of lymphatic glands near diseased bone. Amyloid axillary glands were observed by Billroth[3] near a carious shoulder-joint in a tuberculous patient in whom there was no amyloid disease elsewhere. Birch-Hirschfeld[4] states that he found amyloid lymphatic glands in the mesentery of a person who had recovered from typhoid fever. The only recorded case analogous to the one here reported is that observed by Billroth.[5] The patient, a female, was twenty-eight years old, and for eleven years had a tumor of the right side of the neck. It had gradually become as large as a goose-egg. and then remained stationary for several years. The gross characteristics, the microscopical appearances and the chemical reactions correspond closely with these features as observed in Dr. Cabot's case.

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[1] Journal, 1886. CXIV, 158.

[2] Virchow's Archiv. 1885. viii, 366.

[3] Beiträge zur Path. Histologie, 1868. 177.

[4] Lehrbuch der Path. Anatomie, 2 aufl. 1882, I, 46.

[5] Loc. cit. 186.

There can be no reasonable doubt that the cases are identical in character. The presumption of the lymphomatous nature of the submaxillary tumor becomes strengthened by its resemblance to the cervical growth. In the latter, Billroth found in a few places a distinctive lymphadenoid structure.

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THE OPERATION OF SHORTENING THE ROUND LIGAMENTS, WITH TWO CASES.[1]

BY F. B. HARRINGTON, M.D.

Carolus Stephanus, an anatomist of the sixteenth century, is said to have discovered the round ligaments of the uterus.

Gray[2] says: "The round ligaments are two rounded cords, between four and five inches in length, situated between the layers of the broad ligament in front of and below the Fallopian tube. Commencing on each side at the superior angle of the uterus, this ligament passes forward and outward through the internal abdominal ring, along the inguinal canal to the labia majora in which it becomes lost. The round ligament consists of areolor tissues, vessels and nerves. besides a dense bundle of fibrous tissue and muscular fibres prolonged from the uterus, inclosed in a duplicature of the peritoneum, which, in the fœtus, is prolonged in the form of a tubular process for a short distance into the inguinal canal."

Rainey[3] believes that the principal function of these ligaments is to draw the uterus towards the symphysis pubis during sexual intercourse, and thus favor the ascent of the semen. He says, "The so-called round ligaments of the uterus, regarded as a muscle, may be said to arise by three fasciculi of tendinous fibres, the inner from the tendon of the internal oblique and the transversalis is near to the symphisis pubis; the middle (fasciculus) from the superior column of the external ring near to its upper part, and the external fasciculus from the inferior column of the ring, just above Gimbernat's ligament. From these attachments the fibres pass backwards and outwards, soon becoming fleshy. They then unite in a rounded cord, which passes through in front of the spermatic artery. It then gets between the two layers of the perinæum, forming the broad ligament, along which it passes backwards, downwards, and inwards to the anterior and superior part of the uterus, into which its fibres, after spreading out a little, may be said to be inserted.

Dr. James A. Adams[4] says, "Besides muscular tissue there is an abundance of fibro-areolar tissue intermixed." Adams believes that the round ligaments are active during parturition, fixing and maintaining the uterus in due relation to the pelvis.

During pregnancy, as is well-known, the round ligaments are much enlarged, and there is an increase of muscular development.

Alquié, a French surgeon, in 1840, proposed and discussed with details the operation of shortening the round ligaments. The proposition was condemned, and attracted little or no favorable attention. There were no operations on living subjects. Aran, Deneffe, Soupart, Burggroeve, Revington, Freund, Schultze, and Adams subsequently proposed the same operation.[5]

Dr. William Alexander, on December 14, 1881, successfully operated on a case of prolapsus uteri by pulling out and shortening the round ligaments. Since that time he has operated upon a large number of cases with good results. Dr. Alexander, although not the originator of the operation, is the surgeon to whom the credit of its first repeated and successful performance is due.

The result of drawing out the round ligaments through the external abdominal rings is to lift the uterus and broad ligament upward and forward. With a movable uterus this can, almost without exception. be accomplished. Backward displacements and prolapse of the uterus can thus be corrected. What now is needed is the testimony of operators regarding the difficulties, the dangers and the final results of the operation. After considering the statistics, and from a limited personal experience, I should say that the operation was one of great merit in appropriate cases.

I have been able to find reports of one hundred and forty cases by twenty-one operators. Sixteen of these twenty-one operators, who operated upon one hundred and twenty-six of the cases, look upon the operation with favor. Four operators, who have had nine cases, are in doubt as to the value of the operation, or express no opinion. Two operators, who have had five cases, look upon the operation with disfavor because of the difficulties. the dangers, or the poor results.

Three deaths, as the result of the operation, have been reported. One of these occurred in the practice of Dr. Alexander. The patient died with signs of pyæmia, due, he thinks, to a lack of care and cleanliness. Dr. Coe[6] reported an autopsy in which death followed an operation on the round ligaments. There had been sloughing of the round ligaments and pyæmia. There was no peritonitis. A third death occurred in the hands of a Liverpool surgeon, and is referred to by Dr. Alexander as the result of pyæmia.

Doléris (*loc. cit.*) thinks that Alexander[7] makes too little of the difficulties and dangers of the operation. Mundé failed to find the ligaments in three out of six cases. Alexander has never failed to find them. In one case, a ligament which he could not find was afterwards discovered at a later operation. Dr. Imlach never failed to find the ligaments in thirty-six cases. Alexander, before the British Gynæcological Society,[8] said: "The operation is a delicate one, and quite different from nearly all the ordinary operations. It resembles most ligature of arteries or neurotomies, but from both it differs in many essential particulars. In the ligature of arteries, the pulsation of the vessel guides us to the spot, and assures us that we have reached the structure we seek. In looking for a nerve, we have a characteristic white structure to find, and twitching often shows us when we have found it. The round ligament does not pulsate, and is of a pale flesh color when first seen. It lies imbedded in other tissues,

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[1] Read before the Suffolk District Medical Society, Surgical Section, April 7, 1886.

[2] Anatomy, Descriptive and Surgical.

[3] On the Structure and Use of the Ligamentum Rotundum Uteri. Lond., Phil., Tr. 1880.

[4] A New Operation for Uterine Displacements. Glasgow Med. Jour., June, 1882.

[5] Doléris. Nouvelles Archives d'Obstétrique et de Gynecologie, January, 1886.

[6] American Journal Obstetrics, November, 1885.

[7] "Shortening the Round Ligaments," London, 1884.

[8] British Gynæcological Journal, November, 1885.

Operator.	No. of Cases.	Results Good.	Results Bad.	Pro-lapse.	Retro-version.	Retro-flexion.	Not Specified.	Remarks.	Opinion of the Operator.	Reference.
Alexander, Wm.	40	37	3	11	6	5	18	One Death.	Excellent	Brit. Gyn. Jour., Nov., 1885.
Imlach,	36	36	–	4	–	–	32	....	"	" " " Nov., 1885.
Lediard, H.	4	4	–	4	–	–	–	....	"	Brit. Med. Jour., Feb. 23, 1884.
Burton,	13	13	–	2	11	–	–	....	Good.	" " " Nov., 1884.
Polk,	10	10	–	1	–	–	9		"	Amer. Jour. Obs., Feb., 1886.
Mundé,	6	2	4	–	–	–	6	See Note.	Doubtful.	" " " Feb., 1886.
Campbell, W. M.	4	4	–	2	2	–	–		Excellent	Liverp'l Med. Chir. Jour., July, '83.
Gardner, W.	9	9	–	2	–	7	–	....	Good.	Austral. Med. Jour., Sept., 1884.
Reid, Wm. L.	2	2	–	–	1	1	–	....	"	Brit. Med. Jour., Nov. 15, 1884.
Tait, Lawson	1	–	1	–	–	–	1	Nearly died.	Bad.	Brit. Gyn. Jour., Nov., 1885.
Duncan, Wm. A.	4	1 (?)	3	–	4	–	–	Was no relief.	"	Brit. Med. Jour., July, 1885.
Perrish, W. H.	1	–	1	–	–	1	–	....	Doubtful	N. Y. Med. Jour., May, 1885.
Allan, J.	1	1	–	1	–	–	–	....	Good.	Lancet, June 7, 1885.
Zeiss,	1	1	–	–	–	1	–	....	"	Centralblatt für Gynäc., 44, 1885.
Nancrede, C. B.	1	–	–	1	–	–	–	....	"	Phil. Med. Surg Rep., Dec., 1885.
Sinclair, A. J.	1	1	–	1	–	–	–	....	Doubtful.	Tr. Edin. Obs. Soc., 1884–85.
Elder, G.	1	1	–	–	1	–	–	....	Excellent	Brit. Med. Jour., Nov., 1884.
Winslow, R.	1	1	–	1	–	–	–	. ..	Good.	Phil. Med. News, XLV., 1885.
Miller, R.	2	2	–	2	–	–	–	....	"	Glasg. Med. Jour., XXII., 1884.
Adams, J. A.	1	–	1	–	–	–	1	....	"	....
Smith, J. B.	1	–	1	–	–	1	–	....	Doubtful.	Bristol Med. Chir. Jour., No. I.
Harrington, F. B.	2	2 (?)	–	–	1	1	–	....	Good.	....
	142	127	14	32	26	17	67			

Note.— The operator failed to find Ligaments in three cases.

that, by the inexperienced, might easily be mistaken for it. Its white sheen only appears when pulled out."

The control which the ligaments have over the position of the uterus, when not fixed by adhesions or by other means, is demonstrable on any female cadaver. The uterus may be drawn into the position desired, and the shortened ligaments made fast to the tissues about the external ring. If care in the after-treatment be used, it seems to be demonstrated that the shortened ligaments have the power to retain the uterus in its corrected position.

Dr. Alexander reports cases which have stood the test for three and four years. The operation is not without difficulties and dangers, nor is any operation. In the description of the following cases, the writer will endeavor to give an idea of the method of operating.

Case I. Mrs. W——, twenty-eight years of age, has suffered, since the birth of her child, seven years ago, with backache and dragging pains, which have, at times, incapacitated her for work. The uterus was retroverted and prolapsed in the first degree. For a year and a half she had obtained partial relief by wearing a pessary. Owing to the sensitive condition of the parts, it was necessary to frequently remove the pessary, when the old displacement and suffering would return. Being dependent upon her exertion for support, she became anxious to avoid the repeated loss of time, and the suffering incident to the wearing of a pessary, and asked to be relieved by operation, if possible. She eagerly accepted the chance for relief which shortening the ligaments afforded. With the assistance of Drs. Strong and Monks, the ligaments were shortened about two and one-half inches. The pubes having been shaved, an incision in a line with Poupart's ligament was made from the spine of the pubes, extending outward from two to two and one-half inches. Having cut through the superficial tissues, the tendon of the external oblique soon appeared. When the tip of the finger was inserted into the wound, the pillars of the ring could be felt near the spine of the pubes. These being exposed, a mass consisting largely of fat was seen filling the canal. This mass was raised upon a director until it could be seized by the fingers. Gentle and interrupted traction brought out various bands adherent to the sides of the canal. These were cut as they appeared. Gradually the mass lost its yellow, fatty character. As more and more was drawn into view, it became larger, round, and glistening white, with here and there a streak of muscular tissue.

The operation was repeated on the other ligament, with a like result. It was found, on examination, that the ligaments controlled the position of the uterus. They were drawn out until the uterus was held in a position in which it was placed by the uterine sound. On each side, the ligament was made fast to the pillars of the ring and to the fascia about the pubes, by means of fine silk sutures. The redundant ligaments were carefully handled and packed in the wounds. Careful antiseptic precautions were observed. The canal was made dry and free from blood. The wounds were closed with catgut, and covered with a tightly-fitting iodoform dressing. The dressings were attached to an elastic band about the body, which ensured close approximation to the wounds.

When the sound was removed from the uterus, a pessary was placed in the vagina to remove all strain from the ligaments. The recovery from the operation, and the healing of the wounds were perfect.

There was no rise of temperature or of pulse following the operation. On the tenth day the dressings were removed. Complete union had taken place. The patient was kept in bed for three weeks. Six weeks after the operation, the uterus remained in its corrected position.

Case II. Mrs G——, thirty years of age, has suffered for three years with constant backache and pelvic pain. There was some prolapse of the uterus, and a sharp retroflexion of the body. The uterus measured three and one-fourth inches in depth. The retroflexion could be corrected, but when the repositor was removed, the uterus immediately returned to its old position. Having obtained no relief after many months of treatment, she was advised to try shortening of the round ligaments. With the assistance of Drs. Strong, Elliot, and Vickery, the ligaments were secured, as in the previous operation. The left ligament was much larger than the right, being nearly double its size. When the ligaments were drawn upon, the uterus was lifted, but the retroflexion was wholly uneffected. Following the plan of Alexander, a large stem-pessary was inserted into the uterine canal, which corrected the retroflexion. The ligaments were then shortened two and three-fourths inches, and attached as before. Severe ether-sickness, lasting thirty-six hours, followed, but the recovery was perfect. The dressings were removed on the ninth day. Four weeks after the operation, the position of the uterus was good, and the patient more comfortable than she had been for many months.

It is too early to determine positively the success of the operation in these two cases, but the prognosis is very favorable.

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REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

TREATMENT OF CONGENITAL SYPHILIS.[1]

Professor Monti, of Vienna, has written an article in the *Archiv. fur Kinderheilkunde*, in which he speaks of the old and new methods of treating congenital syphilis. He states that in the earlier treatment by inunction blue ointment was used and is to this day largely employed, but that the objection to it is that it oxidises too readily and is then apt to produce eczema. Oleate of mercury is extensively used instead of blue ointment, and mercurial plasters have also been employed, while Charcot recommends mercurial soap. Dr. Monti has had no personal experience with the soap, but he considers that all of these compounds are more or less unsuited to the tender skin of infants, the least objectionable, however, being the oleate of mercury. He moreover thinks that inunction involves considerable risk of the system, rapidly absorbing an excessive quantity of the drug, as in the case of very young infants this may lead to acute anæmia. He has also come to the conclusion that the sudden death, which he states is not an uncommon incident in hereditary syphilis, occurs with far greater frequency where inunction has been employed. For these reasons he has for some years ceased to use it where the children are under one year of age. He next speaks of calomel, which he states also has a tendency to produce anæmia and should therefore be given in combination with lactate of iron; this should be discontinued when the first symptoms have disappeared and saccharated iodide of iron substituted until the spleen is no longer felt or the skin has resumed its normal color; but should the disease reappear manifesting itself in the skin, mucous membrane or bones, calomel must again be resorted to. In some rare cases such as those where there is great irritability of the intestinal tract, a subcutaneous injection of a freshly prepared mixture of calomel suspended in mucilage may be administered. The treatment by corrosive sublimate gives very satisfactory results, provided that it is not continued too long, in which case symptoms of gastric irritation will supervene. This drug can also be administered in the form of a bath, which should contain about seven grains, but in Monti's experience, the effect upon the disease by this method is very slow, and should therefore be accompanied by calomel internally, and when this combination is employed, the baths seem to hasten the cure. The best way of giving corrosive sublimate is by subcutaneous injection.

The punctures are best made on the abdomen or chest, and should not be close together. The author states that the injections in general are well borne and in his experience never produced mercurialism, and cause very little loss of flesh. He cannot deny, however, that infants do not bear these injections as well as adults, and that even with the greatest care induration of the cellular tissue and abscesses at the seat of puncture may occur. It is also not suitable for outpatients, as the mother sdecline to bring the children after the first few times, so that notwithstanding that the symptoms subside more rapidly under this treatment than under any other, he has confined its use to cases that would not bear mercury internally. Albuminate of mercury as recommended by Bamberger, is preferable for hyperdermic use to corrosive sublimate, provided that the solution is clear, but it is very unstable and if used in a cloudy state, produces irritation and abscesses; much the same objection applies to mercury-peptone, though it is rather more stable. Formamide of mercury (Liebreich) is unsuited to children. Protiodide of mercury produces excellent results especially when combined in a powder with lactate of iron, and perhaps no other remedy acts so promptly upon syphilitic affections of the bones: it, however, unfortunately, produces diarrhœa and colic, and the addition of Dover's powder soon ceases to have the desired effect, so that Monti only gives it where bone affections exist from the beginning. Black oxide of mercury as recommended by Henoch, was found to produce vomiting, and was therefore soon given up. The author has only had a limited experience with hydrargyrum tannicum oxydulatum (Ludwig), but is favorably impressed by it as it does not appear to affect the digestive organs. Monti also states that it is now a recognized fact, that hereditary syphilis can be cured by preparations of iodine as well though more slowly, than by mercury. Iodide of potash is objectionable, and the best form to administer iodine is the saccharated iodide of iron; this is borne well by children of any age, improves their nutrition and never produces iodism, but it is much slower in its action than mercury, and is therefore best suited for very chronic cases. It should be given as a powder, for if the syrup is used, it is apt to produce diarrhœa. Three grains may be given, divided into ten powders, and a new-born child should take two or three of these powders daily, in milk.

PLEURAL SARCOMA.[2]

The difficulty and resulting hesitation which so often arise in making a definite diagnosis of pleuritic effusion in children, even where at first sight the physical signs seem simple and reliable, are so well recognized by those who examine large numbers of children, that the following rare case of sarcoma occurring in the practice of Professor Hofmokl of Vienna, and reported in the *London Medical Record*, is worthy of record and study. The patient, a boy aged seven years, had always been well until the present attack: his father died of tuberculosis; his mother was healthy. There was no history of any neoplasm on either side. Between December, 1883, and May, 1884, the child had had several transient feverish attacks, and the physician attending him at that time diagnosticated right pleuritic effusion. He was then sent into the country, but without benefit, and he returned in September, much wasted, with short breath and irritating cough. Professor Monti was called in consultation and diagnosticated right empyema. Professor Hofmokl first saw the patient October 10th, 1884, and was invited to perform the necessary operation. He was emaciated and was suffering from orthopnœa; the right side of the thorax was distended and barrel-shaped: its interspaces were stretched but not bulging; there was scarcely any movement with respiration; the superficial veins of the affected side were much distended. Near the right nipple there was a hemispherical bulging of the ribs. The left half of the thorax moved freely with respiration; its interspaces presented nothing abnormal. The heart's apex was pushed outwards to the left axillary line. Percussion on the right side behind, was clear above the spine of the scapula, completely dull below it. In front the apex alone was clear. A marked resistance was also felt on percussion in the dull regions. The left lung appeared to be compressed, but was otherwise normal. Upon auscultation, the right apex both in front and behind, yielded sharp resicular breathing, which as the spine of the scapula was approached, changed to bronchial, but at this point suddenly ceased. On the left side vesicular breathing was everywhere audible. The heart presented nothing abnormal excepting its change in position. The abdomen was much distended. There was no albuminuria. On October 12th, an exploratory puncture was made with Pravaz's syringe, in three different places, but only a few drops of sanguineous fluid was obtained. It was concluded that it was a case of tumor, probably pleural sarcoma.

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[1] Archiv. für Kinderheilk. London Med. Record, Jan. 15 1886, Leftwich.

[2] Archiv. für Kinderheilk., London Medical Record, March, 1886, Leftwich.

The child lingered for another month and then died, with symptoms of great disturbance of the circulation and dyspnœa. The autopsy was made by Dr. Weichselbaum. On opening the abdominal cavity, the right half of the diaphragm was seen greatly projecting with an uneven surface. The right half of the thorax was occupied by a solid mass of the size of a man's head. The surface of the tumor presented numerous flattish prominences of various sizes, and was everywhere covered with a thin vascular membrane, the pleura which was almost inseparable from the growth. There were a few adhesions to the ribs, but there was no invasion of their structure. The right lung was pushed upwards and backwards, and while the upper lobe still contained a little air, the middle and lower lobes were completely compressed. The tumor which had grown to the lung, was rather soft and showed on section three different parts; one resembling the gray substance of the brain, another reddish-gray and very vascular, and the third dry and yellowish like cheese. The bronchial and mediastrial glands were completely intact. The left lung was normal. The heart was hypertrophied; the right ventricle was somewhat dilated: the valves were normal; the abdominal organs were normal. Upon microscopic examination the gray portion showed a typical alveolar structure, the stroma being fibrillary and vascular and the spaces being crowded with fusiform and stellate cells, each with a large oval nucleus. Upon well shaking a section, a fine continuation of the stroma was traceable between the cells. The yellowish portion of the tumor showed cheesy metamorphosis. The diagnosis was therefore elaborated into a large-celled alveolar sarcoma, the cells of which probably originated from the endothelium of the pleura or of its lymphatic vessels. In conclusion, the author compares this case with one previously described by him, and draws especial attention to the existence in both of the hemispherical swelling already alluded to. He attributes the position of this to the yielding nature of the costal cartilages. The diagnosis of future cases will be facilitated, by considering the great resistance felt by the finger on percussion; the stretched but not bulging interspaces; the passive dilatation of the superficial veins of the affected side and the sharp line of demarcation between the completely and the partially compressed lung tissue, as shown by the breathing sound. But the only certain sign is that elicited by the exploring needle, which, however, must be tolerably large and must be inserted in not less than three places, and to a fair depth. The microscopic examination of the exuding fluid may sometimes give valuable information.

MORPHIA INJECTIONS FOR ECLAMPSIA.[3]

Dr. Lerentaner reports the case of an infant four months old, who had a large number of eclamptic attacks following each other in quick succession, and where the administration of chloral, warm baths, cold compresses to the head, and inhalations of chloroform, having failed to control the convulsions, he had resort to subcutaneous injections of morphia. He gave the first injection after the convulsions had lasted twenty-four hours, the second a few hours later, the third six hours later, and the fourth after an interval of ten hours. Each of these injections consisted of 5-4 mg. of morphia: the first two produced complete rest, lasting for some time; the last two were ineffectual. A fifth injection of 3 mg. was then given, and the infant slept for seven hours: a sixth injection of the same size twelve hours later, and after twelve hours more, another dose of the same strength were given. The infant recovered completely.

ELIMINATION OF OPIUM THROUGH THE BREAST MILK.[4]

The following case of infantile opium-poisoning, reported by Evans, is important so far as it directs our attention to the necessity of care in the therapeutic treatment of nursing women: assuming, of course, that opium had not been directly administered to the infant by the nurse, a possibility not to be overlooked in cases of this class, and in this instance, not referred to by the reporter. On November 17th, Mrs. T. was delivered of her eighth child; the confinement was natural, though rather tedious in its first stage. The infant, a female, was healthy at its birth, which took place at 1.30 P. M. Evans states that he left the mother a drachm of liquor opii sedativus, to be taken in four doses, at intervals of four or five hours, if required for after-pains: on visiting her the next morning, he found that she had had no sleep, on account of the severity of the after-pains; he therefore sent her six doses of twenty minims each of liquor opii, to be taken as before. On the 19th, she reported that she had had about three hours sleep, but that the after-pains were troubling her about every fifteen minutes: the medicine of the preceding day was therefore repeated. On the 20th, she had had more sleep than on the previous night, had finished the medicine, but was not at all drowsy nor under the influence of opium in any way, except the relief it had afforded her from her pains.

[3] Centralbl. f. Klin. Med., 36, 1885.

[4] British Medical Journal, December 19. 1885. Evans.

The milk came into the breast during the night, and at 4 A. M., the child was put to the breast and sucked well, and then had slept so continuously that it had not been disturbed, excepting for a short nursing at 7 A. M. Evans next saw the infant at 2 P. M., when it was found to still be very drowsy, with slow, tranquil respiration, and the pupils contracted to the size of a pin's head. It was aroused with difficulty, and soon relapsed into a somnolent state, and although coffee was administered and ammonia applied to the nostrils on a handkerchief, it died in the night.

[This case is interesting, provided that it was a case of opium-poisoning, a diagnosis concurred in by the coroner at the post-mortem: the treatment was strikingly inefficient, both in the methods employed, and the evident lack of appreciation of how necessary it was to personally superintend the case until the dangerous symptoms had passed off, which, according to the report, was not done, so that we are left in doubt as to whether or not the infant's life might have been saved.]

INFANTILE MORPHIA-POISONING.[5]

Dr. William Judkins reports a case of morphia-poisoning in an infant aged fifty hours, where a quarter of a grain of morphia in solution was given. At the time the doctor first saw the infant, he was told that an eighth of a grain in a teaspoonful of water had been given two hours before, for supposed colic, and that, as the medicine had not taken effect at the end of an hour, the same dose had been repeated. The infant was found to be cyanotic, breathing only three times in the minute, and that of a very feeble character: the pulse was barely perceptible. Immersions in hot water were at once begun, and whiskey injected hypodermically in the gastrocnemius. Strong black coffee was also administered per ovum and anus. After two hours' constant work, the respirations increased in frequency, and the heart's action became stronger. Recovery was final, and ten weeks after the accident, the child was well and bright. The catheter had to be used several times during the first twenty-four hours, and three abscesses were opened, that had been produced by the frequent introduction of the hypodermic needle.

PRIMARY NEPHRITIS IN A YOUNG INFANT.[6]

Dr. Smith reports the following case: A baby of six months, who had always been healthy, suddenly passed no urine for twenty-four hours; the secretion was, however, restored by one dose of sweet spirits of nitre. Some days later, diarrhœa occurred, and continued till the close of life, but without vomiting. The stools were green, and numbered from four to eight daily: the infant had an attack of general convulsions, lasting about four minutes, the only one during the illness. The eclampsia was succeeded by well-marked nervous symptoms, such as strabismus, rolling the head, twitching of single muscles and groups of muscles, the uttering of a sharp, piercing cry at short intervals, and rolling the eyes. Death occurred at seven months. The temperature taken daily during the last month of her life was usually between 100 and 103°. At the autopsy, the kidneys were found to be much enlarged, that on the right side showed the cortex to be thickened and pale, and the pyramids large and red; there were hæmorrhagic spots in the upper part of this kidney, and the mucous membrane of its pelvis was deeply injected. The left kidney was much congested, so that blood flowed from its incised surface, and the pyramid and cortex were of a uniform red color. The mucous membrane of the bladder was in a state of inflammation; the urine retained in the bladder contained albumen in such quantity that it nearly solidified: there were hyaline, granular, and epithelial casts in great abundance; also epithelial cells, red blood-corpuscles, crystals of triple phosphate, and cystine. The author remarks that from the history, the case appeared to be one of idiopathic nephritis, which gave rise to certain, if not all, the symptoms and lesions observed. This instance shows how important it is to examine the urine in the obscure diseases of children, for we may find the kidney affected where there are no pronounced symptoms referable to that organ. The frequent occurrence of nephritis in scarlatina and in diphtheria, and even in such febrile diseases as measles and parotiditis is recognized, but the profession is apt to overlook nephritis in children occurring as an idiopathic or primary disease.

[In this connection, the renal disease reported a number of times during the last two years, as a sequela of varicella, should be noticed, as also likely to be overlooked unless closely watched for.]

ALBUMINURIA IN CHILDREN.[7]

Dr. Henri Leroux has made some extensive investigations regarding the presence of albumen in the urine of children, of which the following is a summary: the cases were seen at the "Hospice des Enfants Assistés," and were 330 in number, and under the age of sixteen years. There were 212 boys and 118 girls, and albumen was detected in 19 cases, 9 boys and 10 girls, between the ages of six and fifteen years, a proportion of about one case of albuminuria to 17 children. The author divides the cases into two classes, according to the amount of albumen detected. In those cases where there was a decided quantity present (1-3 grams. in the litre), the albuminuria was present both in the morning and in the afternoon, while where there was only a slight, transient albuminuria, it was found to occur between 1 and 3 P. M., that is, after the chief meal of the day, which was at 11 A. M., a fact pointing towards large meals and exercise acting as a cause for the presence of the albumen, for after the night's rest, no albumen was found in the early morning hours. The light cases occurred in 7 boys and 7 girls, while the more marked cases were found in 2 boys and 3 girls.

All the children were living in the hospital, with the same food, surroundings, and pursuits, and were apparently well and strong, excepting that two of them had certain scrofulous symptoms, and one had Pott's disease. So far as could be ascertained, they had none of them previously had any disease, with the exception of five who had had measles.

— In Coryza, Rabow (*Deutsch. med. Wochenschrift*, 5, 1886) speaks favorably of the value of the following powders, used like ordinary tobacco snuff, which also they resemble in appearance: — (1) Menthol, 2 parts; roasted coffee, 50 parts; white sugar, 50 parts; mix, and take as snuff. (2) Cocaïne hydrochlorate, 1 part; roasted coffee and white sugar, of each 50 parts; mix, and use as before.

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[5] New York Medical Record, August 8, 1885.
[6] New York Medical Record, November 14, 1885.
[7] Rev. de Médec., November 3-10, März, 1883.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

March 22, 1886, the President, Dr. F. W. Draper, in the Chair.

PULMONARY CALCULUS.

Dr. F. C. Shattuck showed a pulmonary calculus the size of a large pea, given him by a patient with a history of phthisis of two years' duration. The disease was well tolerated, and the patient reported that he had brought up several similar bodies.

Dr. J. B. Ayer reported as follows a case of

ECLAMPSIA DUE TO FRIGHT OR TO THE SHOCK OF AN INJURY.

A month ago I saw a colored boy, eleven years old, who, while resisting punishment, had struck his head (right mastoid region) against an iron wall-hook.

The head was not heated and no swelling was discovered. An hour later he was in a dazed condition, and muscular twitchings began to be noticed on the left side of the face. There was vomiting.

When I saw him at the end of four hours, he could not be roused to any extent. At that time the facial twitchings gave way to severe tonic and clonic convulsions involving the whole body, although most marked on the left side.

In the course of an hour and a quarter, there were sixteen general convulsions, but a few whiffs of ether brought them to an end, and then the patient slept several hours. He, however, awoke occasionally and complained of headache.

The headache lasted several days, but he has *apparently* made a complete recovery.

There was no previous history of convulsions except on one occasion (at the age of five) in connection with acute disease. I could not trace any hereditary tendency.

I could not decide whether fright or injury was the more important factor in the causation of this attack of eclampsia.

Dr. E. N. Whittier read a paper entitled

A MEDIASTINAL TUMOR.[1]

Dr. Knight said that he had had an opportunity to make a slight examination of Dr. Whittier's patient, and that it seemed to him at that time that the question of aneurism of the aorta was almost out of consideration, as stated by Dr. Whittier in his paper. The tumor did not occupy the position of aneurism of the arch of the aorta, and had none of the feeling of aneurism, on palpitation. The signs of pressure were not such as usually come from an aneurism of the arch of the aorta. There was, moreover, the hard swelling above the sternal notch to indicate the nature of the trouble below.

Dr. Minot said the point of principal interest in the case lay in the diagnosis. The typical signs of aortic aneurism were all absent; while the recent advent of the symptoms, together with the rapid increase of the tumor were evidence of a mediastinal growth, probably of sarcomatous nature.

April 19th, 1886, the President in the chair.

Dr. W. W. Gannett read a paper entitled

SHOULD NURSES WHO ARE TUBERCULOUS BE ALLOWED THE CARE OF CHILDREN?[2]

Dr. Minot was glad that Dr. Gannett had called attention to a most important subject. There could be no reasonable doubt that the children were infected by the nurse in the interesting cases which he had reported. As to the question of the contagiousness of tubercular disease, while we know that it can certainly be conveyed by inoculation, yet the instances of infection in any other way are very rare, unless perhaps between husband and wife, and Dr. Minot had seen but one case of this that seemed to be undoubted. The wife of a gentleman in the third stage of phthisis, who had previously been in good health, was suddenly attacked with hæmoptysis, which was followed by all the rational and physical signs of consumption. In her case, so far as could be ascertained, there were no hereditary antecedents. In calling attention to the danger of infection of children through a tuberculous nurse and to the importance of employing precaution in order to prevent such a calamity, he thought Dr. Gannett had made a most valuable suggestion.

Dr. Rotch remarked that he had seen and carefully examined the first case mentioned by the reader, both during life and at the autopsy, and that there certainly was a marked coincidence in the tuberculosis of the nurse and that of the child; he thought, however, that with the light which we have so far had thrown upon the subject from a pathological standpoint, we were hardly justified clinically in saying that there was no doubt but that the child was infected by the nurse; especially as it is so common to find tuberculous mothers living in constant contact with their children night and day, and yet these same children when closely observed for years, never showing any signs which we can ascribe to infection. Dr. Rotch also said that out of a number of cases of tubercular meningitis this was the only one where he had obtained any evidence of infection arising from other members of the household. He however believed with the reader, that so long as the subject remained "sub judice" children should neither sleep with, nor be taken care of, by tuberculous nurses.

Dr. Fitz complimented the reader on the exactness of his statements and the fairness of his conclusion. The source of infection in the cases reported was not one of certainty; but, as Dr. Gannett had distinctly shown, one of greater or less probability. The degree of probability is quite sufficient to cause the physician to oppose the employment of tubercular nurses for children. It is not strong enough to lead him to urge the separation of parent and child. In the former case there is no hardship except to the nurse, who is compelled to seek elsewhere a means of livelihood. In the latter it would result that most parents would refuse to follow the, to them, impracticable advice. They would compromise by adopting certain feasible precautions which might serve to lessen the probability of infection. How remote this may be, is suggested by the innumerable instances of the relatively healthy children who live to adult life, although the parents are phthisical and both are exposed to the poorest hygienic surroundings, as stated by Dr. Rotch. The importance of such accurate and thorough investigations as those made by Dr. Gannett, is obvious, since it is through them, in great part, that the relative degree of the probability of the danger of infection is to be determined.

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[1] See the Journal for April 1st, 1886.

[2] See page 385 of this number of the Journal.

Dr. White observed that the fact that sickness can seldom be traced to this source, does not justify us in inferring the safety of entrusting children to tuberculous nurses; for the reason that we do not know the incubation period of the disease. This may sometimes be a long one, as is the case in some other affections. He thinks that those who study the bacillus tend to doubt the need of heredity as an explanation of this disease.

Dr. Bowditch said that for years before the bacillus was known, he had had little doubt of contagion under favorable circumstances.

SPECIMENS FROM LUNG OF A CASE OF "NAILERS' OR GRINDERS' CONSUMPTION."

On behalf of **Dr. Frank Wells**, who was unable to be present, Dr. Minot showed some sections of pneumonokoniosis mounted and sent to Dr. Wells by Dr. James E. Reed, of Wheeling, W. Va., who says, in a letter accompanying the slides, "The mounts are of unusual character in this,— they show typical tuberculosis. I have given the subject close attention for fifteen years, and have had the life history of probably three thousand nailers and feeders connected with the iron and nail mills hereabouts from which to found the reason for the faith within me; namely, that "nailers' or grinders' consumption," (fibroid phthisis,) is not generally of tuberculous character. There is at first, because of the inhalation of mineral particles, bronchial irritation, and of course, more or less cough; next, an interstitial pneumonia; next, consolidation of tissue; next, softening, and the formation of cavities, and then the end. Accompanying these structural changes are, in addition to the cough and expectoration, loss of flesh and strength, chills, fever, night sweats, etc. The absence of Koch's tubercle bacillus is a very constant condition. Indeed, since the discovery of Dr. Koch, I have in scores of cases of nailers' consumption searched the sputum carefully, using the best methods of staining and mounting, without finding the specific bacilli; whereas in ordinary phthisis pulmonaris I have never failed, at some stage of the disease, to find it. However, there is no difference in the tendency to death."

This experience of Dr. Reeves confirms the opinion of many pathologists, who allege that fibroid phthisis is not of a tuberculous character, inasmuch as it differs from true phthisis in so many particulars, such as its rarity in early life, its tendency to limitation to one lung, and often to the lower lobe, the frequent presence of bronchiectasis, etc. Of course the disease may attack a lung already the seat of tuberculosis.

Dr. Williams stated that knife grinders' consumption had been much reduced at Birmingham by the use of magnets to catch the iron dust, and by air currents to carry iron and stone-dust away from the workmen.

— A two-per-cent. aqueous solution of chloroform has been recommended by Spaak of Brussels as a useful and effective hæmostatic in operations of oral surgery. Washing out of the mouth with this solution is said to have stopped bleeding even from large vessels.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

SPECIAL SCIENTIFIC MEETING HELD IN THE COMMON COUNCIL CHAMBER, YONKERS, N. Y., MARCH 23, 1886.

The President, **J. G. Porteous**, of Poughkeepsie, in the chair.

Dr. John P. Garrish, of New York, read a paper on

THE PHYSICIAN AND THE PHARMACIST — THEIR RELATIVE DUTIES,

in which he advocates the destruction of physician's prescriptions by the druggists at the end of thirty days after the reception of the same, and a number of other reforms in the present methods of dispensing medicines.

Dr. Alfred L. Carroll, late Secretary of the State Board of Health, read the report of a

CASE OF MENINGEAL EXTRAVASATION, WITH REMARKS ON THE LOCALIZATION OF THE SUPERFICIAL LESIONS.

The phenomena described in the case were apparently traceable, he said, to an origin in a limited area bordering on the pons and medulla oblongata. The probable etiology of the disorder was that a mastoid abscess on the left side, from which the patient had suffered eight years previous to the attack, led to thrombosis of the inferior petrosal and transverse sinuses, perhaps with phlebitis sinuum, possibly with some basilar meningitis; thus having special vulnerability in the region about the basilar groove.

Peculiar subjective derangements of taste, which were noted, and probably to be ascribed altogether to the glosso-pharyngeal, without supposing any lesion of the gustatory branch of the inferior maxillary or chorda tympani, as the perception of saline and bitter flavors appears to pertain to the posterior and lateral parts of the tongue, supplied by the former nerve. Disturbance of articulation, also noted, was, of course, referable to the hypo-glossal; but here, too, there was no involvement of the muscles innervated by the descendens noni. If the superficial origins of the nerves concerned, and their relations to the transverse sinus, be remembered, this relative localization becomes to some extent explicable. The third pair, arising from the inner surfaces of the crura, above the pons; the fourth, from the valve of Vieussens and curling around the crura also in the groove above the pons; the sixth emerging from the furrow between the corpora pyramidalia and the lower border of the pons; and the seventh, springing from the posterior median fissure and the groove between the restiform and olivary bodies, and curving around the restiform columns in the depression between the medulla and pons; all these are in great measure shielded from pressure or local irritation.

On the other hand, the fifth makes its exit from the antero-lateral convexity of the pons, close to the margin of the basilar groove; the glosso-pharyngeal and pneumogastric, with the small accessory root of the eighth, from the lateral tract, just behind the corpus olivare; and the hypoglossal from the groove between the olivary body and the anterior pyramid, in situations much more exposed; while the spinal root of the eighth takes its origin almost entirely below the foramen magnum.

Another circumstance which pointed to a localization about the transverse sinus was, that while the facial anæsthesia and dysæsthesia noticed were chiefly on the side of the former mastoid lesion, the muscular and sensory disturbances through the brachial plexus, though bilateral, were most marked on the opposite side; simulating in a lesser degree the phenomena of "crossed palsy," which is usually caused by grave changes in the lower part of the pons on one side. If we imagined a source of pressure originating on the left side and extending along the line of the cavernous sinus and across the transverse groove, we should have the conditions to account for these peripheral manifestations.

In regard to hiccough, which continued for six days in this case, Dr. Carroll said that its pathogeny was somewhat difficult to understand, although we know empirically that this symptom and vomiting are commonly associated with pressure upon the pons or upper part of the medulla, and that when it has a different central origin, it is often from diseases of the cervical cord, whence the phrenic nerves arise. In the present instance its causation was probably to be sought in a reflex from centripetal strands of the pneumogastric.

As to retention of urine, which continued for seventeen days, he said it must be remembered that the vesical sphincter is habitually in a state of contraction, governed by its tonic centre in the cord as the base of the origin of the second to the fourth sacral nerves, the centre for the detrusor being just below; and that normal micturition is largely a reflex action, the part played by the voluntary system being chiefly to inhibit the automatic control of the sphincter. Hence, pressure along the anterior motor tract of the mesencephalon might account for this isolated vesical paralysis without paraplegia or other implication of parts supplied by the lumbar or sacral nerves.

In conclusion, Dr. Carroll said that, notwithstanding the immense advances of our knowledge of the pathophysiology of cortical and intra-cerebral lesions, comparatively little attention had been attracted to localized superficial interference with nerve function, and the paucity of observations in this respect might serve as an excuse for submitting to discussion a plausible commentary on the phenomena of a case, the bare recital of which would possess but small interest.

Dr. J. W. S. Gouley said that notwithstanding the ingenious explanation of the retention of urine in this case, we should not lose sight of the fact that without any paralysis whatever, retention may take place, as in drunkenness, for instance.

Dr. Carroll said in reply, that his patient did experience the desire to urinate, but was unable to do so; so that he had to teach him the use of the catheter.

Dr. Gouley then said, that as the patient was unconscious for a time, he still thought that the cause of the retention might not have been directly due to paresis.

Dr. Gouley then read a paper on

SACCULATION AND PERFORATION OF THE BLADDER AS CONSEQUENCES OF CHRONIC RETENTION OF URINE.

Sacculation, he said, was of frequent occurrence in men, but was rare in women. While many authors had previously referred to the condition, it was reserved for Mercier, of Paris, to give the first clear and definite description of it, in 1836.

There were two forms of sacculation, the single vesical pouch, and multiple diverticula. All authors were agreed as to the cause, though retention giving rise to it was recognized as of various origin. The size of the vesical pouches was in inverse ratio to their number, and the sacculation might occur in any part of the bladder, except the trigone. Having described a specimen which he dissected some years ago at Bellevue Hospital, and mentioned a case reported by Dr. Warren Green, of Maine, in which the pouch was of enormous size, he referred to a rare case of Dr. Charles D. Smith's, in which there was a single diverticulum, situated at the summit of the bladder.

Vesical pouches, large or small, rarely emptied themselves. Hence the urine would become putrescent, and, in consequence of this, ulcerative processes, abscesses, and death from pyæmia or exhaustion were liable to result.

The diagnosis of sacculation was often extremely difficult under the most favorable circumstances, and in many cases, and when there were large sacs, the condition was not recognized during life. These cases of large sacs were often mistaken for other kinds of tumors, and Dr. Gouley gave a number of interesting instances of such errors in diagnosis. There were, however, diagnostic signs by which they could be recognized, if proper care were observed, though these were few in number. As obstructed urination is the principle cause of sacculation, in any case where this had existed for some time, the medical attendant should be prepared to suspect the existence of the condition. If the sac were large, the diagnosis could often be made by drawing off the urine with a catheter, and, after withdrawing the instrument and waiting a short time, reintroducing it. It was rare that in a case of sacculation, much urine could be withdrawn at any one time. When the sac was not large, and situated posteriorly, the evidence afforded by exploration with a catheter was the only sign; and in the case of small diverticula, there were no certain signs of diagnosis.

The prognosis was generally bad in the case of large sacs, but not in sacs in which there were calculi. The preventive treatment consisted in the removal of the obstruction to urination, such as the dilatation of the urethra in case of stricture, the excision of a portion of the prostate, or at least, systematic catheterism, in enlarged prostate, etc. But the removal of the obstruction was not enough. The cystitis which had resulted from it required to be treated by irrigation and other appropriate measures.

The treatment of sacculation, when present, consisted in the removal of the cause or causes to which the retention of urine producing it was attributable, and the use of frequent irrigation. It was to be remembered, however, that a largely distended sac should never be completely evacuated at once. It was a good practice to remove about a pint at a time, and then inject half a pint of warm borax solution into the bladder, repeating this procedure every hour. It was dangerous and unwise to tap a distended diverticulum. In order to secure the evacuation of a sac, it was usually necessary to change the position of the patient frequently. It was well to make use of a compressing bandage, but the catheter was not to be allowed to remain in the bladder.

Dr. W. B. Eager, of Middletown, Orange Co., related the case of a man who was brought to him from a distance of seven miles, suffering from retention of urine. He suspected that he had stone, and introduced Thompson's searcher, but could find no evidences of stone. The prostate was found to be enlarged. He withdrew, to his surprise, only about two tablespoonfuls of urine. He then introduced the searcher again, and found that its extremity passed to a great distance, and was movable in every direction. He then removed the plug, and drew off seventeen ounces of urine, which was high-colored, but clear and non-purulent. It occurred to him that this might, perhaps, be a case of sacculation, though possibly it was only one of over-distended bladder.

BIOGRAPHICAL NOTICES

of the late Drs. I. G. Collins and Desault Guernsey were read by Drs. N. C. Husted, of Tarrytown, and G. H. Codding, of Amenia, Dutchess County. The Chair appointed Drs. Alfred L. Carwell and E. H. Squibbs a Committee to prepare and publish appropriate resolutions in regard to the death of the late Dr. Austin Flint. It was decided that

THE NEXT SPECIAL MEETING

should be held at Kingston, Ulster Co., on the third Tuesday in June next. On motion of Dr. Southworth, the thanks of the Association were tended the Mayor and Common Council of the city of Yonkers for the use of the Council Chamber.

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THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting April 1, 1886.

IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT AS IT HAS BEEN REPRESENTED?

Dr. H. C. Coe read a paper with this title, in the outset of which he remarked that there was much yet to be learned in regard to the pathology of these organs. Agnosticism in regard to ovarian and tubal disease, he said, met with very little encouragement at the present day, and this was due to a large extent to the surgeon. As to what constitutes a normal ovary, had now come to be somewhat practical, except in the case of some of the lower animals.

In considering the condition and appearance of the ovary in any given case, it was not to be forgotten that during the entire sexual life of the female, constant changes are going on in these organs. Hence it was often very difficult to say just where the normal ends and the pathological begins. Nothing was at present more common than to remove ovaries because they were "cystic," on the ground that in consequence of this condition they were functionally useless. Yet he had seen cysts as large as a marble which could not be called pathological, since they contained perfectly healthy ova which were certainly capable of being impregnated.

Taking up the pathological conditions of the ovary, as viewed by the laparotomist, Dr. Coe said that many of the variations of the organ in size and shape which were commonly regarded as pathological by him were found in ovaries which were to be looked upon as in fact entirely normal, at least so far as function was concerned. Congestion and moderate enlargement did not necessarily imply chronic ovaritis, and indicate oöphorectomy; since, when the other pelvic organs are for any reason in a state of hyperæmia, the ovaries were naturally found hyperæmic also.

In the same way, a decided diminution in size might not be pathological, but merely an indication of senile atrophy. Again, certain conditions which are regarded by the laparotomist as pathological, such as thickening of the external covering of the organ, might not be so in reality; since such thickening was not at all abnormal, in senile atrophy, or after any frequent correlation, where localized thickening is very common, even when senile atrophy does not yet exist. But, although there might be extensive thickening, it was no indication that there was cirrhosis of the internal stroma of the organ which interfered with its functions.

The most frequent cause for which ovaries are extirpated, however, was so-called cystic degeneration, and Dr. Coe remarked in this connection that if the slightly cystic condition which is so frequently met with in the ovary was of grave import, few women were free from the danger of serious cystoma. He next passed on to consider the subject from a microscopical point of view. In order that the pathologist might give an intelligent opinion concerning any removed ovary presented to him for examination, he must be familiar with the normal histology of the organ, and, on account of the constant changes going on in the ovaries previously referred to, this was a matter which involved no little difficulty. The pathological appearances of well-marked disease were easily recognized; but the lesser ones were undoubtedly very hard to differentiate. Again, because one portion of the organ was diseased, it did not follow that the whole ovary should be involved in the pathological process; and, acting on this principle, Schroeder had lately been operating in such a way as to remove the diseased portions, and allow the rest to remain. The number of cases thus far recorded, however, was too small to base any positive conclusions upon as to the practical utility of this method; but it was at all events, a step in the right direction.

TUBAL DISEASE.

During the three years that had elapsed since Tait called special attention to this condition, and Thomas popularized Tait's operation in America, by his paper before the Academy of Medicine, this procedure had been resorted to an immense number of times; and there could be no doubt that it had been greatly abused. No reasonable objection could be raised to the removal of Fallopian tubes which were filled with pus; but this was not the case with a large number of the tubes which were taken out.

Tait said that in chronic disease of the ovaries the tubes were always affected; but Dr. Coe denied this, as the result of his personal pathological investigations. Some of the so-called diseases of the tubes were not recognizable by the pathologist at all. There was no doubt about pyo-salpinx or hydro-salpinx when these conditions were present; but as to so-called "catarrhal salpingitis," "commencing pyo-salpinx," and other presumed pathological conditions which constantly pass unchallenged in learned societies, there was very good reason for doubt. In cases where the diagnosis of catarrhal salpingitis had been made, and the tubes and ovaries removed in consequence of the condition, Dr. Coe had found on subsequent examination simply moderate hyperæmia, with a thin coating of mucus, which might exist in a perfectly normal Fallopian tube; there being no evidence whatever of any inflammation. As long as the lumen was free and the lining mucous membrane capable of performing its function, the tube was not abnormal; notwithstanding the fact that there might be slight adhesions of the fimbriated extremity.

From his examinations he would say that pyo-salpingitis exists in about one-fifth of the cases where Tait's operation is performed. Hydro-salpinx is considerably less common, and hæmo-salpinx is extremely rare. If there was no pus discoverable, there was certainly no pyo-salpinx; just as in general practice one would say in a case of suspected abscess that if there was no evidence of pus, there was no abscess. The pain that was so often attributed to disease of the tubes Dr. Coe believed to be generally due to localized peritonitis or to neuralgia pure and simple.

There can be no doubt, he said, that far too many tubes and ovaries are removed at the present day; and the one criticism that he had to make on American laparotomists was, that they do not follow up their cases for a sufficiently long time. As a rule, they are reported very shortly after the operation, when the results often seem all that could be desired; but if the histories could be given of the condition from six months to two years later, it would not infrequently be found that no permanent improvement whatever had resulted from the procedure. He had met with many women under these circumstances who still had the same pain as before the operation.

The deductions drawn by Dr. Coe were somewhat as follows:

(1) Ovarian disease is not as common as is now generally supposed. This impression is derived from the surgeon, and not from the pathologist.

(2) Because the ovary is partially diseased, it does not follow that the whole organ is implicated.

(3) "Cystic" and "cystic degeneration" are mischievous terms, which have been productive of much evil by leading to false conclusions and unnecessary ovariotomies in consequence.

(4) Actual disease of the tubes is far less frequent than many surgeons would have us believe.

Localized peritonitis will account for much of the trouble attributed to disease of the uterine appendages.

Dr. Coe said, in conclusion, that while the normal histology of these organs was not well understood, and their various pathological condition must, therefore, necessarily be regarded as still *sub judice*, he did not wish to be understood as by any means condemning laparotomy in really legitimate cases.

In announcing the paper open for discussion, the President, Dr. A. Jacobi, remarked that the operation would not be so frequently performed in these cases in the future as it had been in the past.

Dr. Wm. T. Lusk said that Dr. Coe had covered nearly all the ground which he had himself been accustomed to take in the tirades against the abuse of Tait's operation with which many of his gynæcological friends were most familiar. He was by no means an enemy of the operation, and thought it did great good in its place; but he had to say that he had stood by and seen tubes removed which were described by various pathological designations, but which seemed to him to be entirely normal. In the same way he had seen ovaries taken out, of which it was said that they were in a state of commencing cystic degeneration, but which appeared to him typical examples of physiological ovaries, precisely like those he had formerly been accustomed to exhibit to his classes as such when he used to teach that branch of physiology. He then took great interest, he said, in pointing out the changes which were constantly going on in these organs; and these so-called cystic ovaries, which had been removed for merely imaginary disease, were simply ovaries which were undergoing these same physiological changes.

Since surgeons had come to be able to remove the ovaries and tubes with comparatively little risk to the patient, the operation was performed entirely too frequently. Tait's advice was to cut open the abdomen and examine the condition of the uterine appendages; when, if they were found all right, they were to be returned to their places in the pelvic cavity. But he himself had yet to meet with the surgeon who, after getting thus far in the operation, did not take out the organs altogether, whatever their condition might be. He believed that there were very few cases in which the condition of pyo-salpinx could not be diagnosticated by proper manipulation with the fingers of one hand in the vagina, and that the great mistake of the present day among gynæcologists was the too frequent opening of the abdomen. Unless the enlarged tube could be felt, in the manner described, outside the body, the operation ought not to be performed; and unless this rule were adopted, the temptation was to take out too many tubes.

Dr. Lusk then went on to say that it seemed probable to him that in the future a modification of Tait's operation would not come into vogue which would obviate the necessity of removal of the tubes even in pyo-salpinx and hydro-salpinx. The time would come, he thought, when these distended tubes would be evacuated through the vagina by means of some such instrument as that devised by Dr. Mundé, which consists of a syringe with a hypodermic needle attached to it. In this connection he related a case of pyo-salpinx which had recently come under his observation. He had secured the pavilion at the hospital for the patient, engaged the nurses, appointed the day for the performance of laparotomy, and invited a number of friends to be present at the operation; when, a short time before the day fixed for the latter, the woman noticed an unusual discharge from the rectum, and in a day or two the tumor caused by the distended tube, had completely disappeared.

As to the removal of the ovaries and tubes, when these organs were normal, for the relief of neuralgia and other conditions, the result was very uncertain, and the disturbance of the general system by the operation was so great that the most serious consequences were liable to ensue. In one case of his own, in which he had been obliged to remove the ovaries and tubes in connection with a large fibroid which demanded extirpation, the patient had been rendered insane by the operation.

Dr. W. Gill Wylie said that in the cases in which he had operated, his ground for doing so had been the symptoms of the patient and what he could detect before opening the abdomen. While at first he did not feel so sure about the matter of diagnosis as he did now, at the present time he could, after etherizing his patient, almost always tell exactly what condition he was going to find when performing laparotomy. He now very rarely did the operation except for pyo-salpinx, and unless the symptoms justified it, he did not operate, whatever the condition that was indicated by local exploration. It was a matter of nicety of diagnosis to distinguish those cases in which there was likely to be an eruption of pus into the peritoneal cavity, and in instances where there had already been several attacks of localized peritonitis this result was especially to be apprehended.

Aspiration, he thought, would not cure any case, but would simply evacuate the pus; and the latter was sure to return. In addition, fatal injury might possibly result from it by the wounding of the ureters, etc. As to peritonitis, he believed that in the vast majority of cases, (perhaps ninety-nine out of a hundred) localized peritonitis was directly caused by disease of the ovaries and tubes.

Dr. W. M. Polk remarked that salpingitis is not a new disease. This constituted a pathological condition which has always existed, and which has been cured without laparotomy in a large number of instances. The treatment adopted in these cases was simply following out the suggestions of Sims and Emmet, to put the patient to bed, give opium, poultice the abdomen, and use vaginal douches. While there was a few cases which proved refractory, the most of the patients got well, with sound ovaries and tubes, and in many cases had babies afterwards. The affection used to be known as pelvic cellulitis; but in fifteen cases in which this diagnosis would formerly have been made without the slightest question, he had performed laparotomy, and had found not the slightest induration between the layers of the broad ligament. What he did find was a conglomeration of ovaries, tubes and new tissue upon the posterior fold of the broad ligament, and this he removed.

The peritonitis which he was accustomed to meet with, he believed had come directly from the tubes. Dr. Coe had stated that he did not find the latter diseased as often as was generally supposed; but for his part he could only say that he found these organs diseased very frequently. They might not contain pus; but they at all events presented the evidences of previous inflammation. He had reached the conclusion that, as a rule, the peritonitis so often met with was produced by extension of an inflammatory process from the cavity of the uterus. Inflammation preferred to take the course which was open; though after childbirth, abortion, etc., it might follow the course of the lymphatics and bloodvessels. Therefore, the large majority of cases of so called cellulitis were simply the result of ordinary endometritis, which might be produced in a thousand ways. This condition led directly to inflammation of the tubes and the peritoneal cavity, and a simple catarrhal inflammation of the endometrium would extend to the peritoneum as readily as that due to the poison of gonorrhœa.

Again, the purulent collections after a bad case of puerperal inflammation which have been supposed to be situated in the folds of the broad ligament, were in reality generally above the latter, and consisted merely of accumulations of pus first in the tubes, and later, if the accumulation was rapid, in the adjoining tissues. In regard to this whole subject he thought that the essential point was that we have got to change our pathological views before we can reach a unanimous opinion as to the advisability of laparotomy. A minimum number of cases, he believes, required this procedure, and the condition indicating it was usually localized peritonitis with salpingitis, and, as a rule, an atrophied ovary.

Dr. P. F. Mundé said that in examining the records of his private and hospital cases he had found that out of three thousand, one hundred and seventeen were put down as oöphoritis and salpingitis combined with peritonitis. He agreed with Drs. Wylie and Polk that these three conditions almost always coexist. In the three thousand cases there were besides two hundred and twelve cases set down as simple oöphoritis, without complications. These figures, he thought, answered the question of the title of the paper, and he should say, therefore, that disease of the uterine appendages are quite as frequent as Tait and his followers assert that they are. He would, however, state positively that in his opinion, operative interference for the relief of this was by no means as frequently required as they represented. He could not agree with Dr. Coe that pachy-salpingitis was very rare; but he believed that dilatation of the tube with fluid was not so common as many now suppose. Personally he had met with but eight cases in which he could detect an apparent enlargement of the tube. In four of these he had aspirated and drawn off a watery serum, which contained no ciliated epithelium.

Dr. Mundé went on to say that it was well known that he occupied a very conservative position in regard to Tait's operation. So long as surgeons in America could not perform laparotomy without exposing the patient to considerable risk of her life, he thought that it should not be done when there was any doubt about the pathological condition present, and that concerning this operation the lines should be more closely drawn than had heretofore been the case. Having expressed his disapproval of the removal of normal ovaries, he stated, in conclusion, that he did not agree with Dr. Polk in his views upon pelvic cellulitis and pelvic abscess. As a rule, he believed, the trouble existed actually in the pelvic cellular tissue,

Dr. E. Noeggerath said that he was very glad to have Dr. Polk express the views that he did, as they were in entire accordance with those expressed by himself as long ago as 1872. The large majority of peri-uterine affections, he believed, were of peritoneal origin. It was true that cases of genuine cellulitis were sometimes met with; but this was only when there had been some lesion of the lymph-sac of the lining membrane of the uterus, after parturition, abortion, etc. If there was no such lesion, the inflammatory process always extended by way of the tubes.

In regard to the frequency of disease of the uterine appendages, he could only repeat what he said in 1872, that endo-metritis and peri-metritis, or salpingitis, are the most common affections the gynæcologist is called upon to treat. As to the matter of treatment, he was convinced that it was possible to relieve a great many of the cases, without operation, by careful local and general medication.

In closing the discussion, Dr. Coe stated that his anatomical studies had led him to look with some doubt upon a diagnosis resting on clinical observations alone. Fearing that the position which he had been thus forced to take as to the comparative infrequency of disease of the uterine appendages might perhaps be thought not altogether well supported, he had written to get the opinion of Dr. Wm. H. Welsh, now of the Johns Hopkins University, of Baltimore, who was acknowledged to be one of the most distinguished microscopists in the country, and who had had thus a very large experience in this special field. Dr. Welch had replied that he believed Dr. Coe's position was correct. He said that he saw very few cases of pyo-salpinx in his examinations, and that he was continually receiving ovaries and tubes which had been removed by laparotomy, which were, as far as he could make out, entirely free from disease. He furthermore stated it was a mistake to suppose that the so-called cystic ovaries would degenerate into cystoma.

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Recent Literature.

Cancer. A Study of three hundred and ninety-seven cases of Cancer of the Female Breast, with Clinical Observations. By Willard Parker, M.D. New York: G. P. Putnam's Sons. 1885.

This little monograph occupied the last days of the author's laborious life. It does not aim at being a thorough treatise on the subject of cancers, but presents the results of Dr. Parker's very extensive clinical experience with the disease, and the conclusions, especially in regard to Etiology, which he is inclined to draw from his long study of the subject.

Briefly, he finds cancers most prevalent among people who live luxuriously, and in whom consequently the waste products of the body are in excess. Many wild peoples are almost exempt. This also holds true in the case of animals, domesticated animals being subject to the disease from which the wild animals are free.

He regards mental afflictions as favoring its productions, and says, "There are the strongest physiological reasons for believing that great mental depression, particularly grief, induces a predisposition to such a disease as cancer, or becomes an exciting cause under circumstances where the predisposition had already been acquired."

Dysmenorrhœa and other uterine irregularities may favor the production of the disease. Local irritations of an epithelial surface he regards as a direct exciting cause.

In the matter of treatment, he gives his opinion so concisely that we will quote it entire: "Some very practical hints as to treatment may be taken from what has gone before. Avoid the so-called predisposing causes, that is, unnecessary luxury in mode of life; especially abstain from eating food rich in nitrogen. Urge your patient to take sufficient exercise; point out the necessity of cleanliness, and avoiding all articles of dress that would induce irritation of the skin by pressure. Persuade her to cultivate cheerfulness of disposition, and regulate her various functions, particularly that of menstruation. All this will tend to forestall the development of the disease.

"But let it be supposed that we have a case of cancer to deal with. There is such a *consensus* of opinion as to the advisability of early removal of the growth, that a discussion of this subject would be useless. So then, in the first place, let us remove the tumor, and thoroughly. But often we have done so, after we have taken it out by the very roots, is this sufficient? No! We must then adopt the means stated above to prevent a second development."

The reader cannot fail to get many valuable hints from Dr. Parker's very practical treatise. It is a hopeful sign to find an observer of strong common sense and wide experience making investigations and offering suggestions towards the prophylaxis of cancer. This is certainly a healthier attitude than the hopeless indifference so often manifested by physicians, towards this dreaded disease.

Medical and Surgical Journal.

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ARSENIC IN WALL-PAPER.

In the Journal of March 11th, attention was called to the hearing, then in progress before the Committee on Public Health of the Massachusetts Legislature, relative to the expediency of legislation to protect the public against the sale of paper-hangings containing poisonous substances. We stated briefly at that time such facts as seemed to us established by competent evidence and expressed the opinion that some legislation was demanded in the interest of the public health. The Committee has given eight days to the hearing of this case, and for once, in this country, the question has received the thorough investigation which its importance demands.

One of the first questions considered by the Committee was this: Is there any evidence that health is endangered by the use of arsenical wall-papers? Upon this point much evidence was submitted. The nature of this evidence was similar to that which has appeared from time to time during the past ten years in the medical journals, and comprised the statements and letters of some forty persons, residents of this State, describing their symptoms, together with the statements of several physicians, from Boston and vicinity, two of whom had made an extended investigation of the subject of arsenical wall-papers, and all of whom presented the history of cases which had come under their immediate observation. The petitioners claimed that these cases were properly referred to arsenic as the cause, (1) because the symptoms suffered were recognized symptoms of arsenical poisoning; (2) because analysis of the wall-papers in the houses of these persons revealed the presence of arsenic; (3) because recovery took place when the person removed from the influence of the arsenical paper, or when their rooms were re-papered.

Considerable documentary evidence was also introduced relative to the extent of the use of arsenical pigments in the manufacture of wall-papers and to the injurious effects of such papers. The strict regulations which exist in some of the European countries were also adverted to for the purpose of showing that this subject has been considered of sufficient importance to attract the attention of the legislative assemblies of foreign countries.

We have no intention of entering further into the details of the testimony presented by the petitioners. We desire at this time to call the attention of our readers to the character of the expert testimony presented by the remonstrants. It is noticeable that the opposition to legislation comes almost entirely from the State of New York. The principal expert brought forward by the remonstrants was Prof. C. F. Chandler, whose testimony was extremely discreditable to a scientist of his ability and position. We notice with surprise that the *Medical Record* for April 10th, in an editorial which is well calculated to deceive its readers in regard to the character of the evidence presented to the Committee, takes essentially the same position in this matter as is taken by Prof. Chandler. It is worth while, therefore, to put on record, a few of the most remarkable statements of this well-known expert.

Prof. Chandler says that "as president of the Health Department of New York, having it in my power to enforce any regulation I considered proper, I carefully considered the whole subject of arsenical wall-papers, read everything which was published of weight or of value and concluded that there was nothing in it. I found, by searching in obscure journals, alleged cases had been found which occurred ten, twenty, or forty years ago, in which it was said on very meagre evidence that persons had suffered from arsenical wall-paper, but, as I could not find that persons in New York had suffered by it, I saw no occasion to take any action."

"I have experimented," says the witness, "upon the question whether or not it is possible for arsenic to leave the wall of a room, or wall-paper in the form of arseniuretted hydrogen. It is impossible for such a thing to take place. The best authorities known to chemistry say that it is impossible, and in experiments instituted in my own laboratory no arseniuretted hydrogen was given off." We have no desire to criticise Prof. Chandler's experiments (which were not made by him personally) further than this: that Reinsch's test, which was employed to detect the arsenic, is not a sufficiently delicate test for this purpose, in an experiment of this kind. He justifies its use by the statement that Prof. Wormley can detect with it the one-hundred thousandth of a grain.

This is, however, said for effect merely. We do not believe that Prof. Chandler will claim that he can detect as small amounts as Prof. Wormley, who is a very delicate manipulator, can; neither do we believe that he will claim that he can detect as small amounts of arsenic by Reinsch's test as he can by Marsh's test. It is noticeable that Prof. Chandler did not consider the result of his experiments on this important matter worth publishing. His reasons for not putting them on record are curious. "I did not care to enter into a controversy with the distinguished chemists in Boston on the subject of arsenical wall-papers."

Prof. Chandler is one of the associate editors of Johnson's Universal Cyclopædia, of which a carefully revised edition was issued this present year. Under the article "Arsenious Oxide," over the signature C. F. Chandler, may be found the following: "It is also said that arseniuretted hydrogen, a very poisonous gas, is generated in damp weather." Why did he not mention his experiments, which, as he claims, show conclusively that this gas is not formed? The distinguished expert states that the experiments of Dr. Fleck and Dr. Hamberg relative to the formation of arseniuretted hydrogen "are, neither of them capable of bearing any criticism whatever." He does not, however, tell us why. We believe we are justified in the statement that the positive result of Fleck and Hamberg are of more value than the unpublished negative results of Prof. Chandler's assistants. (We will here take occasion to say that the experiment described in the editorial in the *Record* as made by Prof. Chandler, was not made by him but was made by Mr. Phillips in 1858.)

Prof. Chandler quotes a number of authorities, most of them twenty years old, in support of his opinion that arseniuretted hydrogen is not given off from arsenical wall-paper. He cites, for example, an opinion of Dr. Hoffmann given in 1862. He denies any knowledge, however, of the Report of the Imperial Board of Health of Germany and the chemical experts, among them being Dr. Hoffmann, in which it is stated that the injurious action of wall-papers is due in part to the continued formation of arseniuretted hydrogen. This is Dr. Hoffmann's opinion in 1878 or 1879. He also cites Dr. Taylor in support of his opinion. Dr. Taylor in his treatise on poisons, however, refers to Dr. Hamberg's experiments, and says that his results are in strict accord with the physiological facts.

The following quotations from Prof. Chandler's testimony will undoubtedly be read with amazement. "I have made arseniuretted hydrogen myself certainly more than one hundred times. I have had students making it, and making it carelessly, and allowing it to escape into the room, and I never knew any one to be injured by it. All over the country every student makes it several times, and I never knew a case except those mentioned in the books many years ago, and never heard of one. I consider a small quantity comparatively harmless. I should not care to put my nose to the apparatus. But I make it in my laboratory before classes of students, and I have done so ever since I occupied the position, and I never have been injured by it or suffered any inconvenience, nor knew anybody else to be, out of two thousand cases."

This statement illustrates the extent to which the witness was willing to go in aid of his employers. It really requires no comment. It may be well, however, to say that Dr. Hoffmann, who is, according to Prof. Chandler, the first authority in chemistry, describes arseniuretted hydrogen as a perfectly frightful substance; while Dr. Taylor, whom Prof. Chandler rightly considers the authority on poisons, says: "It is one of the most formidable poisons with which we are acquainted." The *Record* even, while satisfied apparently that Prof. Chandler has settled the whole question of arsenical wall-papers, evidently does not agree with him in the surprising opinion which he has given with reference to the character of this gas: for, it says, "A very small proportion of arsenic breathed as arseniuretted hydrogen would cause immediate sickness. It is therefore clear that this form of arsenical poisoning is to be greatly dreaded." We would suggest to Prof. Chandler that, if he has never heard of a case of poisoning by this gas except those mentioned in the books many years ago, he must have neglected his journals. A number of cases have occurred within a comparatively few years.

Prof. Chandler further says that obtaining from wall-paper in the tube of a Berzelius-Marsh apparatus a mirror which has the appearance of an arsenical mirror, and which gives upon heating the characteristic odor of arsenic is not a reliable test. "It is only suspicious." Comment is unnecessary.

Prof. Chandler's opinion that one grain of arsenic per square yard would be entirely harmless, and that this would be a safe limit in case a law is passed, demands a word. He says: "It seems that one grain would shut out any arsenical pigments; and there would be no use in putting in one grain; and if it got on it would be by accident." Such a limit would, however, defeat, to a considerable extent the object of the proposed law, and was evidently suggested for this very purpose; for while papers frequently contain more than this amount of arsenic, the larger proportion of arsenical papers, without doubt, contain less. A law allowing this amount would therefore afford the public but little more protection than it enjoys at present. The statement that one grain of arsenic per square yard of paper must be attributed to impurities is wholly unreasonable.

The extracts we have given illustrate the character of Prof. Chandler's testimony; testimony which will go on record as the most surprising ever given by a scientific man.

We have no wish to enter into any discussion of the testimony of his associate witness, Mr. Henry Morton, who agreed with every statement which Prof. Chandler made in regard to the subject, and whose testimony is subject to the same criticism which applies to that of Prof. Chandler.

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HYSTERIA AND SPIRITISM.

A Correspondent in a neighboring city has written us a curious account of the prevalence in his community of certain phases of spiritism. Communication with unseen "spiritual" agencies becomes a part of the ordinary business affairs of life; men of high position consult their favorite "medium" before investing money, or engaging in any important enterprise: sick people apply to the clairvoyant doctor, till their malady threatens to be serious. These mediums our correspondent has found to be ignorant, superstitious, and neuropathic, and yet he has heard of reputable (?) physicians applying to such for advice; he would as soon consult any insane or hysterical person! Our correspondent has formed a club for investigating spiritism, and has taken considerable pains to inform himself as to the workings of the system. He has seen much "table tipping," and has found striking confirmation of the principles laid down by the late Dr. Carpenter; "expectant attention" and "unconscious muscular action," explain all the phenomena (some of which were very curious) which he has witnessed. It is interesting to observe, in a number of persons sitting together, and with their minds fixed on the one object (the moving of the table), how this "expectant attention" will convulse the muscles of the arms. "There is nothing," says the writer, "connected with the spiritist manifestations which I have seen, not explicable by morbid states of the lower cerebral centres, the seats of involuntary psychic action." Spiritualism has undergone considerable development since the first advent of communications by raps, in Western New York. The belief in manifestations by unseen powers, has created the desire and demand to *see* these agencies, and where there is a steady demand there is generally a supply — especially when the things *pays* — hence the prevalence of "materialization" seances.

Our correspondent was not allowed access to any of these seances unless he would give a pledge beforehand not to violate "the conditions" (that is, attempt an exposure); this he was unwilling to do, and hence, in the absence of consent on the part of the managers to allow the proper scientific tests to be applied, he very properly pronounces this "materialization" phase to be fraud and trickery of the grossest kind. Another phase is that of "possession" and "control" by spirits, whose influence the medium assumes to feel, directing the vocal organs and other apparatus of expression; sometimes this influence is so powerful as to cause muscular tremors, and even convulsions. It is not unusual for mediums to go into convulsions of a decidedly hysterical kind when "under control." But there is nothing new in this. The Pythia, or female who delivered the Delphian oracle, was chosen from among the insane, the epileptic, or the hysterical (the epileptic and hysterical were, in ancient times, regarded as the fitting mediums by which the gods communicated to men); witches and necromancers were always persons of highly neurotic temperaments, and the ancient sibyls went into convulsions before uttering their prophecies.[1] The explanation of "control" given by our correspondent undoubtedly finds a wide general applicability; "the 'medium' is a person of unstable nervous organization; is of neuropathic parentage; is credulous and excitable; readily yields to dominant impressions, in fact, is of insane and hysterical neurosis."

The writer gives numerous facts from his experience which go to substantiate this statement, which, however, does not cover all the cases; many that are making money by assuming to be "trance mediums," "speaking," or "writing mediums," are conscious frauds and humbugs. The pretended revelations or "spirit communications" of these mediums — good, bad, and indifferent — "never, to one approaching them in a true scientific and sceptical spirit, amount to anything," although it is an easy matter for such mediums to worm information out of an unwary and too credulous visitant. One evil, the consequences of which cannot be too plainly pointed out, is the encouragement which is given to giddy females and others who are believers in spiritism to cultivate mediumistic powers. The evil is apparent when we consider what "to come under control" (a word in common use by believers in this superstition) means. To *come under control* is to lose the voluntary control, to become emotional and excitable, and to be governed by the impulses of the lower nature. This fact should be impressed on all those who are inclined to pin their faith on what "mediums" say; the state of "spirit control" is a deteriorated mental and physical condition, akin to hysteria, and sure to lead to the most grovelling superstition, to nervous instability, if not to psychical ruin.

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[1] See Virgil's "Æneid," Book VI, line 45.

One of the local mediums visited by the correspondent aforesaid was clearly a victim of insane hallucinations. In the semi-trance condition which he could assume at will (a partially conscious state, which was generally ushered in by slight convulsive movements), he professed to hear voices, and to see spectral forms, his description of which was quite graphic. One peculiarity of these manifestations was that the "spirit" always came to him as the *fac simile* of the person when "in the body"; many of these apparitions were old and decrepit, or lame; some had lost an leg or an arm (spirits of soldiers), etc. This medium had the reputation of being truthful, but was making some money at the business, which might be an incentive to fraud; he had long cultivated the faculty of "going off" into a trance and seeing his spectral visitants; the result on his nervous system and general health had been bad.

Physicians unquestionably owe a duty to their patients, to whom they may be teachers in reference to these obscure phenomena of the involuntary life. Not that they can refute or explain a tithe of the great mass of testimony which the superstitious and credulous can produce; but with regard to this a respectful, reasonable scepticism is justified. The phenomena connected with hypnotism and trance are very mysterious, and the exaltation of certain psychical faculties in these states seems sometimes almost suggestive of inspiration, but around this subject there is an immense amount of unverifiable and apocryphal statement.

Doubtless, if human — non-expert — testimony is to be relied on, every absurdity which the spiritist affirms has been proved superabundantly. But here the utmost caution is necessary. The conscientious scientific expert (and every physician should be such) who investigate carefully, and with no bias but the desire for the truth, will find little confirmation of all that mass of evidence which has built up such works as "Footprints on the Boundary," "The Debatable Land," etc. He will either be impressed with the utter unreliability of all non-expert human testimony, and will recognize the justice of the philosophical standpoint (according to Rénan) of the sage Emperor Hadrian; "Il avait été temoin de tant d' autres miracles; et il n' en avait tiré qu' une conclusion, c' est que le nombre des choses incroyables dans ce monde est infini.[2]

MEDICAL NOTES.

— The consular and other returns to the National Board of Health, show yellow fever to be prevalent in Rio de Janeiro. The disease has been advancing steadily since January 1. During that month, 132 deaths were reported in a hospital recently opened; 124 cases were admitted from January 21 to 31. Of this number, 28 died, and 36 had been discharged cured at the date of the report. Reports state that the yellow fever which prevailed in Vera Cruz last year was less virulent than in previous years. Total deaths reported, 140. From January 16 to 29, 16 cases and 12 deaths from cholera were reported in the Department of Finisterre, France. In the town of Douarnenz, in this Department, 44 cases and 7 deaths were reported between January 3 and February 8. On February 11, 9 cases remained under treatment. It is reported that the disease was introduced by fishermen from the Spanish coast in September last, and that the spread of the disease was greatly favored by the unsanitary condition of the houses, the overcrowding of the inhabitants, and the excessive use of alcoholic liquors. From September to the date of the report, there had been 394 deaths. At Tarifa, in the province of Cadiz, Spain, from January 23 to February 7, 260 cases and 86 deaths from cholera were reported. In Italy, cholera has appeared at several places during the winter, and while the disease has not assumed epidemic proportions, it is not regarded as having been entirely suppressed.

NEW YORK.

— The meeting of the New York County Medical Association held April 19th, was entirely devoted to memorial exercises in honor of the late Professor Austin Flint. After appropriate introductory remarks by the President, Dr. Charles A. Leale, a series of resolutions for adoption by the Association, which had been prepared by a special committee, was read by the Chairman, Dr. John Shrady, Vice-President of the Association. Addresses were then made by Drs. Wm. H. Welch, of the Johns Hopkins University, Baltimore, and T. R. Varick, Surgeon-General of the State of New Jersey; and by Drs. L. A. Sayre, E. G. Janeway, J. Lewis Smith, Joseph D. Bryant, Frank H. Hamilton (read by Dr. Ira B. Read), F. R. Dennis, Isaac E. Taylor, and other members of the Association. The Secretary, Dr. P. Brynberg Porter, then read letters of regret from Professor N. S. Davis, of Chicago; Dr. E. M. Moore, of Rochester, President of the New York State Medical Association; Dr. E. D. Ferguson, of Troy, Secretary of the State Association; Dr. Joseph R. Hutchinson, of Brooklyn; and Dr. William Detmold, ex-President of the County Association.

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[2] "Hadrian had been witness of so many other miracles! and from all had been able to draw but one conclusion, that the number of incredible things in this world is infinite!" Rénan. Eglise Chrétienne, p. 41.

— At a meeting of the Hospital Saturday and Sunday Association held at St. Luke's Hospital, April 19th, the seventh annual report of the Association was read. This stated that the general hospital collection for the year 1885, which amounted to $46,085.38, and was the largest that had as yet been made, furnished indubitable proof that the movement was growing in public favor, and that it realized a very general desire for a single instrumentality broad enough to serve as a common channel of benevolence for any form and shade of religious or social opinion. A large part of the increase in the receipts last year — nearly $10,000 — came from sources to which no direct influence could be traced, which was regarded as a special indication of the growth of the movement in public esteem. This increase came largely from the two extremes of society, the opulent and the poor. The contributions made by the poor were, to a considerable extent, made up of the ten, twenty-five, and fifty-cent offerings of sewing women.

All sums contributed by trades are held as a reserve fund to be drawn upon for the care of patients recommended by trade contributors. In the receipts from the various trades, those from the dry goods trade stood at the head, $4,350, and the total amount from the trades was $10,719. The exchanges contributed $2,202. Of the churches, the two bodies contributing the largest sums were the Protestant Episcopal and the Presbyterian. The former gave $16,184, as against $11,527 in 1884; and the latter gave $6,898, as against $4,280 in 1884.

The report shows that the contributions sent to the Association for certain designated hospitals in 1885 were $13,113.43; while those sent to be distributed at the discretion of the Association (a bent to which there is a growing disposition on the part of the public), and which is termed undesignated, amounted to $32,931.95. Since the last report, the Home for Convalescents and the Montifiore Home for Chronic Invalids have been added to the membership of the Association.

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Correspondence.

LETTER FROM PAU.

Pau as a Winter Resort.

Pau, April, 1886.

Mr. Editor, — Pau, in South Western France, is equidistant from Bordeaux and Toulouse, about five and one-half hours by railway. From Paris one may go by rail to Pau, express, in sixteen and one-half hours; or by steam from Liverpool to Bordeaux in two days or from London in sixty hours. The steamers from the former port belongs to the Pacific line and are large and fast. From London the boats are smaller but still are comfortable. The trip by sea, via Bordeaux, is much less expensive than the route by the way of Folkestone or Dover, and across to Boulogne or Calais. The latter method of reaching Pau obliges the traveller to pass through Paris. To the majority of invalids, however, the less they see of the English Channel and Bay of Biscay would probably be the better for them. Much would depend upon their "sea-going qualities." Historically, Pau is well known as the birth-place of Henry of Navarre and of Bernadotte, afterward King of Sweden. The very interesting castle in which Henry was born was restored by Napoleon III. The cradle of the wily Henry, an enormous tortoise-shell, is still exhibited; also two steel forks which he used in later years. To-day they would be considered convenient eel-spears.

From the château, or from the promenade (*Boulevard du Midi*) which passes the front of it, one looks across a lovely valley and the noisy, glittering river and beyond the Coteaux — exquisite verdant hills of gentle slope enlivened by villas — upon the superb range of the Pyrenees, extending from East to West. A mass of pure snow broken into lofty peaks and vast mounds, interspersed by suddenly disposed crevasse and valley. Under the refracted light of the sun, silver and thousand hued color beautify this wonderful prospect and the eye is fascinated. Imagine a clear blue sky as a background and you have a picture which indeed must be rare, even when one considers the immense resources of nature.

Before referring directly to the climate of Pau it may be said with Taylor, that climates having a curative reputation often disappoint invalids because the latter bring exaggerated expectations and often will not patiently wait for proper effects. "There are three wants," says Emerson, "which never can be satisfied: That of the rich who wants something more; that of the sick who wants something different, and that of the traveller who says: 'Anywhere but here!'" The invalid seeker for climate is too apt to become a victim of climate. He acquires climateophobia. He wants something different. He finally chronically says: "Anywhere but here." If the invalid needs to learn anything it is patience in hope, avoidance of overwrought expectations and willingness to give a new remedy and especially a new climate *time*. The latter often requires absolute changes in the functions of the body before it can do its proper work. If the round peg which has long been in the square hole possessed sensation, it certainly would be conscious of the discomfort of newness when first put into the round hole. Such is apt to be the experience of an invalid during the early days of his stay in a new climate, utterly unlike his native air. This may be said to be especially true in connection with Pau. The guide-books speak of the climate as "delicious." The invalid perhaps reaches Pau during a rainfall which may continue more or less steadily for ten days or a fortnight. The stranger naturally is disgusted and at the end of the first week says: "*Anywhere but here.*" To the bitter complaint of continuous rain, on the part of a gentleman who had brought his invalid wife to Pau, I replied that if the rain fell for three months, his wife nevertheless would steadily improve, and he admitted that she had already made very apparent gain. This is perfectly characteristic of Pau. That charming and clever story, "The Sun Maid," gives one a true sense of the feeling with which those who know Pau regard her: "We love her in all her moods."

In choosing climates for them the physician should warn his patients that visions of countries where the sky is always blue, the breeze soft and perfumed, the air unchangingly agreeable and rain a thing of half-hours, are mere dreams. Invalids rarely possess steady common sense, therefore it should, if possible, be taught them by the physician. The patient must keep his mental sunshine when the skies are overclouded and be willing to give his chosen climate *time*. Invalids frequently leave Pau in impatience after a week of continued rain. They try other climes and return to Pau to remain for years to their great advantage. Still in regard to climate every invalid is his own law. The best the physician can do is to send certain cases to a certain resort, because many other similar cases have been relieved by its climate. Nevertheless, just as quinine may fail to help the one-hundredth case of malaria, so a given climate may fail to relieve the hundredth case of pulmonary weakness after having relieved or cured ninety-nine invalids similarly affected.

The most striking peculiarity of the Pau climate, in which relatively rules a very steady barometic pressue, is a singularly persistent quietude of the atmosphere. This is due to the situation of the town. By long ranges of hills which are separated from Pau by a wide valley, the northerly winds are shut out and the southerly breezes are cooled and their force is broken by the snow-peaks of the Pyrenees. The north-east and south-east tops of these mountains form opposite Pau an open angle through which the north wind which has been turned back by hills is forced to enter the Pau valley as a north-east wind. Meanwhile the lower hills at the North quiet the force of the wind. The prejudicial effect of north-east and south-east winds is seldom felt in Pau and the "Mistral" which so frequently storms upon the Mediterraneam coast is here unknown. The west wind is the most noticeable and since it comes from the Atlantic Ocean and perhaps is charged with salty elements, is rather beneficial to invalids than otherwise. During the Spring when east and west winds prevail both have a relatively mild character. The stillness of the atmosphere is so great that it is often difficult to decide from which quarter the wind comes. On many consecutive days the leaves upon the trees are not seen to move. I one day saw an immense paper balloon, fully six feet in diameter, ascend from the Place Royale. It mounted straight upward at least one mile, stood absolutely still many moments and then slowly wandered southward. This impressively showed the immobility of the air. The story is told of a naval officer who had fought many a storm at sea, that he left Pau in disgust, because during his stay of two years he so rarely encounted "a capful of wind." Observation shows that north-west winds prevail in summer, southerly during the winter, and west winds in spring. It will be seen, then, that the cold of winter being tempered by southerly winds, together with the extraordinary quietude of the atmosphere, the climate should act beneficially upon irritable air passages and upon lungs which are either predisposed to or are a prey of active disease.

Temperature. The mercury rarely falls below 32° F., and then generally during the night. A temperatnre of 20° F. and a persistent fall of snow which occurred only twice in fifty years are naturally very rare. Snow falls nearly every winter, but in a mild coquettish manner, during a brief period, melting almost at once. Although changes of temperature are sudden the oscillation is not great. The winter seldom lasts more than six weeks. As a general rule, one nearly without exception, if weather at Pau be more than usually severe it is found that during the same period, the weather of latitudes south of Pau far exceeds that of Pau in severity and duration. One writer has noted that on a Christmas day, when the mercury in England falls to —7° F., in Pau the thermometer registered 64° F. in the shade. The mean of lowest temperature in Pau during a period of eight years was as follows: In November, 46.9° F.; in December, 42.5°; January 40.5°; February, 43.2°; March, 47.9°; April, 53.3°. The mean of highest temperature during the same period was: November, 54.4° F.; December, 48.1°; January, 47.1°; February, 50.4°; March, 56.1°; April, 62.2°. My own observation shows an average daily oscillation of about 12 degrees and the temperature rarely falls below 40°–42°. At noon on sunny days the mercury usually stands at 50°–60°. The temperature from 9 A.M. to 3 P.M., ("invalids hours") averages in November, 50°; December, 44.4°; January, 43°; February, 46 1°; March, 52°.

Considerable rain falls in Pau but seldom longer than two days at once. The average number of rain days is: in November 10, December 11, January 12, February 10, March 11, April 15. Fogs are rare. Clouds usually mean rain. Vegetation is not tropical like that of Nice with its palms, citrons, oranges, pomegranates, growing luxuriantly in the open air. This shows that the night temperature of Pau is lower than that of Nice, but the quiet of the atmosphere, which continues in Pau for weeks together, renders the colder days less noticeable. In no other winter resort in Europe is there such freedom from winds, and this is a boon to the invalid. Referring again to the rain days, Pau stands rather high in the list, but rain is generally followed by warm sunshine and the sandy soil prevents enduring dampness. Indeed, a marvellous attribute of the atmosphere is its freedom from *communicable humidity.* The climate may be termed moist, but one is amazed to observe that nothing rusts, that even during continued rain everything within doors remains not only absolutely dry, but that articles of flannel or linen which have been put aside continue perfectly dry. A saturated towel or sponge will in a few hours during rainy weather become quite free from moisture. This is explained by the absorbent qualities of the soil and by a peculiar electric state of the atmosphere. Patients should be warned against a feeling of discouragement because of frequent rainfall, for, in spite of this, the general strength steadily increases. Rain falls suddenly and in large quantities, yet in a few hours the gravelly soil is dry, and if properly clothed invalids may go out nearly every day. This peculiarity of Pau weather gives a feeling of warmth which would be absent in another climate, in which at the same temperature, or even at a higher degree, the air because of its *free* humidity feels sharp and bleak. This may be illustrated by quoting from Sidney Lanier's book on Florida. "While at St. Augustine," he writes, "I sometimes went out in the morning and found the air so cold that I was obliged to return for my heavy overcoat. I then looked at the mercury and found it at 59° F. and wanted to kick the thermometer!" An atmosphere which contains an excess of *free* communicable humidity, chills even when the temperature is moderately high, especially if there be a wind. In Pau invalids find the air agreeable even when the mercury stands as low as 40° F. As Dr. Luther Parks, a well-remembered Bostonian, who has resided many years at Pau, remarked to me, "The difference between the two climates is that between a saturated sponge and a sponge squeezed out. Though the Pau climate may be termed moist and enervating (*sedative* is the true word) and thus resembling Pisa, this must not be confused with what is usually called dampness.

The celebrated Louis having read Taylor on the climate of Pau (an excellent book), thought it the work of an enthusiast, but having afterward passed a winter here, he expressed himself strongly in regard to the absence of free humidity in the atmosphere and in reference to the feeling of warmth in Pau at a temperature which elsewhere would seem cold. He quotes a case of phthisis in which the patient, a lady, found her health better at Pau during a stay of two years than during a long stay at Jamaica.

(To be continued.)

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CHRONIC TEA POISONING.

New York, April 20, 1886.

Mr Editor,— In Dr. Bullard's interesting article upon "Chronic TeaPoisoning," published in the Journal of April 8th, he states that he has been able to find only general statements, and no statistics bearing on this subject. In the *Medical Record* of January 24th, 1880, I published an article entitled "Tea-tasters and the Healthfulness of their Pursuits." Dr. Bullard has evidently overlooked this, since the article does contain some facts and statistics with regard to the question in hand. He will there find also some references to the observations of Dr. Wolfe on the same subject.

My own observations covered a somewhat different line from those of Dr. Bullard. I found that a person must take from seven to eight cups of tea daily to get an average dose of thein, and that professional tea-tasters who were inhaling and sipping tea-infusions all day long were a very healthful class of men.

For several years I have been in the habit of questioning dispensary patients as to their tea-drinking habits, and I can agree in the main with Dr. Bullard's views. Yet it has seemed to me that for the production of chronic tea-poisoning in adults, there must generally be some especial weakness or susceptibility of the system. By far the worst thing about the use of tea which I have observed, is the almost universal habit among the poorer classes of giving it *ad libitum* to their children. This practice is an extremely common one in New York. It is fruitful of harm, and as it springs simply from parental ignorance, it is a practice that might be corrected by a little missionary work, on the part of newspapers, health boards and physicians. Very truly yours, Charles L. Dana, M.D.

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PHYSICAL EXAMINATION OF CANDIDATES FOR THE UNITED STATES NAVAL AND MILITARY ACADEMIES.

Boston, April 20, 1886.

Mr. Editor,—Members of Congress when having the right of nomination in their districts generally ask some physician to examine the young men who apply for the position. Such examination includes that of the visual power and color sense of the candidate. As only a certain amount of hypermetropia or of myopia will be passed by the United States medical examining boards and no degree of color-blindness by the naval medical board, it is pretty important that defective vision for form or color should be detected by the doctor certifying to the young man's physical condition.

It is more than mortifying to young men, who pass an excellent examination, to be afterwards thrown out for physical defects. Cases have applied to me, and I have heard of others, of excessive myopia and color-blindness, when months were wasted in preparing for the ordeal. If the physician originally applied to cannot be sure of the degree of hypermetropia or myopia, it certainly would be better to send candidates to the nearest ophthalmic surgeon who can decide, than to have the young man rejected by the medical board afterwards.

Defects of the color sense may readily escape detection by methods of testing ordinarily used, as asking the names of colors, etc. The surest means is to apply Professor Holmgren's test with the worsteds, as will be done to the candidates by the medical board. They, however, will have a proper collection of worsteds, but exactly the same can be procured of N. D. Whitney & Co., 129 Tremont Street, Boston, with whom I arranged to keep on hand type collections, at the request of the American Ophthalmological Society.

Physicians have written to me from different parts of the country complaining of their utter inability to apply Holmgren's test as described in my manual. On investigation I have found that they did not have a proper set of worsteds, but some of the imitations advertised and sold in New York and Philadelphia. An examination of these imitations showed that they could not possibly be used to properly carry out Holmgren's test. I hasten to say that I have no pecuniary interest in Mr. Whitney's sale of worsteds. I am desirous that the now necessary application of Holmgren's brilliant invention should not be interfered with by tradesmen's ignorance or cupidity, and that physicians should not be imposed on.

Yours truly, B. Joy Jeffries, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 17, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whooping Cough.	Diph. and Croup.
New York	1,439,039	698	263	16.94	16.80	2.24	3.08	5.30
Philadelphia	971,363	439	149	11.73	12.65	2.07	.46	2.76
Brooklyn	690,000	255	91	13.26	12.87	1.17	2.73	3.12
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	155	43	9.75	16.90	3.25	.65	1.30
Baltimore	417,220	163	65	6.71	15.25	.61	—	4.27
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	127	46	8.69	10.27	1.58	1.58	1.58
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	95	32	9.45	14.70	—	1.05	—
Pittsburgh	190,000	79	25	17.78	15.24	1.27	1.27	5.08
Milwaukee	—	—	—	—	—	—	—	—
Providence	118,070	44	4	4.54	29.51	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	33	7	—	27.27	—	—	—
Worcester	68,383	23	11	—	8.70	—	—	—
Lowell	64,051	25	9	8.00	12.00	—	—	8.00
Cambridge	59,660	16	5	31.25	37 50	—	—	25.00
Fall River	56,863	22	7	9.00	13.65	—	—	—
Lynn	45,861	17	2	16.66	33 33	—	—	33.33
Lawrence	38,825	11	4	—	18.18	—	—	—
Springfield	37,577	7	2	—	14.28	—	—	—
New Bedford	33,393	13	5	19.38	38.76	—	7.69	—
Somerville	29,992	—	—	—	—		—	—
Salem	28,084	7	1	—	28.56	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	13	3	—	—	—	—	—
Taunton	23,674	5	1	—	20.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	7	3	14.28	14.28	14.28	—	—
Newton	19,759	6	1	—	50.00	—	—	—
Malden	16,407	6	2	—	33.33	—	—	—
Fitchburg	15,375	5	2	20.00	20.00	—	—	—
Waltham	14,609	5	1	—	16.66	—	—	—
Newburyport	13,716	6	3	25.00	—	—	25.00	—
Northampton	12,896	3	1	33.33	33.33	—	—	—
94 Massachusetts Towns	—	49	12	4.08	8.16	—	—	4.08

Deaths reported 2,242: under five years of age 802; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 292, consumption 363, lung diseases 354, diphtheria and croup 90, whooping-cough 41, diarrhœal diseases 38, scarlet fever 36, typhoid fever 32, erysipelas 17, malarial fever 12, cerebro-spinal meningitis 11, puerperal fever eight, measles five, small-pox two. From scarlet fever, New York 14, Philadelphia and Brooklyn six each, Boston four, District of Columbia, and Pittsburgh two each, Baltimore and Cincinnati one each. From typhoid fever, Philadelphia 14, New York six, Cincinnati four, Boston and District of Columbia each two, Baltimore, Providence, Charleston and New Bedford each one. From erysipelas, Brooklyn five, Philadelphia four, New York and Pittsburgh three each, District of Columbia and Cambridge one each. From malarial fever, New York six, Brooklyn four, Baltimore and District of Columbia one each. From cerebro-spinal meningitis, New York four, Philadelphia and Fall River two each, Pittsburgh, Fitchburg and Northamptom one each. From puerperal fever. Philadelphia. District of Columbia and Pittsburgh, two each, New York and Boston one each. From measles, New York two, Brooklyn, Providence and Chelsea one each. From small-pox, New York two.

In 111 cities and towns of Massachusetts, with a population of 1,242,199 (population of the State 1,941,465), the total death-rate for the week was 15.99 against 18.28 and 19.29 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 3d the death-rate was 22.2. Deaths reported 3,862: infants under one year of age 916; acute diseases of the respiratory organs (London) 506, whooping-cough 157, measles 97, diarrhœa 3, fever 30, diphtheria 19, scarlet fever 19, small-pox (Liverpool) one.

The death-rates ranged from 31.4 in Blackburn to 12.4 in Wolverhamptom; Birkenhead 22.4; Birmingham 22.1; Brighton 28.7; Hull 18.8; Leeds 18 9; Leicester 25.8; Liverpool 23.6; London 21 9; Manchester 25.6; Newcastle-on-Tyne, 20.5; Nottingham 24.9; Sheffield 23.2; Sunderland 15.6.

In Edinburgh 19.9; Dublin 34.4; Glasgow 25.6.

For the week ending March 3d in the Swiss towns, there were 45 deaths from consumption. lung diseases 33, whooping-cough 13, diarrhœal diseases 17, small-pox seven, diphtheria and croup seven, erysipelas six, measles six, scarlet fever three.

The death-rates were: at Zurich 24.8; Geneva 33.3; Basle 17.0; Berne 36.4.

The meteorological record for week ending April 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Apr. 17, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...11	30.573	36.9	42.0	34.1	52.0	61.0	74.0	62.3	N.E.	E.	S.	11	14	8	C.	C.	F.	—	—
Monday, ..12	30.447	50.2	60.9	34.8	74.0	62.0	91.0	75.7	S.	S.W.	S.W.	4	13	13	C.	C.	O.	—	—
Tuesday, ..13	30.188	56.5	63.2	50.9	87.0	80.0	86.0	84 3	S.W.	W.	S.W.	13	14	6	O.	R.	C.	—	—
Wednes., .14	30.288	47.6	55.1	43.7	87.0	75.0	82.0	81.3	N.E.	E.	S.E.	11	11	1	O.	C.	C.	—	—
Thursday, 15	30 373	47.6	60.2	37.3	86.0	63.0	93.0	80.7	S.E.	S.E.	E.	1	10	17	F.	F.	O.	—	—
Friday, ...16	30.555	40.7	43.5	37.3	91.0	81.0	91.0	87.7	E.	E.	S.W.	11	9	2	O.	O.	O.	—	—
Saturday, .17	30.523	45.1	55.1	39.3	90.0	85.0	68.0	81.0	S.W.	E.	S.W.	7	6	9	G.	C.	C.	5¾	0.04
Mean, the Week.	30.421	46.1	63.2	34.1				79.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 17, 1886, TO APRIL 23, 1886.

Taylor, M. K., major and surgeon. Granted one month's leave of absence, on surgeon's certificate of disability, with permission to leave the limits of the department. S. O. 39, Department of Missouri, April 16, 1886.

Gray, Wm. W., captain and assistant surgeon. Ordered to Fort Maginnis, M. T.

Woodruff, Ezra, captain and assistant surgeon. Ordered to Fort Missoula, M.T.

Robertson, Reuben, first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Snelling, Minn. S. O. 33, Department of Dakota, April 16, 1886.

Wales, Philip, G., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 56, Department of Columbia, April 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING APRIL 17, 1886.

Wyman, Walter, surgeon. To represent the service at the meeting of the American Medical Association at St. Louis, Mo., April 12, 1886.

Sawtelle, H. W., surgeon. Detailed as chairman of Board for physical examination of officers of the Revenue Marine Service, April 15, 1886.

Urquhart, F. M., passed assistant surgeon. Relieved from duty at Norfolk. Va., May 1, 1886, to assume charge of Cape Charles Quarantine, April 16, 1886.

Yemans, H. W., passed assistant surgeon. Detailed as Recorder of Board for physical examination of officers of the Revenue Marine Service, April 15, 1886.

Heath, F. C., assistant surgeon. Appointed an assistant surgeon, April 15, 1886. Assigned to duty at Chicago, Ill., April 16, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 24, 1886.

Lovering, P. A., passed assistant surgeon. Ordered to Navy Yard, New York.

Biddle, Clement, passed assistant surgeon. Detached from "Monocacy," ordered home and wait orders.

Ames, H. E., passed assistant surgeon. Detached from Navy Yard, New York, and ordered to "Monocacy."

Crawford, M. H., passed assistant surgeon. Ordered to Naval Hospital at Washington.

Medical Director W. T. Hord, U. S. N., and Medical Inspector J. C. Spear, U. S. N., delegates to the American Medical Association to be held at St. Louis. on May 5, 1886.

SOCIETY NOTICES.

Suffolk District Medical Society. Surgical Section.— There will be a Meeting of the Section at 19 Boylston Place, on Wednesday evening, May 5th, at 7.45 o'clock. Communications: Dr. O. K. Newell, "Intestinal Suture." Dr. H. W. Cushing, "Experimental Research on Suture of Intestine." Dr. J. E. Kelly, "Notes on Fractures: with Special Reference to Fractures of the Clavicle and Colle's Fracture, and the Exhibition of Apparatus. S. J. Mixter, M.D., *Secretary*.
180 Marlborough St.

Boston Society for Medical Observation. — There will be a regular meeting of the Society at the Medical Library, 19 Boylston Place, Monday evening, May 3d, at 8 o'clock. Papers will be presented by Dr C. F. Folsom, "Two Cases of Acute Mania." Dr. E. O. Otis, "Backward Dislocation of the Phalanges upon the Metacorpus."

Charles P. Strong, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

The Influence of Sewerage and Water Supply on the Death-Rate in Cities. By Erwin F Smith, Ann Arbor, Mich. (Reprinted from a Supplement to the Annual Report of the Michigan State Board of Health for the year 1885. Reprint No. 243.)

Original Articles.

THE TREATMENT OF CANCER OF THE UTERUS.[1]

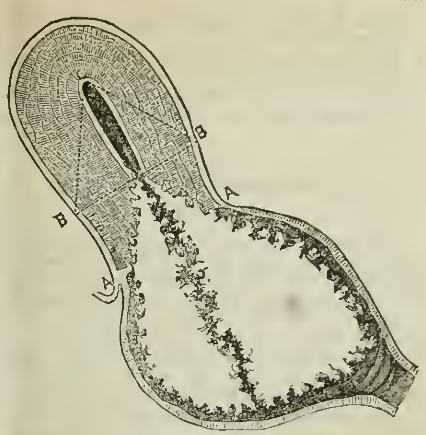
W. H. BAKER, M.D.

In April, 1882, I published in the *American Journal of Obstetrics*, the description of an operation for cancer of the uterus, which has proved to give better results than any other form of high amputation, and which has been adopted by other surgeons with a like satisfactory result. As the steps of this operation are not well understood by the general surgeon, I have thought best to call the attention of the profession again to its description, which is as follows:

The patient being etherized and placed in the Sims' position, the cervix is seized with the volsellum forceps and dragged down as nearly to the outlet as possible. This not only facilitates manipulation, but diminishes, in fact almost entirely checks, the hæmorrhage which otherwise may be alarming. The portio vaginalis is then cut into anteriorly with the scissors, and the supravaginal cervix anteriorly is separated from the bladder with the scissors, aided by the forefinger in tearing the tissues. This part of the operation is similar to Schroeder's for the removal of the uterus by the vagina.

The same incision is then made into the vagina posteriorly, and the supravaginal cervix separated from the peritoneum up to the level of the internal os uteri. Thus it will be seen that the peritoneum is not purposely opened in an uncomplicated case, as is done by Schroeder's method. But the peritoneum is closely attached to the uterus at the level of the internal os, and it may accidentally be cut into, which has been my experience in two instances. The anterior and posterior incisions being now connected by lateral ones, and the supravaginal cervix separated on the sides in the same manner as was done in front and behind, the uterotome is to be substituted for the scissors, and a funnel-shaped portion of the body of the uterus cut out. This step of the operation is like Sims', with the exception that here it is possible to remove more of the body of the uterus, because here the base of the cone removed starts from the level of the internal os uteri at the junction of the peritoneum to the body of the uterus, both before and behind, and the apex of the cone removed extends nearly or quite to the fundus of the uterus; whereas, following Sims' method, the base of the cone starts from the level of attachment of the vagina to the cervix, and a portion of the supravaginal cervix and more of the body of the uterus must be left.

It is thus possible to remove the entire cervix, both infra- and supra-vaginal, and at the same time nearly or quite one-half of the body of the uterus, and that the most important half; for cancer of the body of the uterus, whether of primary origin or of extension from the cervix affect the glandular structure first, and by the method I have described, this, its natural habitat, is removed or destroyed. It is in the connective tissues which so predominate in the cervix that the disease there develops so readily, and this, it has been seen, is entirely removed. The actual cautery, at a red heat, is then applied to the whole denuded surface. This part of the operation takes considerable time; for, as the traction is relaxed, there is likely to be more or less hæmorrhage, and it often requires much patience to apply the cautery thoroughly enough to each and every bleeding point to feel secure in putting the patient to bed without tampon or other dressing to control hæmorrhage. It is possible to accomplish this, however, and it is a very great gain in the subsequent treatment of the patient. The operation can seldom be done in less than half an hour, and will frequently require from three-quarters of an hour to an hour.



So long as the disease has not touched the rectum, we may still hope to remove it entirely, as I have done in several instances, even though it has implicated the whole thickness of the vaginal membrane and submucous tissue quite to the peritoneum posteriorly over a large surface. The operation must differ from that just described, in that the incision into the vagina posteriorly must be made a full quarter of an inch beyond the line of any infiltration, and extend quite through into the peritoneal cavity, removing the whole of the upper vagina with the supravaginal cervix. Before applying the cautery, the edge of the healthy vagina should be stitched with silver sutures to the lower part of the posterior wall of the uterus. So too, if the anterior vaginal membrane be implicated in the disease, it may be dissected off the bladder. If the base of the bladder itself even be affected, so long as the ureters are not involved, we may cut away a large part of it, if we can thereby remove the entire disease, closing the fistula thus formed with silver wire before using the cautery.

The advantages claimed for this method of operating are:

First, That by it we are able to remove more of the uterus than by any other form of high amputation.

Second, The opening of the peritoneal cavity is not necessarily involved in its performance.

Third, The practicability of using the touch in determining the extent of the disease as the operation proceeds, is retained, which cannot be practiced when the galvano-caustic wire is used.

Fourth, All the advantages of the galvano cautery are retained by the application of the Thermo cautery at a red heat, to all the denuded surface, and made more effectual, even, by previously being sure that the disease as evidenced by the touch had been removed.

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[1] Read before the Obstetrical Section of the Suffolk District Medical Society, February 17, 1886.

Fifth, It is more practicable for the general surgeon than total extirpation.

Sixth, The length of respite from the disease is greater than in any reported cases of total extirpation and the percentage of recoveries from the operation greater than by any other method of high amputation.

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ACUTE INVERSION OF THE UTERUS.[1]

BY A. P. WEEKS, M.D.

IT is not my intention to give an extended review of the literature of this subject. Matthew Duncan, in his excellent work entitled "Researches in Obstetrics," did that very fully and ably. Nor do I desire either to put forward a new theory as to the cause of this accident, or to bolster up any other man's theory.

Too much fanciful speculation has been written already. I find that every man who has written a book on obstetrics, although he may never have seen a case of acute inversion, has felt himself competent to express opinions concerning it, and to lay down laws to govern other men's practice in the management of it.

As the observations noted in my case do not harmonize with the teachings of many of our systematic writers on obstetrics, I have collected as many histories of cases as my time would admit, which, together with my own case, I wish carefully to review, in order that we may see what *experience* teaches of this dangerous accident.

REPORT OF MY CASE.

Mrs. M——, aged twenty-two, primipara; rather anæmic; never strong; of slight build, but well-formed; at full term; without previous pain, had the membranes rupture about seven o'clock on the morning of the 23d of June, 1883. She had no pains worth noticing until late in the evening following. About three o'clock in the morning of the 23d, that is, twenty-one hours after the escape of the waters, I was called. I found the os just commencing to dilate. The head was presenting, and I could distinguish the position, O. L. A. The pains were sufficiently frequent, but short. I did not remain with the patient, but called in frequently during the forenoon to watch the progress of the case.

About noon, I went to the house to remain till the completion of the labor. At, or near one o'clock, the head had descended so as to rest on the perineum, but had not escaped from the os. The pains now, instead of growing stronger and more effectual, became weak and almost ineffectual. At half-past two, there had been no advancement for an hour. I then applied the forceps without ether, and easily delivered an eight and three quarters-pound child without injury to the mother. The nurse compressed the abdomen after the delivery of the head until the child was fully expelled. When I had cared for the child and cleansed my hands, I took the nurse's position and held the uterus in hand several minutes, until I felt contraction; then I steadied the cord, but did not draw upon it. I continued the compression with the left hand, and told the woman to bear down. She did so *once*, and *only* once. I noticed that the globular form of the uterus became less distinct. I could still feel it, but I did not think to trace its outline carefully. Still holding my hand on the abdomen, I passed the right index finger into the vagina, and found the placenta had descended.

As I could not reach the border of it, I pierced it and rotated it, when it was quickly expelled. Quite a brisk hæmorrhage followed. I passed two fingers to explore the vagina, seeking the cause of bleeding. I found a large tumor, filling nearly down to the perineum. The uterus had inverted. I at once passed the whole hand into the vagina, grasping the fundus, and compressing it evenly over all sides, and still supporting the abdomen with my left hand, I gently carried the organ to its place. It took some two or three minutes to accomplish it. Ergot was administered, and the hand retained in the cavity, and ice applied externally until a firm contraction was secured.

Now, as I introduced my hand, this was what I observed. A pear-shaped body, that filled my whole hand, was projecting into the vagina. I carried my fingers up, to learn that the inversion was not complete. I could detect on either side, the thick, rough walls of the uterus as compared with the thin, smooth, yielding walls of the vagina. There appeared to be about one and a half to two inches of the uterus, about the length of the natural neck, not yet inverted. Holding my fingers well pressed up, to prevent further descent, with my thumb and little finger, which I was obliged to quite fully extend, I searched for the os. I could just distinguish it. It seemed like a mere thickened band at the vault of the vagina, perfectly flabby and inert. I fretted it, but it would not contract.

I then proceeded to carry the fundus to place by compressing, and pushing upward at the same time, replacing in an inverse order from the descent. The last to go up was the fundus; and this, be it remembered, was not flaccid, paralyzed, as some assert, but went up with a *snap*, and immediately grasped the fingers. The firmest contraction was at the fingers' tips. I could distinguish the compression as far down as the knuckles. I now felt for the os again. I felt it more plainly. It was distended, and evinced no disposition to contract. The uterus, for several minutes after the re-position, was of the shape of an inverted tunnel. The fundus was firmly contracted, the upper segment partially so, while the lower segment, cervix, and os, were inert.

I cannot tell the exact time required to arouse contractions of the os; I think more than fifteen minutes. At the expiration of a half-hour, the cervix had not assumed the elongated form that it afterwards showed. The lady made a very rapid and gratifying recovery. She did not have one unpleasant symptom, not so much as gaseous distention, so common after normal labors, and to-day she experiences no uterine weakness or ill-feeling as a consequence of the accouchement.

I have described thus minutely, every condition and procedure attending *this* labor, to show that inversion of the uterus *may* occur without there being present, a *rapid delivery*, *short funis*, *traction* of the *funis*, *irregular compression* of the *fundus*, or *undue bearing-down efforts* of the *patient* — factors which most obstetric authors enumerate and emphasize as causes of the accident. So much of experience — now what does it teach us?

We have no statistics from which to make comparisons to determine the relative frequency of this accident. I think, however, that it is not so rare as it has heretofore been supposed. The ratio, 1 to 190,800, as observed in the Rotunda Hospital, which we find quoted in nearly every work on obstetrics, does not, in

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[1] Read before the Obstetrical Section of the Suffolk District Medical Society, February 17, 1886.

No.	Period of Gestation.	Primip. or Multip.	Attendant.	Kind of Labor.	How Delivered.	Condition of Placenta.	Placenta how Delivered.	Time inversion occurred after delivery	When Diagnosed.	When Reduced.	Death or Recov'y.	Condition of Os.	Condition of Fundus.	Method of [Treatment.	Presentation.	By whom Reported.	Journal.
1	Term.	P.	Midwife.	......	.....	Adherent.	......	......	2 hours.	Not at all.	D.	....	......	......	....	Dr. Dewees.	Dewees' Obstetrics.
2	"	..	"	......	.....	Non-adher.	Spontaneous.	Immediately.	3 days.	"	R.	Contracted.	......	......	....	"	" "
3	"	..	Dewees.	......	.....	Adherent.	By moderate traction.	"	At once.	At once.	R.	....	......	Detached in vagina.	....	"	" "
4	"	P.	....	Natural.	.....	Non-adher.	Traction and comp. abdom.	"	3 hours.	"	R.	....	......	......	....	"	" "
5	4 mos.	..	No attendant.	......	.....	....	......	10th day.	Soon after.	"	R.	Dilated.	......	......	....	Dr. Skae.	Northern Medical [Jour., 1845.
6	Term.	M.	Dr. Fisher.	Slight transient pains.	Natural.	Adherent.	Spontaneous.	Immediately.	At once.	"	R.	"	......	Placenta detached outside.	....	Dr. Fisher.	Am. Jour. Med. Sciences, 1846.
7	"	M.	Dr. Burrows.	......	.....	"	Comp. and slight tr'ction	"	"	Not reduced.	D.	....	Flaccid.	......	....	Dr. Burrows.	Providence Med. and Surg. Jour., '47.
8	....	..	"	......	.....	"	No traction or force used.	"	"	At once.	R.	Dilated.	"	Returned with fundus and detached inside.	Breech.	"	" "
9	....	M.	Physician.	......	.....	Non-adher.	Expell'd in 1-2 hour, spont.	1 hour.	2 hours.	"	R.	....	......	......	....	Dr. F. R. Mitchell.	Dublin Med. Press, 1846.
10	....	M.	....	......	.....	Adherent.	......	Immediately.	3 hours.	"	D.	....	......	Separated outside.	....	Dr. T. M. Madden.	Pamphlet, 1870.
11	....	..	Dr. Atkinson.	4 hours.	Natural.	Non-adher.	Slight comp.	30 to 60 mins.	4 days.	"	R.	....	......	......	....	Dr. B. Atkinson.	Boston Jour., 1846.
12	....	M.	Dr. Reiche.	Pains feeble.	.....	Adherent.	Short funis, slight tr'ction	Immediately.	Immediately.	"	R.	Dilated.	Flaccid at placental site.	......	Breech.	Dr. Reiche.	....
13	....	P.	Dr. O. J. Hutchins.	Easy.	.....	Non-adher.	Slight tr'ct'n.	"	"	Not at all.	D.	....	......	......	....	Dr. O. J. Hutchins.	Medical Record, '82.
14	....	.	Midwife.	Natural	.....	....	......	7 days.	At that time.	12 days.	R.	....	......	......	....	Dr. John Prinkard.	"
15	....	P.	Physician.	......	.....	Non-adher.	Some tr'ction	At delivery.	3 days.	13th day.	R.	Contracted.	......	......	....	Dr. J. Braithwaite.	Obs. Jour. Gt. Brit. and Ireland, 1878.
16	....	.	Midwife.	......	.....	....	......	Prob'y at del.	Soon after.	At once.	R.	Dilated.	......	......	....	"	"
17	2 mos.	..	Physician.	......	.....	Adherent.	Spontaneous.	After 5th day.	"	"	R.	....	......	Det'd outside.	....	Dr. J. R. West.	Richmond, Indiana.
18	....	P.	Dr. J. Bryne.	Long and tedious.	Forceps.	Non-adher.	"	Immediately.	Immediately.	11th day.	R.	....	......	......	....	Dr. Bryne.	Brooklyn, N. Y.
19	....	M.	Dr. E. W. Sawyer.	Large am't of liq. amnil.	Forceps.	"	Compression of abdomen.	30 to 60 mins.	At once.	Not reduced.	D.	Dilated.	Tonic Contraction.	......	....	Dr. E. W. Sawyer.	Rush Med. Col.
20	....	M.	Midwife.	......	.....	Adherent.	Strong trc't'n	Soon after.	In short time.	At once.	D.	....	......	Det'd outside.	....	Dr. E. Smith.	London Lancet, '57.
21	6 mos.	..	No attendant.	......	.....	"	No force.	......	7 hours.	"	R.	....	......	"	....	Dr. Stephenson.	Brit. Med. Jour. '80.
22	4 mos.	M.	Dr. Robertson.	......	.....	....	Spontaneous.	17 days.	At once.	"	R.	....	......	......	....	....	....
23	....	..	Midwife.	......	.....	Adherent.	"	Soon after.	In short time.	"	R.	....	......	Det'd outside.	....	Dr. Bosham.	London Lancet, '55.
24	....	..	"	......	.....	....	......	......	Several hours after delivery	"	D.	....	......	......	....	Dr. Edder.	" " '79.
25	Term.	P.	Dr. A. P. Weeks.	12 hours, not hard.	Forceps.	Non-adher.	Slight comp. and moderate tension.	Immediately.	Immediately.	"	R.	Dilated.	Firm.	......	....	Dr. A. P. Weeks.	....

my opinion, represent its frequency in general practice.

A careful analysis of these cases shows: that inversion of the uterus happens about equally to those who have, and to those who have not borne children before; that the strong are victims to it, as well as the anæmic and weak; that it complicates rapid deliveries, and comes in as an addendum to long, tedious, and instrumental labors; that it appears, at one time, in a uterus that has been greatly distended with amniotic fluid, at another time, in a uterus only two to four months pregnant; that it occurs alike in the hands of careful, experienced physicians, and the ignorant midwife; that traction of the funis and compression of abdomen in the deliveries of the placenta, figure but lightly as determining causes (they were employed in only ten of these twenty-five cases, and but lightly in one-half of the ten); that it matters not whether the placenta be adherent or non-adherent, for of these cases, eleven were adherent, and nine non-adherent.

We find that of these twenty-five cases, seventeen occurred immediately after, or within one hour, after the birth of the child; but in only nine of these seventeen cases was the inversion discovered at once. The intervals during which it remained unrecognized varied from two hours to three days. Of the nine cases that were diagnosticated at once, only five were reduced immediately. One each remained four, ten, eleven, twelve, and fifteen days, unreduced, the others, a time ranging from one to seven hours.

The conditions of the uterus that favor inversion are shown correctly only in those cases where it was handled in the act, the five cases that were successfully reduced at once, and one case in which reduction was unsuccessfully attempted. We find that in these six cases, the os was dilated in every instance, and that the fundus was firm in four cases, flabby in one, and its condition not noted in the sixth, showing that inversion is the result of irregular and independent uterine contractions, or, to use the language of Sir J. Y. Simpson, "the fundus and os are in opposite conditions, the former is in a state of contraction, and the latter in a state of atonic relaxation." And this is further corroborated by the four miscarriages, in which the inversion could have been dependent on no other cause than uterine contraction.

The mortality is great. The death-rate of these cases amounts to twenty-eight per cent. of the whole number. The greater portion die of shock, few of hæmorrhage, and very few of subsequent inflammation.

Treatment. When we recall the fact that by far the greater portion of these cases occurred in the hands of physicians practically unacquainted with the accident, and that nearly all assert that they acted from first impulse, it is interesting to note the uniformity of treatment. In all the cases, save two in which the placenta remained attached to the extruding fundus, the placenta was first removed and afterward, reduction effected. It appears that the danger from hæmorrhage occasioned by the forcible separation of the placenta from the inverted fundus is not great; in fact, if the placenta be not ruptured, the hæmorrhage is but trifling. The result of the cases confirms the treatment, for of eight thus treated, only two died; while of two cases in which the placenta and fundus were both returned, one died. These latter two cases, however, are instructive in that they show the possibility of returning the fundus with the placenta, especially if attempted immediately. But when we consider how difficult the extraction of the placenta may be, and the liability of a re-inversion occasioned, by its delivery, the impropriety of such treatment readily appears.

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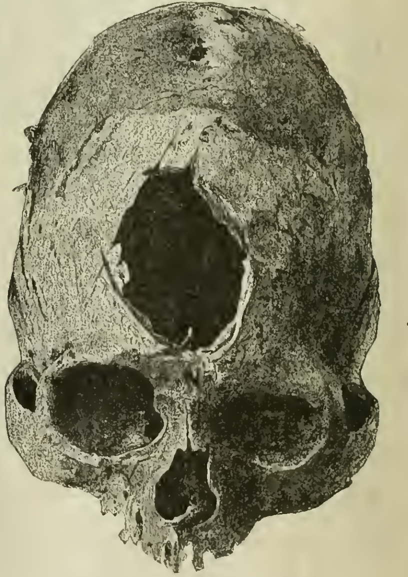
THE CHACLACAYO TREPHINED SKULL.

BY IRVING C. ROSSE, M.D., OF WASHINGTON, D. C.

SOME time since, while I was visiting the National Museum, Prof. Otis T. Mason was kind enough to call the writer's attention to a skull of the elongated Inca type, which is beyond doubt the most remarkable specimen of *post-mortem* trephining that has yet come to light.

The skull, contributed to the Museum by Dr. W. H. Jones, U. S. N., is from Chaclacayo, near Chosica, a mountain in Peru, near Lima, about 4,000 feet high. From the same place, three other skulls of peculiar shape were found.



The section or button of bone, which writers on prehistoric trephining call a *roundel*, was taken from the middle of this frontal bone, leaving an irregular, polygonal opening about two inches and a half in length by two inches in width. The outline of the cutting shows eight distinct furrows, which indicate that the work must have been done in a bungling manner with some primitive implement.

In addition to the usual deformity from bandaging, the specimen under consideration is bent to the left in the occipital region, and the nasal spine is warped, as shown in the illustration. Owing to this deformity and the large frontal opening, the Professor stated that the specimen admitted of no delicate measurements, neither could the capacity be obtained. He requested that the writer undertake the measurement, which was accordingly done, after fitting and gluing a piece of pine wood into the opening, so as to take the place of the missing portion of the frontal. Additional security being obtained by strips of adhesive plaster, the skull was ready to have its capacity tested, either by shot — after the precaution of enclosing it in a leather cap — or by water. The details of these operations have been described by the writer in Wood's "Handbook," under the rubrics, "*Cephalometry, Craniometry.*"

MEASUREMENTS OF THE CHACLACAYO SKULL.

Weight		gm.	460
Capacity		c.c.	1330
Length		mm.	162
Breadth	inter-parietal	mm.	131
	inter-temporal	mm.	132
Breadth of frontal		mm.	84
Height		mm.	149
Index of breadth	inter-parietal		809
	inter-temporal		815
Index of height			920
Index of foramen magnum			54
Frontal arch		mm.	272
Parietal arch		mm.	327
Occipital arch		mm.	245
Longitudinal arch		mm.	361
Circumference		mm.	467
Length of frontal		mm.	118
Length of parietal		mm.	115
Length of occipital		mm.	165
Zygomatic diameter		mm.	137
Facial angle			77
Orbital index			946
Nasal "			315
Alveolar "			950

On removing a portion of the mummified integument, in order to make the measurement with greater precision, there was found in the anterior part of the sagittal suture, a small opening, which may be congenital, or it may be the result either of a contusion, or of a former operation with a scraping trephine.

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REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

E. H. BRADFORD, M.D., AND H. L. BURRELL, M.D.

CONGENITAL DISLOCATION OF THE HIP JOINT.

Lucke[1] summarises the natural history of the deformity as follows: The symptoms usually develop, or are discovered slowly, when the child begins to walk. There is no evidence of pre-existing disease. Adduction with rotation inward, common in hip disease, is seen very rarely, the glutæi are frequently atrophied, an atrophy of the limb only develops as a late symptom, and paralysis is never seen. He was unable to agree with Verneuil and his followers who considered the disease as the result of a localized paresis of muscles.

Krönlein regarded the disease as one *sui generis, a vitium primæ formationis.*

Mr. Williams Adams[2] has collected 60 cases, of which 19 were double. In 45 of these the labor at the birth of the child was known, and in half of these 22 cases the labor was said to be prolonged, in seven there was breech presentation. The malformation is not more common in first children than in later children. In one case the child was the eighth child. Hereditary predisposition existed in only one case, in which the father and father's sister were said to have had the same deformity as the children. Nearly all the cases are brought to notice when between two and six years of age. At birth no symptoms are to be found to call the accoucheur's attention either in deformity, malposition, or immobility of the limb. In some of the children walking is a little delayed; if one hip alone is affected the case is frequently treated as hip disease; when both hips are affected it is usually supposed that the characteristic waddling gait will disappear on growth of the child, which never is the case. At about six the diagnosis is easy, and at from ten to twenty the diagnostic symptoms become exaggerated. The pathological specimens show, as far as known, either that the acetabulum is absent or only existing in a rudimentary form. Great alterations are seen in the size, shape and attachments of the capsular ligament. The head of the femur is usually flattened, wasted and irregular. Mr. Adams does not believe that the deformity is due to spasm of the muscles in utero, or is identical in any way with club-foot, or that it is traumatic due to any violence occurring at birth. The condition is not a dislocation at all, but a displacement due to a malformation of the acetabulum.

Margary has attempted to cure this distortion by operative means; opened the joint in a patient fifteen years old, chiselled out an acetabulum and made, with the help of a periosteum a new capsule of the joint. The operation was unsuccessful, resulting in a death from pyæmia, due to an accident in antiseptic precautions. In a second case a resection of the head of the femur, with a permanent extension. This he has repeated seven times, three times in single cases, four times in a double case. The deformity of lordosis and the prominence of the head of the femur were of course corrected by the operation and satisfactory results claimed by the reporter; the amount of possible motion is, however, not mentioned.

The patient is to be kept two months in bed, and six months in an appliance and crutches. The operation should not be performed after puberty for fear of the formation of a stiff joint.[3]

The readers of the Journal will not need to be reminded of the unusually successful case of Dr. Buckminster Brown, reported in the *Boston Medical and Surgical Journal*, June 4, 1885, p. 541, which shows that the conservative treatment promises in children a complete cure, provided treatment is thorough and painstaking.

OPERATIVE INTERFERENCE IN TUBERCULOUS DISEASE OF THE KNEE IN CHILDREN.

Müller[4] reviews the operation of "Arthrectomie" as a substitute for excision in children. The method has been in vogue at the Göttingen Clinic since 1881. Differing from that described by Volkmann in but a few details. Instead of the cross incision and dividing the patella favored by Volkmann, König at the Göttingen Clinic, prefers either two straight side incisions, or a straight median incision. By either of these methods the synovial cavities and sacs can be opened so as to be everywhere visible to the eye and within the reach of the requisite instruments, namely, the chisel, forceps, and scissors. Although it is not necessary to use the Esmarch band, yet it is a help.

The operation is without especial danger. Out of 22 operations none died directly from the operation; one died from chloroform, one from iodoform, two died eight months and one and a half years after the operation, of general tuberculosis, the operative interference as far as the knee is considered having been successful.

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[1] Centralblatt f. Chir., No. 48, 1885.

[2] British Medical Journal, November 7, 1885.

[3] Archiv. di Orthopedia, 1884, No. 5 and 6. Centralblatt f. Chir., No. 42, 1885.

[4] Centralblatt f. Chir., Dec. 12, 1885, No. 50.

Of the other 19, 15 healed by first intention without the sequela of a fistula, and in ten of these only three to six weeks were necessary for the healing; in others, however, a fistula remained after the first operation, and a second or third minor surgical interference (curetting) was necessary before recovery took place. Some of the cases were of pure synovial tuberculosis (8 out of 23) more were primarily osteal. Of those purely synovial all but one healed without a sinus, and in this case an extensive abscess was present. No shortening followed the operation, in six a stiff knee remained, there being an osteal disease present in all of these; in two active motion to a considerable extent remained, but in the majority of cases a certain amount of passive motion was present.

These facts conforming with those presented by Volkmann, would show that when possible, the procedure of dissecting out the sac and chiselling out such bony foci as may be present, is to be preferred in children to formal excision.

LATERAL CURVATURE.

Schenk[5] has examined a number of school children with reference to the frequency of scoliosis. He considers the attitude in writing, ordinarily assumed by children, as a sufficient exciting cause for lateral curvature, a deformity which he considers as under certain circumstances the result of weight falling unequally upon the spine.

Out of 200 school children examined a single lateral curve concavity to the left was found in 160; in 34 the usual sigmoid curve. Kyphosis, he considers due to the attitude often assumed by children, leaning upon both elbows. Leaning upon the right elbow favors a long lateral curve, but if combined with a twist of trunk the common sigmoid curve follows.

The ordinary school seats are faulty, as they do not allow the child to lean back comfortably. Lateral curvature is easily prevented, but cured with difficulty.

COMPRESSIVE MYELITIS OF POTT'S DISEASE SUCCESSFULLY TREATED BY LARGE DOSES OF POTASSIUM IODIDE.

V. P. Gibney[6] records a number of cases of paralysis from Pott's disease, treated by the use of fixation apparatus and large doses of iodide of potassium. He considers that the drug is a useful adjunct in the treatment and thinks that we should begin with ten grains of potassium iodide in mineral water, three times daily after the meals. The dose should be increased daily by five grains, until the stomach shows signs of intolerance, and one should maintain as large a dose as the stomach will tolerate until the convalescence is fairly established. He believes that immobilization of the spine is of primary importance and does not allow his patients to stand until convalescence is fully established.

He prognosticates recovery in these cases under the foregoing régime, in three or four months.

OSTEOCLASIS.

Medini[7] prefers the use of the osteoclast to either osteotomy or manual rectification. The osteoclast he uses is the well-known one of Rizzoli. He finds that much greater force can be used by an osteoclast than is possible by the hands. After experimenting with a dynamometer he found that a force of from 300 to 500 pounds could be readily employed. In one case, that of an adult twenty-two years old, with a badly united fracture of the femur, with the formation of a firm callus, and nine cm. shortening, an osteoclast was used, 700 pounds pressure being required before fracture took place. After treatment with extension, plaster-of-Paris, etc., was employed, with the entire correction of the deformity and a diminution of the shortening to one cm.

A specimen of a case operated on one year before by osteoclasis dying from a subsequent accident, is recorded, with everything normal in the soft tissues. The only evidence of fracture which could be determined in the tibia was a cross line of hard bone on the tibia.

FORCIBLE CORRECTION OF KNOCK-KNEE.

Paoli[8] has been performing some experiments on the cadavera of children to determine the effect of forcible manual correction on the bones of the knee-joint in knock knee.

In an infant of one year, after forcible hyperadduction, the lesion was a separation of the epiphysis with more or less fracture of the diaphysis and but slight injury, of the external lateral ligament and the periosteum.

In a cadaver of a child of ten an extensive splintering of the bone took place, with stretching and tearing of the external lateral ligament.

He found that this could be obviated by first fracturing the limb by hyperextension, correcting the deformity by adduction afterwards. Experiments on bodies from one to seventeen years of age proved that only a clean separation of the epiphysis without stretching or rupture of the ligaments followed this procedure. The steps of the operation are as follows: The patient should be put on its face, a sand pillow placed under the thigh so that three fingers' breadth of the femur above the knee projects over the edge of the table on which the child is placed. The thigh is fixed by grasping it with the left hand, or with the help of an assistant, the right hand seizes the leg at the lower third and a slow hyperextension is employed until a slight crack follows and an abnormal mobility felt; the patient is then placed on its side and careful adduction performed; external wooden splints and bandages are applied and worn for twenty days. The writer has operated on 30 children under nine years of age, and on one of nine years, always with success; in older children osteotomy is to be performed.

FORCIBLE FRACTURE FOR THE CURE OF BOWED LEGS.

Mr. L. M. Ormsby[9] advocates the breaking manually of bow legs, and states that he has operated in this manner "hundreds of times" and has never met with a single complication. If the pressure of his hands and arms are not sufficient, he uses the knee, but states that in breaking the leg in this manner, one cannot so accurately determine the point of fracture.

ASTRAGALOID OSTEOTOMY IN THE TREATMENT OF FLAT-FOOT.

Wm. Stokes[10] contributes a valuable paper on this subject and arrives at the following conclusions: That the theory of ligamentous relaxation being the chief factor in the production of flat-foot is erroneous, being in the majority of cases the result and not the cause of that deformity. That elongation of the calcaneo-scaphoid ligament should not be mistaken, as it so often is, for relaxation of it. That the altered direction of the sustentaculum tali is a change that could not be directly or indirectly connected with either ligamentous relaxation or muscular paralysis.

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[5] Centralblatt f. Chirurgie, No. 48, 1886.
[6] New York Medical Record, Oct. 24, 1885, p. 453.
[7] Centralblatt f. Chir., No. 2, 1886, p. 28.
[8] Centralblatt f. Chirurgie, No. 2, 1886, p. 27.
[9] Dublin Journal, Medical Society, June, 1885, p. 483.
[10] Annals of Surgery, October, 1885, p. 279.

That the treatment of pes planus in all cases, at all events, where the deformity is irreducible should be directed mainly to restoring the arch of the foot by operative interference with the misshapen astragalus. That this is feasible without destruction of the mediotarsal joint. That the evidence in favor of muscular paralysis being an ætiological factor in the production of flat-foot is insufficient and unsatisfactory. That deformity of the scaphoid, the result of disease, may be looked upon as a cause of flat-foot. That after astragaloid osteotomy it is desirable to keep the foot, during the healing of the wound, in a state of supination, which can be conveniently effected by the application of a Dupuytren's splint, as used in fractured fibula.

CLUB-FOOT.

Wolff [11] reports success in the treatment of club-foot, by forcible manual correction, preceded or not by tenotomy of the tendo-achillis and followed by immediate fixation in silicate of potash bandages reinforced during the time necessary for the hardening of the silicate by plaster bandages. The plaster is removed and the silicate bandage worn continuously for several months, no other appliance being necessary. Several operations may be required in severe cases.

In the cases of the ages of twenty, eleven, five, reported correction was speedily effected in three weeks time.

Wolff claims that the successful results after resection of the astragalus are not due strictly to the removal of the bone. An examination of the bones of a pronounced case of talipes equino varus will show that the astragalus is not the only bone which is misshapen, but that all the bones, with the exception of the metatarsal and phalangeal bones are altered in their shape. For an equal reason Phelph's direct incision is to be rejected as unnecessary and unsurgical, as well as a wedge-shaped resection or osteotomy.

Wolff claims that equally good and more rapid cures can be effected by bloodless "redressment" of the foot, this being possible not only in the deformed feet of children but also of adults.

OSTEOTOMY WITH CHAIN-SAW FOR TALIPES EQUINO-VARUS OR VALGUS.

Horatio P. Symonds [12] has performed this operation in the following manner: by passing a chain saw around the tarsus, in front of the astragalus. He regards the tarsus as a triangle, and passes a metal-handled tenotomy knife through the sole of the foot in front of the os calcis, commencing from the inner side; he then lets the chain follow the knife through the sole, and repeats the proceeding from the outside to the dorsum of the foot; then he completes the skin incision on the inner side of the foot and allows the chain to cut its way out from without inwards. The skin incision is sewn up; no drainage is necessary. The foot is fixed to a Volkmann's splint for a fortnight, and then, after manipulation into a good position, it is fixed in plaster-of-Paris for three months.

Dr. A. Sidney Roberts, in two excellent lectures on Club foot, regards congenital equino-varus as probably due to "the absence or retardation of rotation," as has been claimed by Dr. Berg of New York. A number of useful appliances are described and figured, for which the readers will have to refer to the original article in the *Philadelphia Medical News*, March 13, 20, 1886.

PLASTIC OPERATIONS IN THE TREATMENT OF SPINA BIFIDA.

Mr. A. W. Mayo Robson [13] reports four cases treated in this manner, and calls attention to the following points: the closing of the meninges by bringing two serous surfaces together as in peritoneal surgery, and superimposing separate skin flaps, the meningeal and skin sutures not being opposite; the absolute necessity of antiseptics; the success attending the plastic operation in cases which are absolutely not amenable to any other form of treatment; for example, when the coverings are thin or the opening into the spinal canal is large. He suggests the following as a practical classification of cases in reference to treatment: —

(1) Where no operation can or should be done.
(2) Where no operation need be done.
(3) Where an operation should be done.

a. When the sac only communicates with the spinal canal by means of a small opening; here it is a simple matter to dissect off the skin, expose the neck of the sac and ligature by means of one circular ligature.

b. Where the coverings are excessively thin quite to the margin of the tumor, the operation is more difficult and uncertain and a sufficient covering can only be obtained by sliding the contiguous parts, and the tension necessarily present is a hindrance to healing.

c. Where the spinal cord or the nerves are blended with the sac; Mr. Robson advises excision of portions of the redundant meninges between the nerves, replacing the nervous structures in the spinal canal and bringing over the skin cover, keeping up free drainage between the membranes and integuments; or, if this could not be done, the membranes might be punctured, the collapsed sac with the nervous structures intact be placed in the canal, and the skin cover made as before.

EXCISION OF THE TARSAL BONES.

Charles T. Poore [14] after describing in detail his method of excising the os calcis, reports nine cases of caries of this portion of the tarsus in children, with final results. In seven, the os calcis was alone removed. In two, the os calcis and astragalus. A useful foot was obtained in eight cases, but in the ninth amputation was subsequently performed on account of failure to remove the disease by less radical measures. In but one case was there any return of the disease in the other tarsal bones, and in this patient not until five years after the operation. Six of the patients had been seen or heard from during the year preceding the operation. In one case eleven years had elapsed since the operation. In all but one the foot is in a good condition and the patient able to walk without any inconvenience except a slight limp. The plantar arch is obliterated in all of the cases, and there is a tendency to walk on the inner border of the foot. There is no pain. Partial excision or erasion of the diseased os calcis has not been found successful by Dr. Poore. No permanent cures have been obtained, and it was only after total extirpation of the diseased bone, that the sinuses healed. His experience has led him to the conclusion that in children at least a partial operation is unsatisfactory.

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[11] Langenbechs. Archiv., 33d Bd. 1st Keft.
[12] Lancet, January 2, 1886, p. 15.
[13] Clinical Sec. Trans., 1885, p. 210.
[14] Annals of Surgery, March, 1886, p. 206.

COCAINE IN BONE SURGERY.

M. J. Roberts[15] has employed the Corning method of local anæsthesia by subcutaneous injection of cocaine in three operations, with success. The first, a case of caries of the elbow joint; the second,[16] a supracondyloid osteotomy for genu valgum, and the third an excision of the hip joint. In the first two, the method proved entirely satisfactory; in the last, some pain was felt, but this was ascribed to an inferior quality of the drug used.

EXCISION OF THE HIP JOINT.

Yale[17] has carefully considered this subject, collecting and comparing the various statistics that have appeared in the periodical literature of the last six or seven years. He states that resections are usually done on the following grounds: First, that it directly saves life; second, that it shortens treatment, and, by so doing, lessens risks both vital and functional; third, that it gives better functional results.

Regarding the "saving of life," he thinks that incision "*in extremis* has been aptly compared to tracheotomy in a like condition; every success he esteems a clear gain. The mortality of suppurative coxitis he thinks would not exceed thirty per cent.; this estimate is rather a personal opinion, for the ratio of mortality given by the various reporters of cases give such discordant figures that it would be impossible to mass the tables and deduce a ratio from them.

The death-rate from incision, done while the changes in the joint are slight and the capsule is unopened, is very small. Antiseptics have almost abolished the risks from wound complications, and the mortality "is reduced very nearly to that from the uninterrupted disease when the operation has failed to arrest it." Dr. Yale says that in weighing the chances in any given case, we need no longer put much stress on the dangers of the operation itself, except perhaps, the one element of shock, which the prolonged extirpation of diseased and suspected tissues, sometimes favors.

He therefore advises excision whenever the disease, in its natural course, assumes an aspect threatening to life, provided none of the less radical operations — drainage, gouging, etc.— can remove the danger. That tubercular infection of the patients is not materially affected by antiseptics, seems to be proven by König's large experience, one hundred and seventeen cases of general resections.

That resection shortens the period of treatment, and that it diminishes the risks, both vital and functional, is true alone of those cases that heal promptly and soundly. Many cases, from twenty to fifty per cent., according to different observers, heal promptly; but the union subsequently breaks down, and the old process is re-established under circumstances in no way improved.

He considers that it is far from proven that resections give better average results than a "natural" cure. The shortening of the limb is not so different in the two methods of treatment, and one should not forget that functional results as to position and motion can only be obtained after prolonged after-treatment.

His conclusion is, "that exsection of the hip is indicated as a life-saving operation only; and that, as it has not been shown that it can save from any danger, except those consequent upon prolonged suppuration, it is, with rare exceptions, only indicated when the suppurative process has evidently reached a dangerous point, and cannot be interrupted by any less serious operation.

EXCISION OF A USELESS JOINT TO PRODUCE LONG ANKYLOSIS IN INFANTILE PARALYSIS.

Ap. M. Vance has excised the knee-joint in two patients, and the ankle-joint in one, and states that he has secured a useful, but stiff joint.

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

February 17, 1886. The meeting was called to order at 8 o'clock, Dr. James R. Chadwick in the chair.

Dr. W. H. Baker read a paper entitled

THE TREATMENT OF CANCER OF THE UTERUS.[1]

Dr. Baker, having finished his paper, said that Dr. Post, of New York, considered a period of eighteen months as a sufficiently long time in which to decide whether the operation for the removal of a cancer of the uterus had resulted in a cure. Dr. Baker thought that three to four years was soon enough. Dr. Carl Powlik, of Vienna, has reported one hundred and thirty-six cases of high amputation occurring in seventeen years. Fourteen of the patients, about ten per cent., were living four years after the operation. By vaginal total extirpation the percentage of deaths from the operation has been reduced from seventy-five to twenty-seven per cent., but there was no increase in the respite of the disease, however.

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[15] New York Medical Record, 1885, No. 28, p. 431.

[16] New York Medical Journal, October 24, 1885.

[17] Annals of Surgery, January 1886, p. 8.

[1] See page 409 of the Journal.

Vaginal extirpation should be done in cases of cancer of the body of the uterus or those of the body and cervix combined. By the operation of total extirpation the death rate is four times greater than by the high operation. He has had one case of total extirpation in which the disease showed itself again in five months.

Best Reported Results by High Amputation.	*Results obtained by the Author's Method.*
7 3-10ths per cent. deaths from the operation.	No death from the operation.
14 cases which were well four years or more after the operation: collected by Dr. Powlik, being	6 cases were well four years or more after the operation, being
10 3-10ths per cent. of those surviving the operation.	60 per cent. of those upon whom the operation had been performed.

Dr. F. H. Davenport remarked that he had little to say except to emphasize certain points made by Dr. Baker. To get such success as he had done, two factors were necessary, one the early recognition of the disease, the other the closely following up the patient after the operation. To gain the first the very earliest complaint on the part of the patient should be attended to, and the attendant physician, who in the majority of cases sees the patient before the specialist, should be exceedingly careful not to neglect the first sign of the beginning trouble. Any suspicious ulceration should be watched most sedulously. Bearing in mind the highly probable etiological bearing of laceration of the cervix on malignant disease, the operation for the repair of such laceration should be urged. In this way more cases would probably come to operation that could be radically cured.

As regards watching the patient after the operation, this cannot be too strongly insisted upon. The rule in these cases is to see the patient at first every month after the operation, increasing the interval to two and three mouths as the patient continues well. In the majority of the cases operated upon, some slight secondary operations were necessary. Such operations usually consisted of thorough curetting and use of the cautery.

The question of the relative value of total extirpation and high amputation only applies to cases involving the cervical canal. Where the body is primarily affected, extirpation is the only course open. Where the growth starts from the vaginal surface, usually growing outwards in the form of a cauliflower excrescence, amputation is undoubtedly indicated. The doubtful cases lie between. If the disease has invaded the broad ligaments neither operation can be radical. Where it has not got beyond the structure of the uterus, Dr. Davenport thought the high amputation preferable, because the diseased tissue could with care be as thoroughly removed, and there was less risk to the woman, both at the time of operation and subsequently, from hæmorrhage, shock, and from septicæmia.

The dangers attending the high amputation are slight. Opening the peritoneum, as was done in more than one of Dr. Baker's cases was followed by no bad results, possibly due to the subsequent treatment, by cauterizing and packing with ferrated cotton.

Secondary hæmorrhage, severe enough to be alarming, is rare, and is usually controlled by alum douches, or repacking with styptic cotton.

Dr. Morris said it was over nine years since he operated upon the patient referred to by Dr. Baker. She was forty-three years old, and had never been pregnant. She was quite fleshy and would probably weigh between one hundred and sixty and one hundred and seventy pounds or more. He saw her three days ago. She is much thinner, though still plump. She now compains of continuous pain, which is worse at night, a profuse, serous vaginal discharge, and occasional hæmorrhage. She, however, still attends to her household duties. Three years and four months ago he operated upon a second case. The woman was a multipara. About five months previous to operation she began to suffer from metrorrhagia, and flowed most of the time, and always after intercourse. There was no laceration of the cervix, and the disease was not extensive. Dr. Chadwick kindly gave him his assistance and advice in this case. The woman got well in three weeks, and assured him to-day, when he saw her, that she had remained perfectly well.

Dr. E. W. Cushing spoke of the choice of the high operation and total extirpation. Dr. Martin, of Berlin, told Dr. Cushing that he had watched one hundred cases of the high operation, and found that the disease returned in them all. He now does only total extirpation. His plan is to cut out a piece and have it examined under the microscope, and if cancer is present he removes the whole uterus. Dr. Cushing said that he had seen the operation done by Martin six times. There was very little blood lost, and the shock was not severe. There was no fever, and all recovered. The statistics as to recurrence in Martin's cases were very much better by this method. In Vienna they do not remove the whole of the uterus, but made a high amputation, much as Dr. Baker has described, and before operating they place a piece of the diseased tissue under the microscope. If necessary, by using a freezing microtoma, a microscopic diagnosis may be made in a few minutes just before operating, while the patient is under the influence of the anæsthetic. It is best to get a microscopical examination early, examining thus all suspicious indurations of the os, and then operate early, removing the whole organ as the best safeguard against recurrence of the cancer.

Dr. J. W. Elliot thought that Dr. Baker deserved great credit for his preseverance with these cases when so many of the profession gave them up as hopeless. At a recent meeting of the Berlin Obstetrical Society, Dr. Martin stated that there had been a return of the disease in all his cases of high amputation ; other members, however, had been more fortunate, and Schroeder referring to the recent pathological investigations on the subject by Ruge and Viet, said that certain forms of cancer of the cervix were a disease of the vaginal mucous membrane, and always extended down into the vaginal wall, but never to the body of the uterus ; for such cases he preferred the high amputation ; for cancer of the cervical canal or of the body, he would do the total extirpation. Dr. Elliot said that it seemed to him an absurdity to say that the removal of part of an organ gave *greater* immunity than the removal of the whole. What surgeon would say that the cancer of the breast returned less often after partial amputation, than after the removal of the whole gland? Such conclusions shake our faith in statistics. In regard to the operation of high amputation ; as one can never be certain how far the disease cells have extended, it follows that as much of the uterus should be removed as is consistent with a comparatively safe operation. All the best surgeons would agree on this point, and so far as he had observed. most of them did practically the same operation.

Dr. Baker, in closing the discussion, said that it would seem that the removal of the entire uterus would give better results than the removal of a portion, but it is not so. He did not agree that the methods of high amputation are the same the world over. By drawing down the cervix and removing by the wire, it is difficult to tell when all of the disease is removed. If one uses cauterization, he loses the sense of touch. Another method of high amputation is to remove all that can be cut away with the scissors and knife. Where the wound is closed the disease is sewed in and it will return quickly. The most essential part of the operation is to destroy deep into the tissue with the cautery after cutting out the diseased part. It is important to follow up the case, and if the disease shows itself again, use the curette or knife and cautery.

Dr. A. P. Weeks read a paper, entitled

ACUTE INVERSION OF THE UTERUS.

Dr. McDonald said that he had seen but one case of inversion of the uterus, and that was in consultation with another physician. When he saw the patient she was in good condition ; there had been no hæmorrhage and the placenta was unexpelled. The uterus was not at all flabby, and he succeeded in returning it. The patient made a good recovery.

Dr. Chadwick stated that Dr. Weeks's report throws valuable light upon a mooted question, whether in effecting reduction we should seek to push up the successive segments of the uterus from the cervix toward the fundus, or to induct the fundus and gradually replace the successive zones from that inductation toward the cervix. His experience speaks strongly in favor of the former method of procedure, which accords with my theoretical ideas. The evidence is, to my mind, conclusive that inversion may occur, as in Dr. Weeks's case, from deficient or erratic contractions of the uterus uninfluenced by the accoucheur. An appreciation of the fact that the contractions of the uterus are but a modified form of peristalsis, perfectly analogous to those of the intestines and bladder, will suggest that such cases of spontaneous inversion of the uterus are effected in a manner similar to that of intussusception of the intestines in which no mechanical force from without can be supposed to have acted. On the other hand, it is a wonder to me that inversion is not more often produced by the attempt of the obstetrician to provoke contractions of the flaccid uterus or to expell the placenta by manipulating the fundus through the abdominal walls, now so universally recommended and practised.

It would be interesting to know how many of the women who have had inversion of the uterus were delivered upon the back, where the effect of gravity would tend to favor the inversion.

One point in the common practice I would venture to criticize, namely, the removal of the placenta before reduction of the inverted organ. The possibility of restoring the organ depends upon a relaxation of the contraction and a consequent liability to hæmorrhage from the uterine sinuses during the process of reduction. I would consequently prefer to have them still closed by the adherent placenta until after reduction was effected, despite the fact that subsequent manual extraction of the placenta might be called for and proved more difficult than before reduction.

I have seen but one case of recent inversion of the uterus, to which I was summoned at four o'clock one morning about three years ago. A practitioner of this city, of considerable obstetric experience, roused me from my slumbers to aid him in the reduction of an acute inversion under the following circumstances as related by him. He had delivered a woman at four o'clock on the previous afternoon without instruments, and the placenta had soon after been expelled spontaneously. He had left her comfortable and free from hæmorrhage. At twelve p. m., he was summoned to her bedside because of flooding and found a large tumor protruding from her vulva, which he correctly diagnosticated to be the inverted uterus. This he vainly attempted to reduce, but finally, by wrapping cloths about it, he checked the hæmorrhage and came for me. We did not reach the house until nearly five a. m., when the woman was found to be dead. An immense tumor — the inverted uterus and vagina — lay between her thighs reaching almost to her knees.

Dr. Weeks, in closing the discussion, said that his paper had not been prepared with the intention of discussing the various methods and procedures of treating inversion. Many writers attribute the trouble to traction or pressure, but some take it in a broader sense and consider that a flabby fundus is an active factor. He does not believe that traction on the cord alone would do it. Neither does he think that the fundus is the last part to come down, but he considers that it is the first to descend. In his own case the traction was very slight and the placenta came away easily. In replacing this organ the fundus went up last.

Dr. Elliot exhibited two ovarias, cysts which he had removed at the Free Hospital for Women on the previous Monday. One about the size of a fist, was in a state of beginning necrosis on account of a twisted pedicle. Its peritoneal surface had lost its luster and was of a dirty yellowish brown color. The vessels in the pedicle were plugged with coagula. The other tumor was a multilocular cystoma, about the size of a child's head and of a kidney shape. There was a papillomatous growth on its peritoneal surface, and inside some of the cysts. The diagnosis had been difficult, as the tumor was very tense, and one of the cysts had felt like a hard knot. The whole tumor felt as solid as any fibroid. It was tightly impacted in the pelvis, but the uterus was slightly movable. It was supposed by the operator to be a dermoid. The operation was also very difficult. As the abdomen was opened he came down on a tissue firmer than the peritoneum, which proved to be the bladder, abnormally high and spread out under the abdominal wall. The bladder was finally circumvented, and an encapsuled peritonitis was encountered between the bladder and the cyst. The small tumor was found in the lumbar region rolled up in the omentum and intestines with a pedicle twisted several times and universally adherent with recent peritonitis. There could scarcely be a doubt that the pedicle had been twisted by the peristaltic action of the intestines. Each twist of the pedicle was firmly adherent to the next. Dr. Elliot was uncertain as to whether he had injured the bladder in dissecting around it. So he stitched the ragged and the exposed edge into the abdominal wound. There had been a small amount of blood in the urine on the first day, otherwise the bladder had given no trouble.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

April 26th, 1886.
The President, Dr. F. W. Draper, in the chair.

CHOREA EXCITED BY SUDDEN RETURN OF HEARING. CHOREA TREATED WITH URETHAN.

Dr. Abbot said that without proposing to report the case, he wished to mention a clinical fact of much interest to him. He had seen in consultation four days previously a young girl, ten or eleven years old, of unusual intelligence, but rather delicate organization, who was suffering from the severest form of chorea, which for a week had resisted all the remedies employed. The attack was regarded by her physician as a reflex one, caused by excitement which she had undergone a few days before the attack began, from operations to remove growths from the nasal passages and for elevating the membrana tympani of both ears by inflation. At the time Dr. Abbot saw her she was lying on a bed, on which she could be kept only by constant watchfulness, her arms and legs being in incessant and violent motion, and the head thrown from side to side spasmodically. She was unable to speak articulately, could swallow only liquids in small quantities, and with great difficulty, and made efforts at short intervals to clear the throat from abundant mucus. There was also some diarrhœa, possibly due to remedies which had been given. The nurse stated that there had not been more than half an hour's continuous sleep during the previous forty-eight hours. The case had a most serious aspect, as it seemed impossible for such unceasing muscular action to go on much longer without fatal exhaustion. Various remedies had been employed, among them large quantities of the different bromides, and arsenic in the form of Fowler's Solution, the dose having been pushed as far as eight minims three times daily, without the slightest relief. On the contrary, the symptoms were continually growing worse. The need of sleep was such that Dr. Abbot advised the use of urethan in doses of ten grains or more every two hours until relief. Up to the date of this report the result has been most satisfactory. The father of the patient writes, "The urethan has had a wonderful effect." "The child had dozed almost continually, waking up at intervals to cough up the mucus in her throat, and turning over on her left side and going to sleep. On Friday and Saturday nights (the remedy was first given on Friday evening) she was uneasy about midnight, when we gave her a dose of twenty grains which quieted her *at once*; each time she slept an hour and a half. Her movements have diminished greatly and she sleeps naturally. She eats better and chews with closed mouth."

Dr. Abbot said he did not pretend to report the case in full, as the patient was under the care of another physician, and it was not yet completed. He felt justified in mentioning it, however, as the remedy employed was new and its value as yet was somewhat uncertain. So far as he had employed it, he had been rather disappointed with the results. Given to adults as a remedy for insomnia he had found the first impression of a fifteen or twenty grain dose a favorable one, but its subsequent use was apt to disappoint the patient. Possibly we have not yet arrived at the largest desirable doses. He had used it with children in the dose of ten grains at night, with a very happy effect.

Dr. Webber said that he had used urethan a number of times with the same experience as Dr. Abbot had had. It has succeeded once and then failed. In one case it succeeded twice, and failed at the third trial.

Dr. Minot agreed with Dr. Abbot that in order to obtain the sedative and hypnotic effects of urethan it should be given in larger doses than were perhaps usually prescribed. At the same time he would mention a case of maniacal excitement supervening upon chronic renal disease, which he saw under the care of Dr. Fox, of Lowell, in which large doses of morphia and chloral failed to induce sleep, but a very few grains of urethan had the happiest effect. He was in the habit of ordering fifteen grains, to be repeated every hour, for sleeplessness, and he thought the dose might be still further increased.

Dr. J. J. Putnam said that in violent cases of chorea, large doses of chloral have a similar effect. It is important to use some hypnotic other than bromide.

Dr. C. J. Blake said that Dr. Abbot's patient, a bright little girl of evidently neurotic tendencies, was first brought to him on account of marked deafness of both ears, of several months' duration. On examination, the membrana tympani and middle ears were found to present the appearances indicating long continued closure of the Eustachian tubes, and which were so well described by Dr. Hooper in his recent paper on adenoid vegetations. There was also sufficient evidence that the presence of such vegetations and the concomitant condition of the naso-pharynx and Eustachian tubes was the primary and principal cause of the condition of the ears. The child was next seen a few days after the successful removal of the growths by Dr. Hooper; there was no appearance of nervous irritability, no evidence of chorea, and the hearing was but slightly better than at the time of the first visit. A single inflation of the middle ears by means of the Poletzer air douche, which was used very gently in deference to previous experience in similar cases, resulted in an immediate and very marked improvement in the hearing. It was evident from the readiness and ease with which the air entered the middle ears that the same improvement might have been effected spontaneously at any moment by a fit of coughing or sneezing, the result being a restoration of the mobility of the sound transmitting structures of the middle ear and a consequent influx of sound to and excitation of the sensory centres sufficient to account for the awakening of the choreaic symptoms in a subject so predisposed.

REFLEX AURAL SYMPTOMS WITHOUT AURAL DISEASE. AURAL DISEASE WITH REFLEX SYMPTOMS.

Drs. C. J. Blake and T. M. Rotch presented a paper (reserved for publication) explaining the anatomical and physiological connection between the sympathetic ganglia and filaments, and the sensori-motor nerves, by which the so-called reflex phenomena existing under certain circumstances between the ear and other organs were elucidated.

As examples of the principles laid down in the paper, the following cases occurring in the writer's practice, and a few others were reported:

1. Reflex laryngeal symptoms from aural disease.

2. Reflex aural symptoms from laryngeal disease.
3. Reflex pulmonary symptoms from aural disease.
4. Reflex aural symptoms from pulmonary disease.
5. Reflex aural symptoms from irritation of teeth and gums.
6. Reflex facial symptoms from aural disease.
7. Aural disease caused reflexly from facial irritation.
8. Reflex aural disease occurring in the course of acute exanthemata.
9. Reflex congestion of the membrana tympani without aural symptoms, occurring during the facial eruption of measles.
10. A case of measles causing by reflex action aural disease, and the aural disease producing reflex laryngeal and pulmonary symptoms.

Dr. J. O. Green thought that little could be added to the thoroughness of the paper. He mentioned some cases of injection of the middle ear and others of pain in the ear due to disturbance in the teeth, all of which could, he thought, be accounted for by the explanation given in the paper. Some gentlemen present might remember a paper read before this society by Dr. Langmaid, but never published, on "Epithelial Disease of the Larynx," of which pain in the ear was the most prominent symptom.

Dr. Lyman said that it was interesting to hear one of the series of reflexes so carefully elucidated. We knew that there were reflex ear symptoms from dentition, but he had never worked out the mechanism.

Dr. Webber thought the paper very interesting. He thought that the series of ear reflexes might be extended, and mentioned gastric disturbance as a cause of pain in the ear.

Dr. J. L. Morse, present by invitation, mentioned the case of a patient in whom severe vomiting was caused by acute inflammation of the middle ear, which vomiting was repeatedly relieved by treatment directed to the ear.

Dr. J. B. Ayer had seen severe symptoms referable both to the ear and the brain, excited by the growths of the teeth below the gum.

Dr. C. J. Blake reported a case of reflex neuralgia of the tympanic plexus due to carious teeth, the patient being a young woman in good general health, who had suffered for several days from severe pain in the right ear; the hearing was good, and examination showed the external and middle ears to be normal and without congestion or other evidence of local irritation. The pain was evidently of reflex origin, and on examination of the mouth, the patient was sent to Dr. Henry A. Baker, who reported that in addition to several small cavities in the molars and a general sensitiveness of the teeth, the first and second superior right bicuspids were especially affected. In each of these teeth there was a large gutta percha filling, and the discoloration of the first bicuspid showed that the pulp was devitalized. On removing the gutta percha, the pulp canal was found to be filled with cotton, the odor of which was anything but pleasant. The second bicuspid was extremely sensitive to thermal changes, and the removal of its filling revealed a deep cavity extending beyond the pulp chamber without any opening into the pulp canal. The diagnosis of partial ossification of the pulp was confirmed on examination of the teeth, which were subsequently extracted with relief from the otalgia.

SARCOMA OF BRAIN.

Dr. J. J. Putnam showed the brain of a woman of thirty-eight, who had had occasional headaches for thirteen months, severe ones for a year. There had been some dizziness, neuritis, reduced vision, and latterly wandering and confinement to bed. Gradually paralysis and heart failure appeared. She had been sinking slowly for three weeks. Her speech had been slow but with no mistake in words. Autopsy showed a tumor growing from the dura mater into the frontal lobe. It had been examined microscopically by Dr. Whitney and found to be sarcoma.

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AMERICAN SURGICAL ASSOCIATION.

The Seventh Annual Session of the American Surgical Association was held in the reading-room of the Army Medical Museum, April 28, 29, 30 and May 1, 1886.

Wednesday. — Morning Session.

The meeting was called to order at 11 a. m., by the President, Moses Gunn, M.D., Chicago.

After the calling of the roll, the President delivered his annual address, an abstract of which follows: —

Fellows of the American Surgical Association: Custom, if not organic law, requires the President to open the proceeding by a more or less formal address. My immediate predecessor, in his address one year since, suggested that either a *résumé* of the progress of surgery for the previous year, or some especial scientific subject should constitute the subject matter of the President's address. I propose to comply with the spirit of this suggestion, and shall indulge in a few thoughts on certain points in the physiology and surgery of motor, sensory and motor-sensory, or compound nerves.

Previous to the investigations of Magendi and Bell, no clearly-defined effort had been made to differentiate the motor and sensory nerves. It remained for these investigators to clearly establish the fact of the motor qualities of the anterior roots, and the sensory qualities of the posterior roots. With this also came the idea that this difference was intrinsic, due to peculiarities in the anatomical and physiological organization of the nerve fibres. This appears to have been the idea generally entertained. Is this a fact? or is the difference to be found in extrinsic conditions, viz., the anatomical organization at either end of the nerve, the nerve-trunk being simply a conductor of a form of force; upon the facts of the case depends the possibility of satisfactory results in the section and physiological reunion of divided compound nerves, and the grafting of one compound nerve upon another, where there has been so great a loss of the trunk of the nerve as not to permit the approximation of the distal and proximal portions of that nerve. Success in achieving satisfactory results by such operations or a uniform lack of success must afford a tolerably reliable answer to these interrogatories, much more reliable than experiments on some of the inferior animals. Experiments on animals require severe scrutiny, or they may mislead. Some of the experiments on animals were then referred to. Philipeau and Vulpian divided in dogs the pneumogastric and sublingual nerves and united the central end of the pneumogastric with the distal end of the sublingual. They also divided the lingual branch of the fifth nerve and the sublingual, uniting the central end of the lingual branch of the fifth nerve to the peripheral end of the sublingual and tearing out the central end of the sublingual. The result of these experiments was that after a time motion and sensation were restored. Other similar experiments were cited.

In April, 1886, Dr. E. P. Davis, made for the speaker the following experimental operation. Under an anæsthetic the axillary plexus was exposed. The median was severed after its bifurcation, and also the ulnar and radial. The outer head of the median was united to the ulnar. The inner head of the median was united to the radial in the same way. At the end of ten days, the dressing was removed, and complete paralysis of motion and of sensation found. In four weeks this began to disappear, and later a perfect condition of motion and sensation was observed. By this operation the distal portion of the median was left entirely without nervous supply, and yet there was no paralysis of muscles, or integument supplied by this portion of the nerve. Later investigation showed that in the dog and certain other animals there is an anastomosis of fibres between different nerves, forming an indirect route for the conduction of nervous force.

Nerve suture in man has become a recognized operation both as a secondary and primary procedure. It must be concluded from experiments that motor, sensory and trophic powers depend not on the nerve itself, nor on a difference of nerve force, but on the organism at the end of the nerve. Professor Stephani is reported to have succeeded four times in uniting the distal end of the median with the proximal end of the musculo-spiral and the distal end of the latter with the proximal end of the former. Immediately following the operation was complete paralysis and atrophy, but in the course of six or eight months there was not only restoration of muscular power, but harmony of action to an extent sufficient to permit the animal to run, but perfect extending power was not realized.

The intergrafting of a section of a nerve of an inferior animal to replace extensive loss of nerve structure will probably be of too uncertain success to constitute a standard operation, but can the grafting of the distal end of a nerve in such a case upon the side of, or into the trunk of an adjacent nerve secure to it a supply of nerve force? Experiments made by Kawa would indicate that such might be the case. To establish this point, experiments on dogs are valueless on account of the free anastomosis. We must look for the solution of this question to the rare opportunities met with in the course of surgical practice to institute experimental operations on man. A case has been reported by Desprès, where there was such extensive destruction of the median nerve as to preclude the possibility of approximating its ends. He therefore engrafted the distal end of the median with the trunk of the ulnar. Fifty-four days after the operation, the functions of the parts supplied with the median nerve were partially restored.

December 1st, the speaker had occasion to resect over three inches of the right ulnar nerve in the removal of a neuroma, in a male patient, aged thirty-six years. The distal portion of the divided nerve was grafted to the trunk of the mediæ. The sheath of the median was removed, and the broadly chamfered end of the ulnar laid in contact with it, and secured by three fine cat-gut sutures. Immediately after the operation there was complete paralysis of the parts supplied by the ulnar. On the eighteenth day there was a slight return of sensation along the ulnar side of the ring finger, and there seemed to be some contraction of the flexor carpi ulnaris. Four months after operation, the patient could feel a slight touch on the ulnar side of the ring finger, no sensation to touch in the little finger, but an increased warmth in it. He can abduct the hand with considerable vigor, but as yet has no power over the terminal phalanges.

The positive evidence which these two cases furnish at so early a date, warrants further effort in this direction, and corroborates the other evidence of the correctness of the postulate, that the function of a given nerve depends entirely upon the machinery at its ends, and not upon any intrinsic quality.

The Association then went into executive session.

Letters from distinguished Honorary Fellows were read.

A proposition to form a congress of American physicians and surgeons was discussed, and referred to a committee of three, to report Thursday morning, the committee consisting of Drs. J. Ewing Mears, Wm. T. Briggs and Christopher Johnston.

AFTERNOON SESSION.

Dr. Christopher Johnston, of Baltimore, read a paper entitled,

DIAGNOSTITIAL LAPAROTOMY.

This operation is as ancient as our race, but in early times was always practised on the cadaver. The lex regia of Numa Pompilius required it to be performed upon any woman who died in the twenty-seventh week of pregnancy, unless reliable signs showed that the fœtus was dead. The first operation on the living subject was probably performed about the year 1600. The rapid advance of abdominal surgery now demands the attentive consideration of surgeons and requires the expression of opinion as to the position of the line limiting interference in certain classes of cases. The labors of gynæcologists and surgeons have greatly lowered the mortality of laparotomy for ovariotomy and hysterectomy, but the pathological possibilities of the male and female abdomen still constitute many difficult problems which the knowledge and zeal of surgeons are constantly striving to solve. The question arises, how shall the seat of the pathological change be reached? The answer is by laparotomy, which makes the diagnosis positive in cases of doubt, and is preliminary to other operations which may be required. If the surgeon has no right to refuse to give air to a fellow creature becoming asphyxiated from obstruction in the air passage, has he the option of refraining from surgical interference when the primæ viæ are obstructed in their functions? The answer to this question hangs first upon the diagnosis, sometimes upon the record of the past, and not infrequently upon the wise boldness of the surgeon. The propositions then are, first, that for abdominal surgical affections all possible operations ought to be attempted after the establishment of a precise diagnosis, and second, that when a just diagnosis cannot otherwise be reached, it may and ought to be eked out by an exploratory incision. The mortality of abdominal incision without complication is low. It is unfair to compare dissimilar operations involving the peritoneum, for some have been so frequently performed that new methods and resources have been applied to them. A great consecutive mortality following a surgical procedure in no wise determines the want of value of the operation, while most cases recovering are to be considered a certain gain.

The record with regard to diagnostitial laparotomy is very brief, for as a rule, when the surgeon approaches the case, the diagnosis is already nearly positive. The gravity of the operation is largely determined by the time at which it is performed. The abdominal incision intentionally diagnostitial is fraught with so little comparative ill consequence that its high value or necessity may be fairly claimed as an established and proper aid to diagnosis. Of all operations involving laparotomy, those involving the uterus and its appendages probably fill the largest space. Next we have those involving the alimentary tract.

Speaking of the Cæsarean section, the speaker said that comparing the mortality of this operation in former days with the mortality of the Porro-Müller operation we find that while shock and other dangers are greatly increased in the modern operation, the mortality remains about the same. The old operation is, as a rule, done under objectionable surroundings by inexpert operators, while the modern operation is done by experts with the best surroundings. We have yet to see what the old operation will accomplish when the same safe-guards are thrown around it as are given to the newer operation.

Besides being a justifiable operation, abdominal incision becomes the bounden duty of the surgeon in a great variety of instances. Fenestral exploration gains in facility and loses in danger by frequent repetition, and it might eventually render the explorative laparotomy unnecessary.

When is explorative laparotomy called for? It should be stated, that to a certain extent every laparotomy is diagnostitial. Without establishing unnecessary groups, two great classes in which exploratory laparotomy is demanded or permissible are to be recognized. First, all sorts of cases in which the diagnosis cannot be made without its aid; second, all those cases in which a diagnosis having been made, no definite line of operation can be mapped out and no abandonment of active measures be entertained or justified. As in these cases laparotomy holds the key; in all cases of doubt both as to what is the matter and what is to be done, it should be called upon to surrender that key. In intestinal cases, the early operations are those which save life the oftenest, but abandonment ought not necessarily to follow delay in invoking the surgeon's aid.

DISCUSSION.

Dr. A. Vanderveer, of Albany, thought that there could be no doubt that experience showed that simple incised wounds of the abdomen without injury to the abdominal organs will usually heal without difficulty, even if left to themselves. The mortality is very slight indeed. Even when the injury is more serious, recovery often follows. The cases which give anxiety are those in which the bowel is injured and its contents escape into the abdominal cavity. These die inevitably, if nothing is done. In these cases laparotomy should be performed. This view is often opposed by the friends of the patient and often by the attending physician. We have much to do in the direction of teaching the profession and the public the importance of early operation in these cases. Cases were cited of gunshot injuries of the intestine and of rupture of the intestine produced by external violence in which the operation might have saved life if it had been permitted by the friends of the patient. The operation, as a rule, will not be permitted until the patient is in collapse and it is then too late. If possible, the operation should be done in such cases in which it will prove successful, so that the surgeon may have an argument in favor of his recommendation, and the masses must be educated to the necessity of laparotomy in the cases referred to.

Dr. Johnston presents points of great interest and importance. This operation should be done more frequently in the future than in the past. As regards the mode of operation the incision in the median line is by far the best. In some cases it would be impossible to reach the seat of disease by any other incision. In the closing of the wound some recommend several lines of sutures uniting the different layers of tissue separately. He considered this no advance on the old method of using sutures including all the layers of tissue. Where there is great distension of the bowel in intussusception, the discovery of the seat of trouble is greatly facilitated by a procedure which he had seen Tait adopt in such a case. He opened the distended coil of intestine, permitted the gas to escape, and then closed the opening with sutures.

Dr. J. Ewing, of Philadelphia, in considering diagnostitial laparotomy, would arrange the subject in this manner: In the first place, the use of external manipulation; second, internal examination, where this is possible; third, aspiration; and finally, laparotomy. He regarded laparotomy as much the most serious of all these methods. In this discussion, the subject of laparotomy as a means of treatment does not call for consideration. The greater his experience, the greater was his conviction that the abdominal cavity should not be opened without due consideration. Death is a severe penalty to pay for the perfection of the diagnosis. A great deal had already been learned in regard to methods of diagnosis by external manipulation. The tendency, at the present time, seems to be in favor of opening the abdominal cavity, rather than cultivating that essential skill by which the diagnosis may often be made without resorting to operation. Tait's assertions that opening of the abdominal cavity is a matter of very little consequence, has led many of the younger members of the profession to perform this operation without due consideration. He had at present under observation, a case in which he had made out the existence of an obscure abdominal tumor, and had determined that the patient was suffering possibly from carcinoma. He had not felt it his duty to perfect the diagnosis by opening the abdomen. He had carefully watched for symptoms indicating suppuration, on the occurrence of which he would operate, not for diagnosis, but to give relief. Having exhausted other methods of diagnosis, he agreed with Dr. Johnston, that if the patient's life depended upon it, we should open the abdomen. In intestinal obstruction, he thought that the abdomen should be opened, and that many lives have been lost by want of courage on the part of the surgeon. There is no question as to the duty of the surgeon in the case of gun-shot wounds of the intestines.

Dr. Charles T. Parkes, of Chicago, thought that the paper insists upon the necessity of exhausting all other methods of diagnosis before resorting to laparotomy. In regard to the size of the incision, that makes very little difference, so far as the final recovery is concerned, but where the incision extends above the umbilicus, recovery is slower, and attended with more inconvenience. In the cases which he had seen, where post-mortem examination followed, there was no evidence that the abdominal incision had anything to do with the fatal issue. In regard to the operation in cases of intestinal obstruction, where the exhaustion is extreme, several years ago he was called to see a case of nine days' standing. The patient was in a state of extreme collapse. He was anæsthetized, and the abdomen opened. A small cyst was felt immediately beneath the fingers. Under the slight pressure, it ruptured, and a quantity of offensive pus escaped into the abdominal cavity. This patient recovered. In such a case, the best diagnostic skill could not determine the cause of the obstruction. In the case of a child eighteen months of age, in which the operation was declined, intussusception of the small intestine was found at the *post-mortem*, which was without adhesions, and could readily have been removed.

He thought the abdominal opening should be made in the median line. He had seen cases in which death had probably followed from the fact that the incision was not thus made, the surgeon being satisfied with enlarging the original wound. In regard to the closure of the wound, the simple suture going through all the tissues has been followed by such good results that we need use no other. Where there is such distension of the intestine, the method by opening the bowel is the best. He had used the exploratory needle on several occasions, but it is necessary to make a number of punctures. In two instances, he had found extravasation of fæcal matter through these punctures.

Dr. McLane Tiffany, of Baltimore, during the last year, had met four cases of what he believed to be intestinal obstruction. In all four, laparotomy was proposed. Two refused the operation, and both of these died. Two accepted, and one of these recovered. The fatal case was that of a woman aged seventy-three, in whom the obstruction had lasted seven days. The intestine was enormously distended, and in the examination, ruptured with the escape of the gas. After this, it was extremely easy to find the seat of obstruction. The shock will be lessened if the intestine is emptied. In regard to the time at which the operation should be performed, he thought that no positive rule could be laid down, and that it must depend upon the acumen of the physician who sees the case. He agreed with the speaker as to the great value of laparotomy as a diagnostic operation. It is not possible for any human being to recognize through the abdominal walls, the manifold conditions of the organs present. It frequently happens in regard to pistol-wounds of the abdomen, that the intestines escape injury, and in these cases, it is a question when the operation should be done. The opening of the abdomen will, however, not do much harm. It is also very desirable that there should be in hospitals, special rooms devoted exclusively to this class of operations.

Dr. J. F. Thompson, of Washington, wished to record two cases of laparotomy for the purpose of diagnosis. A woman, aged thirty-five years, had the history of an abdominal tumor lasting for several years. It presented the appearances of an ordinary ovarian tumor, with the exception that it had two sinuses communicating externally. After frequent examinations by various surgeons, it was decided to make an exploratory operation. One of the sinuses was traced back to the peritoneum without reaching any satisfactory explanation of the tumor. The peritoneum was then opened and the finger introduced, but no tumor in the cavity could be felt. Towards the abdominal wall, a mass apparently imbedded in the tissues could be distinguished. The wound was closed, and the patient recovered from the operation. The patient subsequently died, and the *post-mortem* showed that the tumor was an enlarged spleen, which had fallen down below the umbilicus and become attached to the abdominal wall.

The second case was one of apparently freely-movable tumor in the right hypochondriac region. It was accompanied with excruciating pain. Operation was not recommended, but the woman and her husband insisted that something should be done, and therefore, after keeping her under observation for some time, the abdomen was opened. The tumor, probably carcinomatous, was found to involve the transverse colon, which ran directly through the mass. There was also an attachment of the growth to the liver. The abdomen was closed, the patient recovered from the operation, and is still living.

Dr. W. H. Carmalt, of New Haven, said that some time ago he had been requested to operate in a case of intestinal obstruction, but the collapse was so great, that I did not consider it proper to do so. Within thirty-six hours, the patient died. The *post-mortem* showed that the obstruction was due to a band of adhesion. If the operation had been performed early, the patient might have recovered.

Dr. Christopher Johnston, in closing the discussion, said: There is a certain amount of hesitancy on the part of surgeons in regard to operating in cases of abdominal injury, on account of the people and on account of juries. To overcome these objections, it is necessary to educate the public to the true state of affairs. In those cases where the bowel is opened, laparotomy leads us to the seat of the disease, and if anything can be done, we are then able to do it. I am happy to find my opinions supported by so many of the able minds of the profession.

Adjourned.

(To be continued.)

Recent Literature.

The Methods of Bacteriological Investigation. By Dr. Ferdinand Hueppe, Docent in Hygiene and Bacteriology in the Chemical Laboratory of R. Fresenius at Wiesbaden. Translated by Hermann M. Biggs, M.D., Instructor in the Carnegie Laboratory, and Assistant to the Chair of Pathological Anatomy in Bellevue Hospital Medical College. Illustrated by 31 wood-cuts. New York: D. Appleton & Co. 1886. 8vo. pp. 218.

Hueppe's book is undoubtedly the best that has yet been published upon the technique of bacteriological investigation, and when we first saw the original a year ago the hope that an early and good translation might be presented to English readers immediately occurred to us. In no other book that we have seen are the methods to be employed given in as concise and clear a manner as in this manual, and nowhere else are the reasons for the adoption of the various processes so well explained. Before this translation was received, however, we had before us the *third* edition of the original work enlarged by just one-third, and we regret that this new matter is not included in the American reprint, because it is of great importance. The translator's work is well done, but we think the plates in the original should have been reproduced as well as the wood-cuts.

Practical Clinical Lessons on Syphilis and the Genito-Urinary Diseases. By Fessenden N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York; Surgeon to Charity Hospital, etc. New York: Printed for the Author. 1886.

This is not a second edition, but is issued because the former edition is exhausted. The book was originally published as one of a series which was sold by subscription, and a limited number of this single volume were issued at a comparatively high price. The stereotype plates of the work having come into the author's hands he has caused a "student's edition" to be printed, that it may be within the reach of all who desire it, at a price simply covering the cost of publication. It is not necessary to be perfectly in accord with all of Dr. Otis's views to rejoice that his book is rendered more easily accessible. A genuine second edition is promised later.

On the Suprapubic Operation of Opening the Bladder for the Stone and for Tumors. By Sir Henry Thompson, F.R.C.S., Surgeon Extraordinary to his Majesty the King of the Belgians; Consulting Surgeon to University College Hospital, etc. London: J. & A. Churchill. 1886. pp. 57.

This little book gives Sir Henry's experience of the high operation, done according to the method of Petersen, or with the inflation of the rectum. It contains the history of eight operations (six for stone and two for tumors), of which seven were successful. The cases were all of exceptional severity, and the fatal case was a man of seventy, who was at the first in a condition of extreme distress, very weak, and never regained strength, and died apparently from exhaustion one week after the operation. Sir Henry throws his influence strongly in favor of the supra pubic operation in proper cases.

—Mr. Savory, the President of the Royal College of Surgeons of England, has, since the ceremony of the laying of the foundation stone of the new Examination Hall, been tendered a knighthood; which honor he has respectfully declined.

—A German practitioner being called to see a child of five weeks old who was continually crying and suffering from colic, and whose skin was of a dull bluish tint, was somewhat puzzled as to a diagnosis, until looking at the nurse's face, and seeing it of a brilliant white and red tint, he touched the surface, which left a greasy stain on his finger of a cosmetic rich in lead. This poisonous substance the nurse had long been in the habit of using for the purpose of improving her complexion. The cause of the child's colic being removed, and the appropriate treatment adopted, a cure was effected in a few days.

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A NATIONAL MEDICAL CONGRESS.

It has long been evident that, however useful or however capable of being made useful the American Medical Association might show itself as a territorially representative body of American Medical men, it did not, and from the nature of its organization could not, satisfy the demands of a large and increasing number of our foremost physicians and surgeons, who are earnest workers in the *science* of medicine and who care little or nothing for its *politics*. This feeling was the inspiration which started the various National Associations in different departments of medicine, all of which are enjoying an active and fruitful scientific life. Their activity and fruitfulness is lost to the Sections of the American Medical Association. The late unseemly squabble over the International Congress has emphasized this feeling of dissatisfaction, and crystallized the half-formed desire that there might be some organization representing sound medical learning and advanced practical skill, and disassociated from such standards as square miles of territory or even units of population.

The basis for such an organization readily presents itself in the special associations already existing; the National Capital naturally suggests itself as a common and appropriate ground for an annual and simultaneous meeting. It is only necessary that these bodies should agree to meet in this way to perfect the scheme.

The report of a committee of the American Surgical Association, presented at its late meeting in Washington, puts into a definite shape proposals which have formed the subject of previous thought and talk among many leading men. The following is an outline of the main points of the report:

In view of the fact that there are a number of special medical organizations now in existence in the United States, each having for its aim the advancement of the special department of medicine for which it was organized; and since the members of the said special societies are the representatives of the profession in America, many of whom are at the same time members of several of these special societies, attendance of the meetings requiring separate trips from home, often with much loss of time; therefore it appears necessary that some arrangement should be made with the different societies as to a uniform place and time of meeting.

The plan proposed is to unite the following named associations into a congress, to be called a Congress of American Physicians and Surgeons: the American Surgical Association, the American Ophthalmological Association, American Otological Association, American Neurological Association, American Laryngological Association, American Gynæcological Association, American Dermatological Association, American Climatological Association, and the American Clinical and Pathological Association.

The plan of organization embodies the following: Each Society is to elect its own officers; hold its own sessions apart from the others at the time and place of meeting; publish its own transactions, and do all other acts which, by virtue of its constitution and by-laws, it has the inherent right to do, thus preserving its own autonomy.

The Congress is to be composed of these special societies when in convention, and its meetings to be held in the city of Washington; the constitution and by-laws of the Congress to be formed by a committee of like number from each special society; the opening session of each annual meeting of the Congress to be devoted to such general business as may pertain to the interests of the Association as a whole, the Congress being presided over by a president elected annually, and who must deliver an opening address on the first day of the session. The President to be chosen by a nominating committee of one from each special society; the Presidents of the special societies to be ex-officio Vice-Presidents of the Congress; membership in the Congress to be acquired only by virtue of fellowship in one or another of the special organizations; the other officers to be elected as determined upon by the convention in session.

Any intention was disclaimed of offering an obstacle or opposition to any other organization in America; the proposal offering simply a plan of uniting into one great body, the already existing special societies, from an honest conviction that such a union will prove of inestimable benefit to them, individually and collectively.

The Committee appointed to consider this proposition reported that they viewed with great satisfaction the perfection of a plan through which the meeting of the above-named societies at the same time in Washington may be accomplished, and recommended the adoption of a resolution that a committee of five be appointed to confer with committees from other special organizations to arrange details, and to report at the next annual meeting of the Association.

At present the above Associations meet at various seasons of the year from May to October, and at various places. The first step, and probably the most difficult one, toward the realization of the proposal of the Surgical Association, must be to induce the other Associations to meet in Washington; for if meeting there be agreed to, the weather on the one hand, and professional engagements of teachers in medical schools on the other, offer obstacles somewhat irreconcilable to settling upon a common and convenient time.

TRAINING SCHOOLS FOR NURSING THE INSANE.

The problem has long been agitating the minds of alienists as to how to secure a better grade of attendants upon the insane inmates of hospitals. Some ten years ago Dr. Clouston, in a paper read before the British Medico-Psychological Association, gave emphatic expression to this need, and pointed out that the ideal nurse was not best to be secured solely from the motive of philanthropy, however much such a motive might conduce to the faithful performance of duties in one who had deliberately selected such a calling as a legitimate and worthy means of livelihood.

Before anything analagous to the general hospital training school could be successfully established it was necessary to demonstrate the feasibility of employing unmarried women (the class from which the ranks of the nursing guild will always be most largely recruited) as attendants upon insane male patients. The experiment had been tried of employing the wives of attendants as "bed-makers," in Northampton and other English hospitals, and Dr. Batty Tuke had found it desirable to employ a lady companion as a social factor in his private asylum for gentlemen. But in these cases a special protection was afforded to the sex. It remained to be seen if women could be placed in charge of insane wards, as they are in general hospitals.

This has been done with continued and increasing success in the wards of the McLean Asylum at Somerville, for the past six or seven years. It has been found that men do better when given such female society, which more nearly approximates their home surroundings; that they exercise a greater self-control, and that the presence of women tends to make the male attendants also more gentle. Half of the male wards at Somerville now have female nurses, with ward-maids to relieve them of some of the housekeeping work, so that more time can be given by them to the direct care of the patients. And we understand that this arrangement is soon to be extended to two other wards.

Coincidently with the demonstrated success of this undertaking, a training school was determined upon, modelled in its essential features upon those in operation in the general hospitals, but it should be said, entirely distinct from the Massachusetts Training School, associated with another branch of the same hospital.

In 1882, this enterprise was organized by the appointment of a superintendent, and practical training and class instruction which had already been tentatively begun were gradually developed. Soon after, lectures by the medical staff were added, including didactic instruction upon the care of the insane. The superintendent speaks very favorably, we notice, in this connection, of the "Handbook for the Instruction of Attendants on the Insane,"[1] recently prepared by a committee of the Medico-Psychological Association as providing an excellent basis for a course of lectures on "mental diseases, as they should be understood by a nurse."

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[1] Handbook for the Instruction of the Insane. Cupples, Upham & Co., Boston.

Such training schools should not endeavor, in any way, to make nurses "who are specialists in insanity," but should, as does this one at the McLean Asylum, undertake nursing in all its branches, with special qualification for the care of cases of nervous and mental disease. Thus its graduates will not be placed at a disadvantage compared with those from the general training schools, but the public who have a great interest in this matter, will be able to secure, when they desire it, persons having an especial facility and knowledge in the management of mental diseases, while it is thought prudent to have such cases treated at home. We learn that it is proposed to extend the system so as to provide for a similar training for male nurses.

The first class, so far as we are aware, ever graduated from such a school, was graduated from the McLean Asylum the first of March last. It consisted of six women who had more than completed their full period of training. Since then, April 20, a training school connected with the Buffalo State Asylum for the Insane, graduated its first class consisting of seven women. The occasion was made one of much interest by a number of addresses, among them one by Dr. Stephen Smith, State Commissioner on Lunacy. To this good work thus auspiciously begun, we extend our hearty good-will.

ETHER AND CHLOROFORM ONCE MORE.

The following little item from one of the Boston daily papers, contains some interesting information, and some remarks thereon, which require comment.

> "Four deaths, resulting from the administration of chloroform for surgical purposes, have occurred at a New York hospital within the past month. The last case was the subject of an inquest by the coroner, who impanelled a jury of surgeons to sit upon it. A verdict was brought in exonerating the physician who gave the chloroform, and stating that no existing method of administering anæsthetics was absolutely free from danger. This is doubtless true enough, but the fact remains that surgeons are too frequently reckless in the use of chloroform. In performing operations of a serious nature, it is usually necessary to employ it, since there is no good substitute. Ether cannot be given in sufficient quantities to produce the total anæsthesia required. But, unfortunately, it often happens that doctors administer chloroform simply because it is more convenient, and take their chances of the result, notwithstanding the fact that no physician can possibly be sure when he gives it, that his patient will ever return to consciousness. There is always a very large chance that death will ensue from paralysis of the heart. The use of ether, on the other hand, is almost perfectly safe, and, except in cases where total anæsthesia is absolutely required, the employment of chloroform should be legally prohibited."

Whether the testimony at the inquest furnished the authority for the statements of the reporter we do not know, but it is a mortification to see such an assertion in a Boston daily, it is so far from the truth. In the hope that our comment will reach the eyes and understanding of some who may have already read the extract, we will repeat what must already seem stale to the majority of JOURNAL readers.

Ether does produce total anæsthesia, and it is never necessary to use any other anæsthetic to obtain it. It is the only anæsthetic used at the Massachusetts General Hospital, the use of chloroform having been forbidden in the institution at least thirty years ago. At the Boston City Hospital, the anæsthetic to be used is left to the discretion of the surgeons. Here, chloroform is occasionally used by a surgeon for some particular reason, such as its non-inflammability, or its supposed advantage in irritating the throat less as it is inhaled, but never because total anæsthesia cannot be procured by ether, and probably not oftener than two or three times a year. With these rare exceptions, ether is the only general anæsthetic used. Probably as many "operations of a serious nature" are performed, and total anæsthesia is as often required in these two hospitals as in any hospitals of the same size, and while patients differ in their susceptibility to ether, as to other therapeutic agents, chloroform is never needed nor desired by the surgeons, because ether is insufficient.

Chloroform has certain advantages in its diminished bulk and non-inflammability, which may make its use a necessity, under certain circumstances, as in the medical department of an army in an active campaign. The story of its non-effectiveness is a fiction, under the cloak of which, certain men persist in their use of chloroform, simply because they have never taken the pains to inform themselves of the proper method of using ether, or because they fear they may be occasionally obliged to bestow a little more time upon a patient if ether is used.

MEDICAL NOTES.

— A Roundout man of small stature gives as a reason for his stunted growth, that he was brought up when a baby on condensed milk. — *Kingston Freeman.*

— A German rushed into a drug store on Penn Avenue yesterday, and exclaimed, "Mien Gott, young man, I eat raw bork, and I dink dere vos dose machinery in it."— *Pittsburgh Chronicle.*

— Hydatid disease has so rapidly increased in Victoria, that the Central Board of Health have issued a circular to all local boards, pointing out the danger of drinking open natural waters to which dogs and other animals have access, unless the water be first well boiled. The number of deaths in Victoria, during 1884, directly from hydatid disease, was 59.

— The editor of the *Deseret* (Mormon) *News* is not in favor of the prevailing method of executing condemned murderers; the hanging he regards as altogether barbarous. In this matter, he thinks, the Bible should be the authority, and the scriptures say that "whoso sheddeth man's blood, by man shall his blood be shed." This command of the Deity is not at present complied with. A "blood atonement" is required which is the only atonement the murderer can make for his crime. This might be accomplished by shooting or decapitation, either of which would be decidedly preferable to the method at present in vogue, merely upon grounds of humanity.

— M. Chéron, says the Paris Correspondent of the *British Medical Journal*, in a memoir, entitled *De l' Albuminurie dans le Rhumatisme Articulaire Aigu*, demonstrates the frequent occurrence of albuminuria in the course of acute articular rheumatism. He met with it in forty per cent. of such cases. In order to make a qualitative analysis, the urine was made acid by the addition of acetic acid; a certain quantity of a saturated solution of sulphate of sodium, amounting to a sixth part of the urine, was added, and the mixture was then heated. The presence of albumen was at once detected, if any were contained in the urine. M. Chéron considers that albuminuria in acute articular rheumatism is an indication, in most instances, of a transitory renal catarrh, more rarely of nephritis or renal embolus. It may also be deduced that salicylate of soda may be administered in the majority of cases of rheumatism accompanied by albuminuria.

— A comical attempt to bribe the assistant secretary of the treasury at Washington is said to have been made recently by a physician of Tacoma, W. T., who was desirous of obtaining an appointment as reservation doctor to the Puyallup Indian tribe. This person wrote the other day to Secretary Smith, giving a number of references as to his personal character and professional skill, and offering the official addressed $100 "to reimburse him for the trouble" of securing the position for the applicant. The assistant secretary replied that he had previously received letters strongly recommending the doctor for the place in question, upon the strength of which he had interested himself in procuring the appointment. "But," he added, "it is plainly evident that the gentlemen who indorsed you do not understand your true character, for no person fit to hold any office would make the proposition your letter contains. I have written to the commissioner of Indian affairs inclosing a copy of your letter to me and saying that, in my judgment, you are unfit for any appointment."

— A very extraordinary suit at law was brought to a close in New York city recently, in which one Dr. Glessner demanded payment for professional services alleged to have been rendered a certain Mrs. Butler. The plaintiff testified that Mrs. Butler was brought to him for treatment by a Mr. Patrick, with whom she had had improper relations. She was at the time closely veiled, and the plaintiff recognized her, merely by her voice, as a person whom he had met some months before at Mr. Patrick's house. Dr. Glessner subsequently requested Mrs. Butler to pay him for his services, but the lady indignantly refused, on the ground that they had never been rendered to her. The physician then made application to Mrs. Butler's husband, with a full explanation of the circumstances, and when he refused to pay brought suit in the court. The judge promptly dismissed the case, but not without addressing a stinging rebuke to the plaintiff, whose testimony, he said, was uncorroborated by a single witness, or even by a single circumstance. "The fact that he was ever introduced to Mrs. Butler," added the judge, "is, in my opinion, successfully disproved. His only ground for suit is his recollection, at a distance of several months, of the tones of her voice. Upon this frail and uncertain foundation he seeks to recover the amount of his bill, and incidentally to taint the honor of a wife, to destroy the peace of a household, and to throw a fatal blight upon the future of an unborn child. The court finds in most positive terms that he is in error: that he never saw Mrs. Butler, and that he never treated her."

BOSTON.

— The Legislative Committee on the Judiciary reported inexpedient on the order relative to amending the law relating to medical examiners, in Massachusetts.

NEW YORK.

— Dr. Edward Curtis, for fourteen years Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, has resigned from the Faculty, and Dr. George L. Peabody has been appointed to the position thus made vacant.

— At a meeting of the Section of Ophthalmology and Otology of the Academy of Medicine held April 19, Professor Henry Morton, Ph. D., President of the Stevens's Institute of Technology, Hoboken, delivered a lecture on "What is Light?"

— The late Francis W. Tracy, of Buffalo, among numerous other charitable bequests, left $20,000 to the Buffalo General Hospital. The late George Pancoast, of New York, left $1,000 each to the New York Skin and Cancer Hospital, and the Manhattan Eye and Ear Hospital.

— Dr. Edward G. Janeway, up to the present time Professor of Pathological Anatomy and Clinical Medicine, as well as Associate Professor of the Principles and Practice of Medicine, in Bellevue Hospital Medical College, has been promoted to the chair left vacant by the death of Dr. Austin Flint; and Dr. Herman W. Biggs, Instructor in the Carnegie Laboratory, has been made Demonstrator of Anatomy, the position held by Dr. Gaspar Griswold at the time of his death. Both these appointments, as well as that of Dr. Peabody, at the College of Physicians and Surgeons, are regarded as most excellent.

— At a meeting of the Medical Society of the County of New York, held April 26, the *Comitia Minora* reported and recommended that the Society approve a bill now before the Legislature, entitled "An Act to Regulate the Licensing and Registration of Physicians and Surgeons, and to Codify the Medical Laws of the State of New York," the design of which is to remove obstacles which, from time to time, have been encountered in attempting to execute the medical laws now upon the Statute-Books. The recommendation was adopted. Dr. Joseph D. Bryant was appointed to read a memoir of the late Dr. Gaspar Griswold.

— Dr. William L. Hardy, physician to the Tombs Prison, died April 24, of cerebro-spinal meningitis, after a three weeks' illness. Dr. Hardy was born in New York, May 18, 1849, and received his education at the City College and Bellevue Hospital Medical College. He was graduated in medicine in 1871, and the same year was appointed to a position as inspector in the Health Department. He was afterward Surgeon to the old Park Hospital, and to the city schoolship Mercury. In 1875, he was placed in charge of the insane asylum on Ward's Island, a position which he retained for five years. He was recently appointed by Mayor Grace, one of the Board of Civil Service Examiners.

PHILADELPHIA.

— Edward T. Reichert, M.D., was elected Professor of Physiology in the University of Pennsylvania, April 29th. Dr. Reichert was graduated at the University in 1879, and during the last term has been temporarily filling the Vacant Chair of Physiology.

— The Trustees of the Jefferson Medical College have appointed William S. Forbes, M.D., Professor of General Descriptive and Surgical Anatomy, to succeed Prof. Wm. H. Pancoast who resigned at the close of the term a few weeks ago. Dr. Forbes commenced his medical studies at the University of Virginia, and afterwards continued them at the Jefferson College, where he received his degree in 1852. He occupied a responsible position during the War, and after returning to Philadelphia he had a private school of anatomy. In 1879, he was elected Demonstrator of Anatomy in the Jefferson Medical College, which he has acceptably filled up to this time. Dr. Forbes is one of the Surgeons to the Episcopal Hospital, and consultant to other institutions.

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Correspondence.

LETTER FROM PAU.

Pau as a Winter Resort.[1]

Naturally the physician would send to Pau patients affected by diseases which are rarely met among the natives: bronchitis, early stages of tubercle especially those with tendency to hæmorrhage; catarrhal ailments and irritability of the air-passages; asthma; weak heart: valvular affections; angina pectoris; rheumatism complicated with gout; neurasthenia and concomitant affections. Pau is said to be contraindicated in affections brought on by residence in hot climates where the functions of the liver are sluggish: also in chronic bronchitis with excessive expectoration and great reduction of general tone. In detail I can say from a personal observation of two winters that the effect of the climate upon catarrhal affections is excellent. Cardiac ailments experience great relief, and it has been found that in visitors who remain two or three years, the pulse falls permanently several beats in the minute, for the climate is markedly sedative, acting especially upon the cardiac nerve centres. Above all, I would emphasize the value of the climate in cases of *neurasthenia*. Having had several such cases under my immediate care, as well as the opportunity to observe other individuals similarly affected, I can speak with the greatest confidence of the benefit to be derived in ailments of this nature from a residence in Pau. The climate is calming and soothing to the general nerve centres, and while sedative, does not deprive one of appetite, but the contrary. This sedative action is shown by the striking fact that diseases among the natives run their course with comparative absence of strong arterial action. Another feature of life in Pau is the ability to sleep. Individuals whose habit is wakefulness, sleep quietly for hours in succession, soon after reaching Pau, and yet persons in health are not more inclined to the *dolce far niente* than elsewhere.

The age of the natives of Pau is an indication of the healthfulness of the climate. Sound constitutions are the rule, even to advanced years. Pau is exempt both from epidemic and endemic diseases. In short, there is no predominating ailment. Consumption and scrofula appear in very small proportion to the number of inhabitants. During various epidemics of cholera, Pau remained entirely free in 1832; in 1855, cholera approached the town from three directions, but the number of cases was only fifty. In the recent epidemic, although so close to the Spanish borders, Pau was again exempt from the plague.

The effect of Pau climate upon the health of visitors is indicated by the observation that during one year among 1,000 English, there being one or more weak chest in each family, only two deaths from phthisis occurred and but five deaths from all causes.

The curious fact has been observed that remedies which diminish the force and velocity of the pulse can be borne in Pau only in small and diminishing doses or not at all. This I have found to be true. Another odd peculiarity remarked by a shrewd "Chiel" is that during the winter there is an almost entire absence of coughing in public assemblies, in church, theatre, etc. This is remarkable when one considers that many individuals arrive in Pau with a sensitive condition of the pulmonary apparatus. It should be said, however, that in Pau the sensitive throat and bronchial tubes escape the injurious effect of the impalpable dust, which is so painful in the severe and cutting winds of Nice and the Riviera.

Pau undoubtedly is one of the most comfortable towns abroad. That convenient German word *gemüthlichkeit* best expresses the genial effect upon one of life in this charming place. There are several good hotels — the Gassion, Hotel de France, the Grand and the Beau Séjour. Of these, the Gassion has the best situation, the finest and most comfortable rooms, an elevator, abundance of balconies (both a requisite for invalids) and the visitor is made to feel as nearly at home as is possible in a hotel. Madame Bachov, the proprietress, is equal to any demand, and the table is good. Rates of living in hotels vary from $3 to $5 per day, according to situation. There are fairly good boarding houses kept by English. Apartments and villas are very plentiful, and servants may be obtained at low rates. A cook at $8 to $12, butler $12 to $16, chambermaid $4 to $6 per month. In Pau there is one arrangement which is not only an assistance but a protection to the stranger. This is a syndicate, which, free of all expense, gives information concerning apartments, villas, hotels and boarding-houses, local usages, servant's wages, etc., and acts as arbiter between strangers and natives. Also aids in engaging villas or rooms; verifies inventories, etc. Apartments (or flats) are leased for nine months or less at rates varying between $200 and $1,000, and are furnished with every requisite save linen and plate, both of which may be hired. Dog carts, phaetons, breaks, etc., are abundant and unusually well horsed. Saddle horses are very plentiful and well-trained. Driving and riding are comparatively inexpensive. In the way of amusements, the military or orchestral concerts out-of-doors every day. Various musical entertainments, receptions *ad nauseam*, and balls; the theatre; a good club; steeple chase, flat and hurdle races on an excellent course; frequent meeting of the hounds fill the days of the pleasure seeker. The government roads are very fine, and drives or walks in whatever direction are delightful, for the variety of scenery, picturesqueness of native life, beauty of villas and grounds, the snow mountains and lovely vallies have given Pau an enviable reputation.

There is an unexceptionable collegiate school for boys who may live at the school or attend daily, living at home. Teachers in art, music and languages are abundant and able. There are two English churches, several large circulating libraries, shops are satisfactory. There is a sufficiency of physicians, English and French, and there are two or three reliable English druggists. In the vicinity of Pau are many places of great natural beauty which serve as the object of enjoyable excursions especially *Eaux Bonnes*, *Eaux Chaudes*, *Cauterets*, and *Lourdes*; the attraction of the latter being the famous healing spring over which presides the Virgin Mary (the spring bubbling up in a grotto directly beneath a church), and to which pilgrims come in yearly, thousands from places as distant as San Francisco.

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[1] Concluded from page 406.

The three first named of these localities are among the charming resorts in the Pyrenees in which visitors who remain for another winter in Pau spend the summer. This is naturally a sensible plan. Hotels are good and the coolness of the mountains and beauty of the scenery are historical. Several of these resorts possess hot and cold medicinal springs of great value in affections of scrofulous nature, in gout and rheumatism. Personally, I am not familiar with them. They have been celebrated since the days of St. Louis.

The invalid should not make the mistake of leaving Pau too early in the spring. During the late days of February and early days of March, there are winds called the "Sirocco" which are enervating. They do not endure, and no invalid should leave Pau before April 1. This being too early for northern towns, Biarritz, on the Bay of Biscay, is a convenient way-station for those to whom sea-air is not an objection. Let it not be forgotten, however, that in a surprisingly large proportion of invalids sea-side climate saps the strength like starvation. The alternative would be a little longer stay in Pau before going North. April is an exquisite month in that neighborhood.

Biarritz became famous through poor, old Louis Napoleon. It is a place of great beauty, has excellent hotels, the Angleterre, Grand, Victoria and Continental, the Augleterre leading the list in comfort and situation. There are satisfactory lodging-houses. The air has all the tonic of the sea, yet is mild and warm as early as March. Baths may be taken in hot sea-water. More suburban than Pau and consequently less enlivened by sources of amusement, Biarritz is favored by lovely surroundings, and there is abundance of horses and vehicles. In summer, of course, the place is wide awake, the Casino is open, concerts frequent, and the bathers are much like those of other seaside places in France.

Spain is near at hand, and many are tempted to run down to Madrid to visit the remarkable picture gallery, for Velasquez and Murillo, (especially the former), cannot be rightly studied out of Spain. There are six pictures by Velasquez in this gallery well worth crossing an ocean to see. Once at Madrid, the traveller easily decides to visit Granada, Seville, Cordova, Toledo and naturally the Escorial. Biarritz, by the tonic properties of its climate, fitly prepares the invalid for places farther North, but no sensitive constitution should be allowed to encounter the capricious weather of Paris before April 15, and a fortnight later would be far safer.

In closing, I may say that invalids who require a bracing, dry, sparkling, winter climate, will find it moderately in Lugano, more markedly in Meran, still more so in the Engadine. Pau, while called enervating, is only sedative, and the majority of invalids, in my humble judgment, cannot and should not bear prolonged climatic stimulation. The quiet gentleness of a climate which does not depress nor strongly stimulate enables wearied functions gradually to resume a normal power. In Pau the heart works with ease; the nerve centres regain their equilibrium and sensitive lungs and the irritable bronchial mucous membrane become soothed. The stimulus of mountain air is better adapted to summer months and may very properly follow a winter in Pau. Pau has a remarkable climate, but one should not be disappointed if not wholly relieved in *one* winter. The processes of nature like those of the moral being are slow, and in order to be made sure they must have time. There is nothing more detrimental to the bodily condition of an invalid than capricious change of climate from motives of dissatisfaction and disappointment, which are based upon an experience of only a few days or weeks.

It must not be thought that I recommend Pau for every variety of those cases, many of which improve here. Having set forth with some care, the characteristics of the climate and its effects, physicians will readily judge from the peculiarities of their patients as to which of them will be likely to improve here. Once more, however, I will allow myself to repeat that I have never met with a climate which seemed to me so remarkably adapted to the requirements of neurasthenics as that of Pau. Invalids may begin the season as early as November 1.

Delicate individuals often are sent to Arcachon, one hour by rail from Bordeaux. Here a vast belt of pines separate winter dwellings from the sea. There is, however, an inland tidal (salt) lake. The combination of odor of pine trees and salty elements from the sea are beneficial in many cases. There are many gray days at this resort. It is less favored by visitors in winter than it formerly was. The seaside during the colder months is extremely trying to certain invalids, and therefore it should not be forgotten that Pau is only a few hours distant. H. O.

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Society Report.

[BY TELEGRAPH.]

SPECIAL REPORT OF THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT ST. LOUIS.

Exposition buildings commodious, convenient, comfortable. Proceedings orderly. Registration managed better than ever before. Four registering stands, and invitations only delivered next morning. Over twelve hundred registered. Weather pleasant, entertainments enjoyable. Citizens hospitable, ball at Merchants' Exchange a great success. Work in Sections very uneven. A few good papers, discussions poor. Sections of Sanitary Science and Diseases of Children poorly attended; most interest manifested in Surgery and Gynæcology. The new method of election of officers of Sections worked badly. Nearly all those elected obscure men. For first time in history a woman was elected chairman of Section for Childrens' Diseases; next day this action was reconsidered.

First Day. Dr. Brodie introduced by Dr. Atwood; meeting finally opened by prayer; address of welcome by D. R. Francis, Mayor of St. Louis. Dr. Atwood's address. Committee of Arrangements Report. Protests against delegations of Philadelphia County Medical Society; New York Academy of Medicine; Davidson County, Tennessee; Tri-States Medical Society; Mississippi Valley; Tennessee State Medical Society, were received and referred to the Council. Dr. Brodie, in his annual address, spoke of deaths during the past year of ex-Presidents Cox, Bolling, John D. Atlee, Austin Flint. Only four original members living of those who organized the Association in 1846; namely, N. S. Davis, Alfred Stillé, Alonzo Clark, P. D. Bush, of Delaware. Speaker defended the National Code tested by years of experience, recommended new Sections of Medical Jurisprudence and Dermatology, and Syphilis. Success of the Association's Journal commented upon. Condemned endorsement of proprietary preparations by members and asked the attention of the Judicial Council thereto. Vote of thanks and referred for publication.

Dr. J. S. Lynch, of Baltimore, read the report of the committee on the International Congress. Work of preliminary arrangement complete, and now in charge of the Executive Committee of the Congress. Report adopted, no discussion. Vote to reconsider by resolutions laid upon table, making action final. [Applause.] Amendment by Dr. Davis adopted that Sections nominate their own officers. Nominating Committee organized, one from each State.

WEDNESDAY. Vice-President Logan in chair. Committee appointed on the presidential address; Murphy, of Minnesota; Garcelon, of Maine; Gihon, United States Navy. Chairman of the Section on Surgery delivered his address on the Present Status of Abdominal Surgery apart from special field of Gynæcology. Valuable, but too long; sub-subjects: penetrating wounds, laparotomy, colotomy, intestinal obstruction, enterectomy, rupture of diaphragm, peritonitis treated by section and drainage, gastrotomy, pylorectomy, gastroenterectomy, etc., splenectomy, surgery of gall bladder, injuries and surgical affections of the liver, surgery of pancreas, laparonephrectomy, tumors of omentum majus, tumors of mesentery, and retro-peritoneal tumors.

Dr. S. C. Gordon, of Portland, Maine, chairman Section Obstetrics, delivered an address. Strict antiseptic methods will permit an accoucheur to continue his practice after exposure to septic influences without danger to patient. Diagnosis of early pregnancy; Hegar's method approved. Vomiting to be relieved by dilatation, lifting uterus and support by pessary or cotton. For contracted pelvis, premature labor recommended. Forcible removal of the secundines not favored. Hysteria considered in the remainder of the address; often connected with pelvic lesions of the appendages. Operation restores health; twenty-five cases of original operation with only one death, results flattering. On motion, both addresses were referred to appropriate Sections for discussion.

Report of the Rush monument committee, Dr. Gihon, chairman. Organization formed at the last meeting, ready to receive subscriptions, delighted to have one dollar from each member of the profession in the United States, and are now receiving voluntary donations from persons interested in the undertaking. Signed Gihon, Chairman; Rohé, Secretary; J. M. Jones, Treasurer. Following names added, Henry H. Smith, Pa.; Charles Vincent, United States Army, Washington; P. H. Bailhache, marine hospital service, Baltimore; Samuel J. Jones, Chicago, with preceding constituting executive committee. On motion of Dr. Quimby, Ill., amendment creating Section on Medical Jurisprudence was adopted.

THURSDAY. Report of Committee on Nominations: President, E. H. Miller, Michigan; Vice-Presidents, W. B. Welch, Arkansas; W. H. Pancoast, Pennsylvania; Wm. C. Wile, Connecticut. Permanent Secretary, W. B. Atkinson; Assistant, J. Nevins Hyde, Chicago; Treasurer, R. J. Dunglison; Librarian, Kleinschmidt; Committee on Necrology, Jones, Chairman; Trustees of the Journal, P. O. Hooper, Alonzo Garcelon, L. S. McMurtries. Place of meeting, Chicago, first Tuesday in June. Chairman Committee of Arrangements, Chas. Gilman Smith, Chicago. Report adopted.

Sections reported following nominations of Chairmen and Secretaries: Medicine, John S. Lynch, Baltimore, J. B. Marvin, Louisville; Gynæcology, F. M. Johnson, Kansas City, W. W. Jaggard, Chicago; Ophthalmology, etc., W. X. Scott, Cleveland, J. H. Thomson, Kansas City; Children, Delaskie Miller, Chicago, W. B. Lawrence, Batesville, Arkansas; Oral Surgery, J. S. Marshall, Chicago, E. S. Tallbot, Chicago: State Medicine, George H. Rohé, Baltimore, W. Wyman, Marine Hospital Service.

Committee on President's address reported, recommending that the Association memoralize Congress, (1) that a Scientific Commission should visit Cuba, Mexico, Brazil, to investigate Carmona's and Freire's alleged discoveries as to the poison of yellow fever. (2) Not agreed as to the necessity of abandoning metric system in proceedings. (3) Approve heartily Section of Medical Jurisprudence and Dermatology, and Syphilis. (4) Approve election of officers by Sections, and suggest permanent secretaries. (5) Endorse views as to Journal, and exclusive right to papers and reports. (6) Denounce practice of endorsing proprietary remedies and call attention of Judicial Council to such abuse. (7) With regard to branch organizations, advise reference to a special committee to report next year. (8) Earnestly echo the wish for the success of the International Congress, ask general coöperation. Report adopted after discussion.

Committee on Meteorology reported progress. Special Report on Cremation, by Keller, referred to Section of State Medicine. Roberts, of Pennsylvania, called for report of Judicial Council on Philadelphia delegation. President said it was in hands of Judicial Council. Roberts claimed report had been made, and was in Secretary's hands yesterday. Resolution of inquiry was offered which the President decided was out of order. Appeal taken, but decided in favor of sustaining the chair.

Whittaker, of Cincinnati, read his address as Chairman of Section of Medicine. Some points in bacteriology; general review of bacterial pathological science; methods of culture; micrococci of various forms; recent researches into experimental induction of zymotic disease.

Rauch read address on "State Medicine"; defined State medicine; not distinct from curative medicine; medical education a branch of the subject; State has unquestionable right to regulate medical practice, a part of police duty; uniform laws desirable in different States; urged upon Association to recommend extension of study to four years, and three full terms, attendance on hospital practice and clinical instruction as requirements for graduation in medicine; recommended also framing a law for regulating practice, to be offered for adoption by States where no such law now exists; final part of address urged Congress to complete health defences and rehabilitate National Board Health, or create new organization; present quarantine measures upon Atlantic and Gulf Coasts sufficient to exclude cholera, small-pox, yellow fever, by intelligent use of agencies still at command; control of immigration; vaccination briefly referred to in conclusion, and referred to Section.

Resolution by Garnett, of Washington, that delegates urge representatives in Congress to make an appropriation for the International Medical Congress.

Treasurer reported satisfactory condition of funds; balance, $378.39. Gihon offered amendment to lay over for one year, the proposed establishment of a Section on Dermatology and Syphilis; also appointing a committee to consider feasibility of branch organization, like British Medical, to report next meeting.

Adopted. Kleinschmidt, librarian, reported progress, and asked for appropriation of ten dollars for the Index Medicus. Approved. Committee on publication report Friday morning.

Executive Committee of International Congress have elected as President, N. S. Davis; Vice-Presidents, W. L. O. Baldwin, William Brodie; W. W. Dawson; E. M. Poore; J. G. Richardson; L. A. Sayre; J. M. Toner. President of the American Medical Association, the Surgeon General United States Army; Surgeon General United States Navy; Supervising Surgeon General Marine Hospital Service. For Secretary General J. B. S. Hamilton. Treasurer, E. S. F. Arnold, New York. Chairman Finance Committee, Frederick A. Dennis.

The Committee have appointed as Chairmen of Sections: Medicine, A. B. Arnold, Baltimore, Md.; Surgery, William T. Briggs, Tennessee; Military and Naval Surgery, H. H. Smith, Pa.; Obstetrics, Delaskie Miller, Chicago; Gynæcology, James H. Harrison, Va.; Anatomy, William H. Pancoast, Pa.; Physiology, J. H. Callender, Mich.; Pathology, A. B. Palmer, Mich.; Children, J. Lewis Smith, New York; Ophthalmology, E. Williams, Cincinnati; Otology, S. J. James, Chicago; Laryngology, W. H. Daly, Pittsburg; Dermatology and Syphilis, A. R. Robinson, New York; Hygiene, Joseph Jones, La.; Collective Investigation, etc., H. O. Marcy, Boston; Pathology and Nervous Diseases, John P. Gray, Utica; Dental and Oral Surgery, O. Taft, Cincinnati, Ohio.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 24, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	696	252	17.78	15.12	1.82	7.98	1.82
Philadelphia	971,363	373	130	3.07	15.93	.81	1.30	1.62
Brooklyn	690,000	320	118	15.81	13.02	1.55	3.41	4.03
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	190	52	6.36	21.57	1.68	3.92	1.12
St. Louis	417,220	156	65	10.88	—	1.28	.64	.64
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	76	32	10.86	19.80	—	1.32	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	34	8	11.76	29.40	5.28	2.94	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	40	10	12.50	20.00	—	9.60	—
Worcester	68,383	26	7	3.85	15.40	—	3.85	—
Lowell	64,051	33	10	9.09	18.18	—	3.03	—
Cambridge	59,660	24	7	4.16	29.12	—	4.16	—
Fall River	56,863	15	8	20.00	—	6.66	—	6.66
Lynn	45,861	17	3	—	23.52	—	—	—
Lawrence	38,825	12	3	41.66	8.33	—	—	16.66
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	12	4	—	16.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	3	—	11.11	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	7	3	14.28	—	—	14.28	—
Taunton	23,674	12	8	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	1	—	50.00	—	—	—
Malden	16,407	4	1	50.00	50.00	—	25.00	—
Fitchburg	15,375	2	—	—	50.00	—	—	—
Waltham	14,609	3	1	—	33.33	—	—	—
Newburyport	13,716	2	—	—	—	—	—	—
Northampton	12,896	11	6	—	18.18	—	—	—
89 Massachusetts Towns	—	47	14	12.78	12.78	2 13	2.13	2.13

Deaths reported 2,129: under five years of age 747: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 260, consumption 311, lung diseases 232, diphtheria and croup 95, diarrhœal diseases 29, scarlet fever 39, whooping-cough 29, measles 16, malarial fever 16, typhoid fever 12, erysipelas 11, cerebro-spinal meningitis 10, puerperal fever three. From whooping-cough, New York and Brooklyn 12 each, District of Columbia three, Charleston one. From malarial fevers, New York 12, Brooklyn three, District of Columbia one. From measles, Baltimore ten, New York four, Brooklyn and Lawrence one each. From typhoid fever, New York five, District of Columbia and Lawrence two each, Baltimore and Providence one each. From erysipelas, New York and Brooklyn five each, Baltimore one. From cerebro-spinal meningitis, New York six, Lowell two, Baltimore and Fall River one each. From puerperal fever, Brooklyn two, District of Columbia one.

In 106 cities and towns of Massachusetts, with a population of 1,229,278 (population of the State 1,941,465), the total death-rate for the week was 18.02 against 15.99 and 18.28 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 10th the death-rate was 20.1. Deaths reported 3,500: infants under one year of age 834; whooping-cough 131, measles 121, diarrhœa 37, scarlet fever 26, fever 26, diphtheria 21.

The death-rates ranged from 15.5 in Hull to 28.7 in Portsmouth; Birmingham 18.6; Blackburn 26.8; Leeds 17 9; Leicester 18.3; Liverpool 20.6; London 19 9; Manchester 25.6; Newcastle-on-Tyne 23.5; Nottingham 21.1; Sheffield 16.6; Sunderland 20.1; Wolverhampton 16.3.

In Edinburgh 17.8; Glasgow 24.7; Dublin 33.0.

For the week ending April 10th in the Swiss towns, there were 53 deaths from lung diseases, consumption 41, diarrhœal diseases 10, small-pox seven, erysipelas three, whooping-cough three, measles one, scarlet fever one.

The death-rates were: at Zurich 13.4; Geneva 22.2; Basle 25.2; Berne 42.8.

The meteorological record for week ending April 24, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Apr. 24, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...18	30.351	57.0	73.0	43.0	53.0	37.0	59.0	50.0	W.	S.E.	W.	6	6	12	C.	C.	C.	—	—
Monday, ..19	30.245	60.0	74.0	52.0	53.0	49.0	66.0	56.0	N W.	S.E.	E.	11	12	2	C.	C.	F.	—	—
Tuesday, ..20	30.271	49.0	58.0	44.0	65.0	79.0	81.0	75.0	E.	E.	S.	14	11	3	F.	O.	O.	—	—
Wednes., .21	30.064	63.0	78.0	47.0	63.0	34.0	58.0	52.0	W.	W.	W.	8	8	12	C.	F.	C.	—	—
Thursday, 22	30.049	54.0	62.0	48.0	61.0	78.0	75.0	71.0	N.E.	E.	S.W.	14	7	2	F.	C.	C.	—	—
Friday, ...23	29.798	69.0	83.0	49.0	52.0	24.0	55.0	44.0	S.W.	W.	W.	9	12	12	C.	C.	C.	—	—
Saturday, .24	29.834	58.0	73.0	51.0	48.0	68.0	66.0	61.0	W.	E.	S.W.	14	14	3	F.	O.	C.	3.5	0.01
Mean, the Week.	30.087	59.0	71.5	49.5				58.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 24, 1886, TO APRIL 30, 1886.

Corson, Joseph K., captain and assistant surgeon. Granted ten days extension leave of absence, granted in orders, No. 79, April 15, 1886, Jefferson Barracks, Mo. S. O. 97, A. G. O., April 26, 1886.

Wilson, Wm. J., captain and assistant surgeon (Plattsburg Barracks, N. Y.) Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Division of the Atlantic, April 27, 1886.

Benham, Robert B., captain and assistant surgeon. Ordered from Department Texas to Department Dakota. S. O. 97, A. G. O., April 26, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 1, 1886.

Wieber, F. W. F., assistant surgeon. Detached from Revenue Steamship "Vermont," and ordered to the "Hartford."

Tracy, Elmer C., assistant surgeon. Ordered to the "Vermont."

Waggener, J. R, passed assistant surgeon. Detached from the "Hartford," and ordered to the "Iroquis."

Bransford, J. F., surgeon. Detached from the "Iroquis," to proceed home and await orders.

Kite, Isaac W, assistant surgeon. To duty at Naval Hospital, Brooklyn, N. Y.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING APRIL 24, 1886.

Long, W. H., surgeon. Granted leave of absence for seven days, April 24, 1886.

Banks, C. E., passed assistant surgeon. Granted leave of absence for ten days, April 20, 1886.

Armstrong, S. T., passed assistant surgeon. Granted leave of absence for five days, April 20, 1886.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, May 12th, at 7.45 o'clock. Papers: Dr Grace Wolcott, "A Case of Ulcerative Endocarditis." Dr. H. C. Haven, "The Etiology and Treatment of Summer Diarrhœa of Infants." Dr. G. W. Galvin will exhibit and demonstrate a new instrument for the treatment of Pulmonary Phthisis and Diphtheria. The Picture, which was to have been presented at the last meeting, will be delivered to the Section on this occasion. Refreshments after the meeting.

F. I. Knight, M.D., *Chairman*.
Albert N. Blodgett, M.D., *Secretary*.

Norfolk District Medical Society. — The annual meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, May 11th, at 2 p.m. The Board of Censors will meet at the same place at 1 p.m. Order of Business: 1. Reading of Records of previous Meeting. 2. Reports from Committees. 3. Election of Officers. 4. Report of Treasurer. 5. Incidental Business. 6. Communications: I. "Minor Cases of Renal Disease," C. F. Withington, M.D. II. "A Case of Empyema with Perforation of the Lung; Permanent Opening; Recovery," H. W. Broughton, M.D. 7. Introduction of newly-elected Officers. S. Allen Potter, M.D., *Secretary*.

Alumni Association of the Woman's Hospital in the State of New York. — Second Meeting at the New York Academy of Medicine, May 19, 1886. Order: Morning Session, 10 to 1. Address by the Chairman, Dr. T. Addis Emmet. "The Influence, from a Clinical Standpoint, of Cicatricial Tissue in the Angles of the Lacerated Cervix," by Dr. William E. Moseley, of Baltimore. "The Surgical Treatment of Subinvolution," by Dr. A. Palmer Dudley, of New York. "Hobbies in Gynæcology, and the Importance of avoiding them," by Dr. Thomas L. Axtell, of Waterbury, Ct. Afternoon Session, 2 to 5. "The Differentiation of the various kinds of Pelvic Cellulitis," by Dr. James R. Goffee, of New York. "The Abuse of Intra-Uterine Medication," by Dr. Bache McE. Emmet, of New York. "Impressions of German and English Gynæcology, by an Alumnus of the Woman's Hospital," by John Duncan Emmet, of New York. Business and Social Meeting, 8 p.m.

H. C. Coe. M.D., *Secretary*.

Pennsylvania State Board of Health. — The State Sanitary Convention will be held at M'Caull's Opera House, Broad Street, below Locust Street, Philadelphia, Wednesday, Thursday and Friday, May 12th, 13th and 14th. Sessions from 10 a.m. to 1 p.m., and from 2 p.m. to 6 p.m. Annual Address before the Board, Wednesday Evening, May 12th, at 8 p.m.

American Climatological Association. — The Third Annual Meeting will be held in Philadelphia, Monday and Tuesday, May 10th and 11th, at the College of Physicians, N.E., Corner 13th and Locust Streets.

APPOINTMENTS.

J. W. Elliott, M.D., S. J. Mixter, M.D., and F. B. Harrington, M.D., have been appointed Surgeons to Out-Patients at the Massachusetts General Hospital.

G. M. Garland, M.D., and J. J. Minot, M.D., have been appointed Physicians to Out-Patients at the same institution.

BOOKS AND PAMPHLETS RECEIVED.

The Principles and Practice of Surgery. By Frank Hastings Hamilton, A.M., M.D., Ph.D., Late Professor of the Practice of Surgery in Bellevue Hospital Medical College, etc. Illustrated with 472 engravings on wood. Third edition revised and corrected. New York: Wm. Wood & Co. 1886.

Coca, Cocaine and its Salts: Their History, Medical and Economic Uses, and Medicinal Preparations. By William Martindale, F.C.S., Late Examiner of the Pharmaceutical Society. Joint Author of the "Extra Pharmacopœia." London: H. K. Lewis, 136 Green St., W. C.

The Original Jennerian Vaccine Virus as Preserved and Used in the Public Vaccinations in the City of Providence, R. I. (Reprint from annual report of Charles V. Chapin, M.D., Superintendent of Health, with Notes by C. H. Leonard, M.D.)

Boylston Prize Essay, 1855. The Best Preliminary Education for the Study of Medicine. By Edward S. Stevens, M.D., Lebanon, O.

Original Article.

MILITARY DRILL AS A MEANS OF PHYSICAL TRAINING FOR BOYS.[1]

BY CHARLES F. WITHINGTON, M.D.

THE importance which, of late years, is coming to be attached to physical culture as a constituent of every properly-arranged system of education for youth, is one of the encouraging signs of the times. No class of men, we believe, are more heartily disposed to second this reform than the medical profession, and it is certainly well within the scope of this Section to devote some consideration to the relative hygienic advantages of the various means which have been suggested for promoting physical development.

Military drill has been selected by the educational authorities of this city as the chief instrumentality for the physical training of the pupils. For the boys, it is practically the only bodily exercise provided. In other cities of the Commonwealth, it has also been introduced into the public schools; as for instance, in Lowell, Springfield, Newton, Salem, and Gloucester, and its introduction is contemplated in still other places. When so important a function as that of the physical training of our boys is devolved solely (so far, at least, as concerns public educational authority) upon one particular instrumentality, it is important to learn whether that instrumentality is more fruitful in the desired results than any other that is attainable.

The history of the introduction of military drill into the public schools of Boston is briefly as follows: In 1863, under the pressure of the war excitement, and in view of the unfamiliarity with military tactics in which the North found herself at the outbreak of the Rebellion, a number of patriotic individuals, headed, I believe, by Edward Everett, demanded that instruction in military tactics be made a part of the common school education. A sub-committee, to whom this matter was referred, reported that they were of opinion that it was expedient to introduce instruction in military gymnastics and drill into the public schools for boys, "both as a means of physical training, and ultimately, of national defence." This instruction was to be given by the teachers, and, after a time, by the pupils themselves, under their supervision, a competent instructor in gymnastics and drill being employed to instruct some or all of the masters and ushers. The gymnastics and drill were to occupy half an hour, three times a week, and were to be carried on in the open air, except in inclement weather, when a convenient hall might be used. The plan was to be tried in the Latin, English High, and two of the grammar schools.

An instructor was accordingly secured, but in the practical working of the plan, certain changes were soon made. With the exception of an occasional street parade, the drilling has been carried on almost wholly in halls hired or constructed for the purpose. The exercise was restricted to the boys of the High and Latin schools, and was placed under the sole charge of the special instructor. The order for gymnastic training was construed to mean simply that involved in the use of the military tactics. It may be mentioned, that for the girls of corresponding grades, a system of calisthenics was established, which is still maintained with good results under a teacher of gymnastics and vocal culture, and which gives each girl from ten to twenty minutes of exercise daily.

The present status of military drill in the Boston public schools is this: about 1,300 boys, being all the male pupils of the seven high schools, and of the Latin School, practise drill for two hours each per week. All boys over thirteen years of age are required to drill, no one being excused without a physician's certificate declaring his inability. For the first two or three weeks of the year, the exercise is without guns. During this time, the boys are practised in alignments, facing, marching in line, and by the flank, and to a certain extent, in the so-called "setting up," which, according to Upton's "Tactics," comprises four manœuvres, executed without apparatus, and designed to exercise the muscles of the chest, arms, scapulæ, spine, and to some extent, of the legs. This "setting up," which, for gymnastic purposes, is the most valuable feature of the drill, and which is directed in the "Tactics" to be often recurred to, that all soldiers shall be frequently practised therein, receives, after the guns are issued, only a hasty and perfunctory execution under the command of the captains, the entire interest of the boys being centred upon drill with the muskets.

The arms used are the regulation breech-loading pieces of the army, finished down to a somewhat lighter weight than that prescribed for the service. The standard arm weighs nine pounds. Those used by the boys are of two sizes, the one having a thirty-one-inch barrel, and weighing eight pounds without the bayonet; and the second size (for the smallest boys) having a barrel of twenty-seven and a half inches, and weighing seven and three-quarters pounds. In addition, the bayonet weighs one pound, and as it is required to be fixed to the gun during the dress parade, there is necessarily more or less practice of the manual with the bayonet in position, that the boys may become accustomed to the increased difficulties involved in this addition to the weight of their pieces. Moreover, the "bayonet drill" is always learned and practised by a certain proportion of the boys for spectacular purposes in connection with the annual exhibitions. In this connection, it may be mentioned that the West Point cadets, whose average age is several years older than that of the boys in question, and whose frames are correspondingly matured, use for their infantry drill a piece weighing only seven pounds.

The State requires instruction in military drill to be given in the educational institutions which it subsidizes. Hence it is practised during a portion of the course at the Amherst Agricultural College and at the Massachusetts Institute of Technology. But the age of the pupils in these colleges is such that they are hardly to be compared as "growing boys" with the pupils of the preparatory schools. In the Chauncy Hall School, in this city, drill is compulsory for two and a half hours per week, and about one hundred and fifty boys perform that exercise. The largest boys have a piece weighing eight pounds, younger boys one of five pounds; and the so-called "pony" company (aged from ten to thirteen years), a piece weighing but three and a half pounds. I also learn of a private school in New York, where the guns used weigh only from two to three pounds. Of course, if drill must be practised, these light pieces are much less capable of doing harm than the eight-pound guns used in our public schools — a pound heavier than those carried by the athletic cadets of West Point.

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[1] Read before the Massachusetts Medical Society, Suffolk District, Section for Clinical Medicine, Pathology, and Hygiene, April 14, 1886.

The question before us is one of wide bearings, and the writer is far from claiming that the physical effect of drill is the only one which educators should take into account. For instance, it may be claimed for it that it inculcates subordination to authority, with promptitude, and precision of obedience; that it is an important aid to maintaining the discipline of a large school (which undoubtedly explains the favor with which many teachers regard it); that it may supplement the work of the militia in providing a citizen soldiery for time of war. On the other hand, there are the ethical and sentimental objections entertained by some of the parents against the *morale* of the thing; the expense of its maintenance, and especially the heavy expense entailed upon many of the boys themselves; and the fact that its application is limited to about two per cent. of all the pupils in the public schools. The last of these considerations is of serious importance as affecting the value of the system as a general means of physical culture, but with the others this paper is not concerned.

Before passing to an examination of the physical effects of drill upon the pliant structures of the immature and growing organism, I may remark that the specific effects upon the adult frame of the bearing of arms, apart from other associated conditions, do not seem to be clearly established. The only record of scientific value which I have met on this point is contained in a volume by Dr. Fetzer,[2] of Stuttgart, Staff and Battalion Surgeon of the 7th Würtemberg Infantry regiment. This observer made a series of careful measurements of some 350 recruits at intervals of three or four months during their first year of service, and noted an improvement in the various chest-measurements during that time. These men were about twenty or twenty-one years of age, and were drilled daily six hours in the open air. Yet some of these enlisted men, who were employed as musicians and artisans, and who (particularly the latter) had very little practice with arms, showed also a considerable improvement in their various measurements, though not, it is true, equal to that of the regular soldiers. The question arises how much of this improvement was due to the practice with arms, and how much to the out-of-door life, the regular habits and the improved diet? The author himself regrets the lack of any knowledge as to the comparative measurements in men who were drilled with and without weapons.

But even if we admit the advantage of military drill with the other accompaniments of camp life, for the fully developed organism, the question of its value for young and growing boys rests upon quite another basis. The weight of the arms used bears a much higher ratio to the strength of those carrying them in the case of young boys than in the case of adults; while the immature condition of the osseous and muscular systems in the former class renders them much more liable to injury in case the weight of the arms is too great for them, and especially if the weight falls unequally upon the two sides of the body.

One of the highest authorities on spinal curvature, Mr. Adams, of London, assigns as the proximate cause of lateral curvature, local and mechanical conditions disturbing the equilibrium of the spine and consisting essentially of "*long continued irregular distribution of weight.*"[3] This view is confirmed by recent experiments of Dr. E. H. Bradford.[4] In the cases of this affection which occurs in boys, Mr. Adams declares (p. 157) that the cause is generally this local and mechanical one rather than the remoter constitutional one which often coöperates with it to produce the deformity in girls. Among such factors, producing disturbance of equilibrium of the spine, he shows to be certain one-sided occupations, such as ironing, book-folding, needle-work, carrying children, or other heavy weights. He cites cases of spinal deviation in a boy who was in the habit of carrying parcels on his shoulders up a spiral stair-case, a postman with his satchel hung on one side, etc. The mode in which the deformity is produced is this: the right shoulder, for instance, being habitually or often carried higher than the other, a convexity of the dorsal spine is made towards the right and the muscles on that side are stretched. The weight of the vertebræ instead of falling as normally wholly on the intervertebral cartilages, rests in part on the articular processes, their only other point of contact; the one on the side corresponding to the concavity, yields and is pushed downwards. As these processes are posterior and lateral to the bodies, their yielding causes rotation of the bodies toward the convexity of the curve, and the other pathological concomitants of the distortion follow. According to this view what stands between any one exposed to habitual one-sided superincumbent weight and lateral spinal deformity, is these articular processes, which at and before puberty are in a soft and yielding state.

Now, when a boy is holding an eight-pound musket at either carry or right-shoulder arms, which are the two commonest orders, his frame experiences in a minor degree, and subject to the military requirements of holding himself straight, what it does when he carries a pail of water. The weight is either suspended by the arm muscles from the scapula or rests directly over that bone. Thence it is transferred through the trapezius and the two rhomboidei muscles to the spinous processes, and through the serratus magnus and the eight or ten upper ribs to the bodies of the dorsal vertebræ. To sustain this pressure the shoulder rises and the muscles mentioned are called into active play. So that whether we adopt Adams' theory of oblique superincumbent pressure or the older one of unequal muscular action, there is a tendency, proportioned to the length and magnitude of the pressure, and greatest in the immature organism, towards spinal asymmetry.

It should here be mentioned that the military instructor in Boston has, with a view of obviating this evil tendency of drill, very thoughtfully modified his manual from that of the regular army tactics by introducing a new order, left-shoulder arms, which the captains are instructed to substitute occasionally for the ordinary marching order of right-shoulder arms. But waiving the difficulty inherent in all unilateral gymnastics of accurately dividing the exercise, which always comes easier to the right side than to the left, between the two halves of the body, the fact remains that the manual, even in its mitigated form, gives much more work to the right than to the left side. For instance, of sixteen manœuvres in the manual without command, five are carry and three right shoulder arms; while of the remaining eight, four are executed on the right side of the body. Of course with lighter guns the evil would be less, but when we hear of curvatures resulting from lace-winding,[5] and croquet playing,[6] which are well recognized facts, we are forced to believe that any habitual exercise designed for body-building, especially in growing boys, should be performed with both sides simultaneously.

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[2] Ueber den Einfluss des Militärdienstes auf die Korperentwickelung, von Dr. Berthold Karl Fetzer, Stuttgart; verlag von Adolf Bonz and Comp. 1879.

[3] Lectures on the Pathology and Treatment of Lateral and other Forms of Curvature of the Spine. By Wm. Adams, F.R.C.S. Second Edition. London. 1882. p. 129.

[4] Boston Medical and Surgical Journal, March 15, 1835.

It will be very properly asked, do any of these cases of lateral deviation which might *à priori* be looked for, actually occur?

In reply I would cite this case now under my own observation. A boy of average height, excellent health, and more than ordinary muscular development, began drill with a nearly eight-pound gun, at the age of fourteen. At that time he was perfectly symmetrical, so far as the careful observation of his parents can inform us. He has led a healthy school-boy life, but has never performed any manual labor or other exercise which could produce a spinal bias. Toward the end of the second year of military drill, the following conditions were recognized and are now present, though it is nearly a year since the drill was discontinued: A prominence of the right scapula; a right lateral curvature of the dorsal spine, the spinous processes from about the third to the ninth dorsal vertebræ deviating to the right; a compensatory left curvature, shorter and sharper, affecting three or four of the lumbar vertebræ; a marked prominence of the left costal cartilages. In short, the classic symptoms of double spinal lateral curvature, for which no other cause can be fairly assigned than military drill.

Now, I am far from claiming that these unfortunate results follow in all or even in a majority of the boys who drill. Many by reason of the maturity and strength of their tissues, are able to resist these untoward influences. But Dr. Sargent informs me that in his examinations at the Hemenway gymnasium he not uncommonly meets such cases of asymmetry in boys who come to college from schools where they have been drilled from an early age. So that it seems fairly in evidence that spinal deviations, in which drill was a factor, have occurred.

Authorities on physical culture all unite in condemning those forms of exercise which are one-sided in character. For this reason, nearly twenty years ago, Ravenstein and Hulley, the authors of one of the leading English works on physical training, while strongly advocating school gymnastics for boys and girls, as strongly condemned military drill.[7] In order to be sure that the development of the two sides of the body shall go on equally, the work of the two halves should be carried on simultaneously; only so can absolute equality be assured.

Thus, while fencing is considered a proper professional acquirement for army officers, it is not held to be a proper developmental exercise. Indeed, that it may not do positive harm, by producing physical asymmetry, the British officers are enjoined to practise it with each hand.

There is a common idea that the benefit of an exercise is commensurate with the fatigue which it induces, whereas the true theory of exercise is through the action of all the principal groups of muscles, accompanied as such action necessarily is, by a quickening of breathing and of circulation, (but not necessarily or properly by a feeling of exhaustion) to promote an acceleration in the processes of destruction and renovation of the tissues of the body. For the health and strength of the organism is proportional to the rapidity of these changes, or in other words, to the newness of the structures of the body.[8]

When a group of muscles contract, their metabolic activity increases, and through the material brought to them by the blood vessels, their nutrition is improved. But for the time during which the muscular contraction continues, the blood supply is impeded through the encroachment upon the lumen of the vessels, of the contracted and therefore thickened fibres. Hence the most useful form of exercise is that in which periods of muscular contraction are alternated at short intervals with periods of relaxation, during which the blood can freely enter the muscular structure to sweep out the exhausted material and to bring its renewing supply. Now, in marching with a gun at shoulder or at carry arms certain groups of muscles occupied in sustaining the weight are kept in a condition of tension for a long time so that they may become very tired, yet from the constancy of the tension the muscles cannot receive their required nourishment through the blood vessels until the strain is removed, or, in other words, till the exercise is over. With chest weights and with rowing, on the other hand, there is a constant and rapid alternation of contraction and relaxation, the former being accompanied by the explosive decomposition of material, and the latter by the reception of new material to replace it. Even with dumb bells and indian clubs under which the muscles do not experience such a rapid succession of activity and complete repose, the brief duration of the exercise, followed by the laying down of weight affords the needed opportunity for tissue renewal. The execution of the manual of arms does afford exercise to various groups of muscles; but the carrying of the guns in march or parade, in which the greater part of the drill hour is spent, tetanizes and exhausts the muscles, rather than exercises them.

Once more, military drill was never designed for the purpose of affording physical training. "The movements explained in the tactics," says Upton, "are confined as nearly as possible to those finding practical application in war." Now, just in proportion to the skill with which any instrument is adopted for one particular purpose, is the imperfectness of that instrument when converted to another use. A crowbar may be employed for many things, but a sewing machine is useless for any other purpose than that for which it was designed. It seems hardly to require argument to show that some method can be provided better adapted to securing physical development, than a system which was organized with a totally different end in view.

Probably nowhere in this country do young men receive more careful attention to their physical development than at the West Point Academy. The cadets are obliged to learn and practice military drill as a part of their professional education. Yet this is not relied upon for physical culture. They have not only the infantry drill but artillery and cavalry drill with prolonged instruction from a riding master, yet it has been found desirable to add a gymnasium in which systematic training is given every group of muscles in the body.

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[5] Adams, loc. cit. p. 157.

[6] Orthopraxy, etc., by Henry Heather Bigg. Third Edition. London. p. 232.

[7] Handbook of Gymnastics and Athletics, by E. S. Ravenstein and John Holley, London, 1867, pp. 5 and 6.

[8] Training in Theory and Practice, by Archibald McClaren, London, 1874, p. 6.

At Aldershot a gymnasium has been provided for the physical training of the enlisted men who are sent to that great camp for instruction. Not only are all new recruits required to work systematically in the gymnasium for the first three months but all other enlisted men who have been less than ten years in the service, are obliged to go through a similar training, and both classes are encouraged to a voluntary use of the gymnasium (of course under instruction), after the expiration of their compulsory term. In the German army, gymnastics play a more considerable part in the training, both of officers and privates, than even in England or this country. These facts and others that might be cited, seem to indicate that military drill is not considered, at least by the army authorities, to constitute the best possible means of physical development.

The objections that have been urged in this paper, to military drill as a sole means of physical culture for growing boys, may thus be summarized :

(1) The anatomical objection, based upon the fact of the obliquity of the superincumbent weight with reference to the spinal axis.

(2) The physiological objection, based on the production of a *tension* of the muscles, rather than of that constant alternation of activity and repose which best conduces to their nutrition.

(3) What may be called the philosophical objection, based on a lack of adaptation in design for the end to which the system has become converted.

It is beyond the aim of the present paper, already too prolonged, to consider what substitute for military drill might profitably be made in the public schools. I would only suggest that the system of physical training which for many years has given successful results in the schools of Germany, seems to offer at least one solution to the problem. The point that military drill is better than no stated exercise, even if that were to be granted, would not meet the objections of this paper. Neither is it germane to the subject to say, as has been said, that drill is less objectionable than a gymnasium without any supervision. It would be equally fair to introduce into the comparison an armory, supplied we might almost say with loaded guns, where boys were allowed to play about at helter-skelter, without system or instruction. Perhaps there would be little to choose in the uselessness or even the harmfulness of the two.

The drill should fairly be compared in its design and practical application to physical training, in its adaptability to all the scholars of public-school age, and, above all, in its freedom from harmful effects, with the best attainable methods of modern scientific physical culture. Weighed in this balance, the drill, I believe, will be found wanting.

— The death of Prof. Bouchardat occurred in Paris last month in the eightieth year of his age. He was a copious writer on subjects connected with Materia Medica, Pharmacology and Hygiene. He had been president of the Academy of Medicine, and was an officer of the Legion of Honor.

Clinical Memoranda.

A CASE OF DIABETES IN A CHILD-BEARING PATIENT.

BY EMERSON WARNER, M.D., OF WORCESTER, MASS.

Mrs. M., aged thirty-two ; rather tall, large frame, light complexion. Married eleven years. Weight previous to marriage, one hundred and fifty pounds.

Her first child was born between eleven and twelve months after marriage. Health up to this time, including period of gestation, good. Labor was protracted. For twelve hours pains were severe. Instruments were used and a living child was delivered, whose weight was said to be sixteen and a half pounds. This boy is to-day her only living child. After this first confinement, she made a good recovery, and nursed her child fifteen months. During the time of nursing, she flowed more than usual ; otherwise, no unusual complaint.

She was confined the second time two and a half years later. When this pregnancy had advanced five months, she suffered from an attack of pruritus pudendi, which continued till confinement. During this gestation, she became very much bloated, was very thirsty, and passed much water. Her weight increased to two hundred and fifteen pounds. This confinement was long and tedious. Weight of child, seventeen pounds ; supposed to have been dead two weeks. Made a good recovery in the main. Bloat and pruritis ceased. Thirst and polyuria remained.

Her third confinement occurred one year later. She suffered from recurrence of pruritis immediately on becoming pregnant. Thirst and polyuria continued and she became much bloated, but her great weight of the previous pregnancy was reduced to about one hundred and sixty pounds, which has been her average weight ever since.

It was during this labor that the writer was first called. The labor was unusually long and severe. The child was thought to be dead. No signs of life had been observed for two weeks or more. There was a large amount of liquor amnii. The head came down readily, but difficulty was encountered on attempting to deliver the shoulders and body. The cuticle peeled off from the child in the process of delivery, and great traction was required, with the aid of a towel passing over one shoulder, and under the arm on the opposite side. This child weighed sixteen and two-thirds pounds. This weight the writer verified. After this labor, patient required to be catheterized a few times; otherwise did fairly well, but pruritus, thirst, and polyuria continued.

Thirteen months later, occurred her next confinement. Some œdema of the legs and labia caused inconvenience, but the pruritus was the most tormenting symptom. She was very large ; abdomen very prominent. When called, the os was fully dilated. Upon the usual digital examination, only the bag of waters could be felt. Introducing the whole hand into the vagina, the abdomen of the child was felt. The child seemed to lie transversely across, shelved upon sacral projection and pubes. A foot was seized, and membranes ruptured. While the waters were escaping — a flood — the foot was drawn upon and the child nearly turned. With the hand in the vagina, the thigh of the other leg was hooked by the finger and the leg drawn down.

With strong traction, the child was delivered, dead; cuticle peeled off; weight, thirteen pounds. Though it was a cold night, the operator was bathed in perspiration and well-high exhausted. Patient made a good recovery. Ten months later, the patient suffered from a miscarriage, a five-months' fœtus. No cause could be assigned. Four months later, another miscarriage, a two-months' fœtus. No cause known. Three months later, another miscarriage, a six weeks' fœtus. Upon inquiry how she knew it was a miscarriage, she replied, "I saw the child." She is a woman of intelligence above the average of her class. Ten months later, miscarried at two months.

Two years later, January 22d, 1886, occurred her last confinement. She was threatened in her early months of gestation with miscarriage, but tided over, and was fairly comfortable, for her, till after the fifth month. Then her troubles began to increase upon her, œdema, pruritus, dyspnœa, restlessness, sleeplessness, inability to lie down, great weakness, and discomfort, sitting or lying.

At the seventh month, she suggested the question of inducing labor. She felt that this was necessitated by her sufferings, and though a good Catholic, that it was justifiable. She did not expect the child to be born alive, and two weeks after, she ceased to feel motion, and realized that probably fœtal life had become extinct. Under treatment, her sufferings were somewhat mitigated, and she was induced to wait until nature indicated that the full time had come.

Not being called till the first stage was completed, the same, or similar conditions were found to exist as in the previous labor. On introducing the hand, the first part reached was the navel with the cord. The feet were felt for, the membranes ruptured; six quarts of liquor amnii were received into basins previously provided for the purpose, and the child was delivered as in the previous confinement. This time, the weight was estimated at ten pounds or upwards. Previously, labor had taken place about two weeks after the supposed death of the fœtus; this time, not till six or seven weeks after. This probably had some influence in giving a child of less weight.

Her recovery has been somewhat protracted. The flow was at times rather profuse. The quantity of urine rose from three gallons to six gallons a day. Amount of sugar present, thirty-nine grains to the ounce.

At the present writing, April 19th, the quantity of urine in twenty-four hours is three gallons again. No test for sugar since the last statement.

She is again in very good health. Is able to be on the street; does most of her work; suffers comparatively little from pruritus. The last, and most suspicious symptom complained of, is a tendency to a formation of sores, little abscesses, on the fingers, in her hands, and in some other parts.

Her diet, which, for a considerable time, has been her treatment in the main, has consisted almost wholly of milk. She consumes five or six quarts of milk a day, and twice a week in addition, she takes two eight or eight and a half-quart cans of skim milk. She often goes a week with no other food. Her treatment, at times, has been varied, and at the hands of different men. The writer, when obliged to medicate, has relied mostly upon bromides, ergot, and opium. The pruritus has been controlled best by a solution of bichloride of mercury. An aunt of the patient died of this disease after a year's illness. She weighed about three hundred pounds. She had, at the last, large sores, probably of diabetic origin.

Since the above was written, the following has been taken from notes of Dr. L. Wheeler, who observed the case, and made some analyses of the urine between April 17, 1883, and August 11, 1883.

April 26. Quantity of urine, 32 ounces; specific gravity, 1039; specific gravity after fermentation, 1004; amount of sugar in twenty-four hours, ℥ 37$\frac{1}{3}$.

May 1st. Quantity, 29 ounces; specific gravity, unfermented, 1040; specific gravity, fermented, 1004; amount of sugar in twenty-four hours, ℥ 34.8.

May 9th. Quantity, two gallons; specific gravity, 1040–1004; amount of sugar in twenty-four hours, ℥ 18.1.

May 16th. Quantity, 17 ounces; specific gravity, 1040–1005; sugar in twenty-four hours, ℥ 19 5-6.

May 24th. Quantity, three gallons; specific gravity, 1035–1003; sugar in twenty-four hours, ℥ 25.6.

During this time she took various remedies. Brom. ammonium, opium, arsenic, ergot, belladonna, codeia, gluten-flour bread, and Hunyadi water; iodine was applied to the cervical canal of uterus, bichloride and chloral solutions to control pruritus, but all did little, if any, good. She used largely, as she is doing to-day, her milk diet, and for the most part, seems to do as well without medicine as when using it.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

April 14th, 1886. By courtesy of the Massachusetts Institute of Technology, the Section was convened in the hall of that building. The meeting was called to order at 8 o'clock, by Dr. F. I. Knight, the Chairman. Before the regular exercises were commenced, the Chairman stated that the picture which was to have been presented at this meeting was not quite ready, and its presentation had been therefore postponed to the next meeting.

ABNORMAL ARTERY OF THE PHARYNX.

The records of the last meeting were read in summary by the Secretary, and approved. By permission of the Sections Dr. J. W. Farlow then exhibited a girl aged twelve years, in whom a large artery was seen passing in a diagonal direction across the posterior wall of the pharynx, where its pulsations were plainly visible, and could be felt by the finger. The vessel was of larger size than the radial artery in the same patient, and was covered only by the mucous membrane. Dr. Farlow described the condition of the parts in the following words:

"The case is interesting on account of its extreme rarity, and because of its bearing on the surgery of the throat. It is a case in which we may plainly see and feel a large pulsating artery on each side of the back of the pharynx, about a quarter of an inch inside of the posterior pillar of the fauces. In a service of several years in the throat-room of the Boston Dispensary, I have never met a case before. Dr. Knight remembers to have seen one similar case. During the week following the appearance of the present patient, another case was observed at the same institution, but in the second case the vessel was seen and felt on the right side only. It occupied, however, the same situation. Dr. Leland saw a single case at the dispensary, about a week later, which he kindly asked me to examine with him. I find the abnormal distribution of the large vessels of the pharynx hardly mentioned in works on diseases of the throat. In anatomical works, the possibility of variation in distribution of the vascular channels is alluded to in a cursory manner; but clinically very little has been said or written upon this subject.

"These vessels are usually deeply situated and quite small. The vessel in the left side in the present case feels considerably larger than the radial. In all surgical operations on the back of the pharynx, such as incision, or the application of the Galvano-cautery, we may see at once how important it is to bear in mind the possibility of such a case as this, and to examine carefully as to the exact position of the bloodvessels. If the tonsillar branch were abnormally large, it would be sufficient to cause a very severe hæmorrhage after tonsillotomy, or deep incision; as in the case reported by Dr. Lefferts of New York, in which a vessel was cut by the guillotine, of so large a size as to require the application of a ligature, on account of the alarming hæmorrhage. Possibly in other cases of profuse bleeding after tonsillotomy, a similar condition of enlarged or abnormally situated vessels might be found."

A CASE OF LUPUS ERYTHEMATOSUS

Was presented by **Dr. W. N. Bullard.** The patient was a girl aged thirteen years. The disease had existed one year, and was seated on the face and hands. The color of the skin in these parts was of a mottled hue, and on the face were a large number of small scars, which were somewhat below the level of the surrounding skin, and were of a dead white color. On the hands, which were similarly affected, the disease appeared as large elevated nodules of a livid color, and were confined principally to the extensor surfaces of the fingers, though the whole dorsum of each hand was of the same livid and mottled hue as the face. The disease extended only to a point just above the wrist, on each hand, where it abruptly terminated. The general health of the child was otherwise good.

Dr. White pronounced the case a typical one, but not so rare as has been supposed. The disease is much more common here than in Europe, but the small size of the present patient makes this instance seem more than usually interesting. The girl, however, is thirteen years old, and after this age the appearance of this form of lupus is not so excessively rare. It is not frequently seen on the hands, but the co-existence of the same affection upon the face is very instructive as well as interesting.

The disease is essentially an inflammatory process, confined to the sebaceous follicles.

The Chairman announced that the Committee appointed from this Section some months ago to take into consideration the condition of the Water-supply of the City, would be invited to render a report at the next meeting of the Section, on May 12th. The committee has performed much labor, and the results to which their researches have led are different from what was expected.

The paper of the evening was by **Dr. Charles F. Withington** of Roxbury, entitled

MILITARY DRILL AS A MEANS OF PHYSICAL TRAINING FOR BOYS.[1]

The paper was listened to with the closest attention by the large audience, and was a careful analysis of the effects of the bodily exercises comprised in the ordinary drill, upon the physical system of young and growing boys.

At the close of the paper the Chairman stated that the Section would be happy to hear from Gen. Hobart Moore, who has had a very extended connection with the military exercises included in the present school system of the city of Boston.

General Moore stated that he had been connected with the instruction of boys in military tactics, ever since that exercise has been made a part of the school system. The drill was first introduced as an experiment, which was submitted to the judgment of a committee, composed in part of physicians of Boston, who have carefully watched its effects ever since that time, and have rendered a report upon this feature of our school system from time to time, with the reports of the other branches of school work. These reports have had reference to the effects of the drill, in its physical, as well as other aspects.

The following extracts from the official reports of that committee during a series of years may give an idea of their opinions upon this portion of the curriculum at those times.

In the year 1868 this committee writes:

> "The drill, they are confident, is most beneficial in its effect upon the health and physical development of the pupils; so far as the three or four years' experience with military instruction in our High and Latin Schools will prove anything, the experiment is a success."

This report is signed by the following well-known physicians: J. Baxter Upham, Chairman, *pro tempore*, Calvin J. Page, S. A. Green, Ezra Palmer.

In the year 1872–3 the same committee writes:

> "Your committee believe that the drill, as now carried on, proves to be not only the best system for physical exercise for these schools, but that, at the same time, it inculcates a more manly spirit in the boys, invigorates their intellects, and makes them more graceful and gentlemanly in their bearing. They are, also, of the opinion that the amount of time given to the drill does not take from, or interfere with, the ability of the pupils to accomplish their allotted quota of school work; on the contrary, they apply themselves more vigorously and easily to their task; and it has proved efficacious in producing orderly habits, as well as great physical improvement, and it is a most important aid in the general discipline of the schools. This is also the universal testimony of the teachers of the schools in which the drill is practised.
>
> "Eminent English authorities assert that where military drill has been established it has been found to conduce to the discipline and order of the scholars as well as their physical development and improvement."

This report is signed by the following physicians: J. Baxter Upham, P. O'Meara Edson, Henry P. Shattuck, William Woods, Committee.

The following is an extract from Mr. Philbrick's Report to the School Board of Boston in 1874:

> "To say nothing of the value of this instruction" (meaning the military drill) "as a means for the preservation of public order and for the national defence, as an educational instrumentality in promoting physical, moral, and intellectual culture, it has been signally beneficial. It has proved a valuable, though, perhaps, not a perfect, system of gymnastics; it has developed a more manly spirit in the boys, invigorated their intellects both directly and indirectly, and made them more graceful and gentlemanly in their bearing."

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[1] See page 433 of the Journal.

The same committee writes as follows in the report of the school year 1875:

"The Military Drill has been carefully attended to by the Committee; and their unanimous belief is that the utility of the drill cannot be overestimated.

"Very many parents have attested to the great good and benefit that their boys have derived from it. The boy without careful training will naturally stoop and bend over his studies until he will become 'round shouldered,' sometimes almost to deformity. The drill has a tendency to correct this habit, which no other training will do as well. We trust that the drills will be kept up, believing that committees having them in charge will see that no form of gymnastics could be substituted from which the boys would derive such benefit."

Lucius Slade, Henry P. Shattuck, Geo. E. Filkins, Franklin Williams, Petatiah R. Tripp, A. K. Tilden, E. H. Darling, Committee.

S. M. Weston, Head-Master Roxbury High School, writes as follows:

"Roxbury High School, Nov. 19, 1875.

Mr. Lucius Slade, *Chairman of Committee on Military Drill:*

Dear Sir, — You wish my opinion as to the usefulness of the Military Drill. It is a healthy exercise and well suited to the ages of the pupils, develops and strengthens the system to a greater degree than walking or riding, and there is less liability to injury than in gymnastics. The use of the musket gives flexibility, firmness, muscular strength, and an erect position of the body. The company movements cultivate precision and freedom of motion. The boys generally appreciate and enjoy the drill, and it exerts a salutary influence on the happiness and government of the school. Many past members have spoken of the beneficial effects of the drill, and hoped the military element of education would be continued in the school."

Elbridge Smith, Head-Master, Dorchester High School, expresses his opinion of Military Drill in the following words:

"Sir,—The elements of Military Drill have been taught in the Dorchester High School for the past four years. There has been, in my opinion, no one exercise of the school more beneficial to the boys than this. It is quite common to speak of this exercise as a means of physical training merely. The fact is overlooked, or little thought of, that it furnishes a moral culture of scarcely less value than the bodily exercise which it affords. Highly as I prize it for its physical benefits, I should earnestly advocate its continuance in the school for the moral benefits which it confers. I am quite certain that the drill has had a part in humanizing, so to speak, the sports of the boys at school. We all know the roughness that characterizes the school playground, and that it has been no uncommon occurrence for a boy to be carried home with a broken limb or a dislocated joint from the foot-ball or base-ball contests. The Military Drill is not only entirely free from danger in itself, but, by giving the boy a freer use of his limbs, enables him to engage in his sports with far greater safety and success. In former years the playground furnished almost as many cases of unpleasant school discipline as the school-room. A great change has taken place in this respect. Boys are not less active, but they engage in their sports with far more regard for each other's rights and each other's safety. They are equally earnest, but they are more manly; they may even be rude, but they are no longer brutal.

"I do not believe that any money expended by the State yields so ample a return as that which is expended upon Military Drill in our High Schools. Hundreds go from these schools every year who are competent to drill a company, and in case of war would be found of more value than those who have been drilled in the militia.

"With proper accommodation I think there might be a short drill, say of ten or fifteen minutes, every day."

A. M. Gay, Master in the Latin School, writes that

"There are both advantages and disadvantages in the Military Drill, but he is clearly of the opinion that it is a very desirable feature in the school system."

E. P. Seaver, Head-Master of the English High School, expresses himself in the following words:

"English High School, Nov. 19, 1875.

Mr. Lucius Slade:—

My Dear Sir,—To reply in one word, I will say that I think well of the drill, for several reasons, and that I am anxious to have it continued."

Gen. W. T. Sherman, writing of the Michigan Military Academy, employs the following language:

"The ordinary drill 'sets up' the boy, and makes a man of better figure, better physique, consequently prolonging his life and adding to the measure of his influence as a citizen. If arms are added, so much the better for the physique; and the skilled use of the rifle is not only an accomplishment, but may add to the security of his own life and those of his neighbors."

Gen. J. M. Schofield writes thus in regard to military instruction in schools:

"The dependence of this country upon militia of the several States as a national defence, and the interest of the States themselves, which depend so entirely upon their respective military organizations, point conclusively to the wisdom of fostering such education as will impart the greatest degree of efficiency to those organizations, as military bodies. But as important as are these considerations, I regard them even as secondary effects of such a system of education, the discipline in which must unquestionably best fit the youth for the primary duties of life — those of good citizens."

Extract from the Annual Report of the School Board of Boston for the year 1880:

"The Establishment of Military Drill is one of the few provisions made by the School Board for the physical training of the pupils under its charge; and no one who has observed the soldierly bearing of the members of our school battalion, can have any doubt of its value as a means of securing a full and symmetrical development of the physique.

Signed by Dr. John Moran, Chairman, Dr. Henry P. Bowditch, Abram E. Cutter.

The opinion of physicians of such high standing in the medical profession, *added* to the testimony of officers of so long a connection with the military service, leaves but little for me to say, except that my experience of twenty-five years, twenty-two of which have been in the public and private schools of Boston, compels me to coincide with their views to the fullest extent.

Many people are apt to form an opinion, without a knowledge of military drill as it is carried on in our schools.

In closing, let me say I will challenge any city in the Union to show better developed, healthier, or a more gentlemanly class of boys than those attending the High and Latin Schools of Boston.

Prof. Dudley A. Sargent was introduced by the Chairman, and spoke as follows:—

The examination of young men in large numbers at Harvard College, and at the Young Men's Christian Union, gives me opportunity to make many observations on the conditions resulting from military drill during school life. My studies in this direction lead me to support the statements made by Dr. Withington that deformity, and especially lateral curvature of the spine, are often the results of the military drill. That this was the source of the trouble, was proved by the rapid improvement in their condition after a short period of exercise by means of appropriate movements; when the deformity often entirely disappeared. Special exercises are needed to combat the evil results of injudicious training in certain other forms of exercises. Unfortunately, no tracings were made, as there was, at that time, no fund available for the purpose of photography, but since that time, there has been an appropriation for the purpose of securing a photograph in three positions of each student examined. All deformities of the spine are not due to military drill; as the student may have had some injury, or may be deformed from other causes, as from walking to school and carrying his satchel of books always on one shoulder, or some other one-sided exercise. Slight lateral curvature is, however, the least harmful of the accidents resulting from injudicious physical exercise. There is a sense of constriction across the chest, in the region of the pectorals, which often unfits the boy for anything in the way of vigorous exercise, and causes a lack of respiratory and circulatory power, which is a serious drawback to the physical health of the one affected. It is unfortunate that military drill should be held up and defended as a proper means for physical exercise. The moral effect is doubtless good, but the physical effect is thoroughly bad. The boy loses his individuality; and as the manual is made for execution by groups of four persons, each boy is cramped and restricted in his movements by the person on either side of him. Then all forms of physical exercise should be directed to the muscular system, as it is chiefly the muscles which are to be developed. In military drill, we have a class of movements which are directed especially to the joints, and not to the muscles. The drill is more a tetanic exercise than one for the development of the body, as its features consist, in a great measure, of rigid and unyielding positions, while every proper muscular exercise should be elastic in its movements. In all proper exercise, the weights used should be light, and should act by tension on the muscles, and not by tetanic spasm. The weight of the drill equipment is far too heavy for any boy. The drill is arranged for the largest and strongest boys, and the smaller and weaker are expected to adopt this standard and to carry it out. This is productive of many forms of bodily deformity, which may often be remedied by carefully-adjusted remedial exercises of the character to remove the damage thus produced, but the cure always consists of light, not of heavy exercises. The Boston experiment of military drill as a means of physical exercise cannot be compared with any other form or system, as there is none to compare it with, and none other has been tried here. In Great Britain, the military drill for enlisted soldiers is always preceded by a course in the gymnasium. Drill is never entered upon at once by the raw recruit.

Mr. W. C. Collar, of the Roxbury Latin School, was next called upon by the Chairman, and responded by saying that he had had a long experience in the exercise of boys by means of military drill, but his observations were made under unfavorable conditions. This experience may have been unfortunate, and his opinion of the importance of this form of exercise may have been warped by the conditions attending the system. The boys were always drilled with guns far too heavy for their strength, as they still are in the public schools, and the effect was not favorable either on the drill as a means of exercise, or on the boys as subjects. My opinion from these observations would certainly coincide with the views expressed by the writer of the paper, which formed the basis of this discussion. In a school of about one hundred and sixty boys, only about eighty have taken military drill. Of the other eighty pupils, a few, perhaps five or ten, are excused on account of having drilled during five years. Of the remainder, twenty are excused as too small to enter the drill. One-fourth, on the average, are excused on the presentation of certificates of physicians, forbidding the drill on account of observed or probable injury to the health, so that there is a large contingent of the schoolboys which is, for a variety of reasons, unfitted for the exercise of military drill. Another objection to the drill is found in the fact that it is a continuous exercise, without opportunity for needed rest and relaxation. It is no unusual thing to see boys evidently suffering from the weight of the gun which they are obliged to carry, and which is far too heavy for the shoulders of a growing schoolboy. The gun is often required to be carried for a long time in one position, and the muscles of the trunk are exhausted by the prolonged and uninterrupted strain of the forced and maintained position of the body, as well as by the unaccustomed and excessive weight which it is obliged to bear for a long period. I had in mind to say, perhaps I did not, that military drill is very defective as a physical exercise, on account of the limited range of muscular action required or permitted. As far as the moral influence is concerned, the speaker agrees entirely with General Moore and Professor Sargent. The moral aspect is the good side of military drill, and is the only good side it possesses as a means of exercise for schoolboys. Since the abolition of military drill in that school, not a parent has said a word to me in favor of its restoration as a part of the school system. As one instance of the dangers of the drill, as now carried out in the schools of Boston, may be instanced the case of two lads, brothers, who, after three years' drill, were excused from further exercise through the certificate of a physician, on account of spinal curvature in each boy.

Mr. R. F. Curtis, of the Chauncy Hall School, being introduced to the audience by the Chairman, stated that the exercise of military drill had been a feature of the Chauncy Hall for a much longer period than that of his connection with the school. Mr. Curtis has given the subject much thought, and has studied the effects of the drill on the pupils of this well-known institution, and has failed to notice that it is detrimental to the boys who practice it. Repeated investigation has shown that the boys themselves are strongly in favor of the drill, and would be sorry to have it abolished. We look for advantages in many other ways than purely that belonging to the exercises of the manual of arms. It is true that the drill develops a degree of promptitude and reliability which the boy would never acquire in any other way, but there are other qualities in the boy's character which are brought out by the discipline of the drill, which would never appear except for these systematic exercises. It seems impossible that so much harm can arise from this form of physical exercise as has been here ascribed to it, and one is led to the opinion that possibly we do not yet possess sufficient information of the results of the drill to form a correct judgment in regard to its power for harm, and do not realize the fact that in some of the cases in which the drill is accused of injuring the system, the boy would quite possibly have had a similar state of things had the drill never been practised at all. We have not, at present, sufficient data to enable us to come to a reliable conclusion as to the effects of the evolutions of the drill on the constitution of the boys. We do not derive so great an actual benefit from this form of exercise as is claimed by the military men; but, on the other hand, we do not see such an amount of harm from its use in the schools, as the paper of Dr. Withington would seem to represent.

Hon. Charles L. Flint was next called upon, and in speaking of the drill in its application to the school system of Boston, said that it certainly commended itself to his judgment as a proper and useful adjunct to the school course. The ease of control of the scholars, and the discipline of the schoolroom have been much improved by it. All the teachers recognize its great value as an element of instruction. The manliness and personal physique of the pupils are positively increased by it, and the boys make a better appearance; but in certain cases, harm certainly may, and undoubtedly does arise. In all such cases the pupil should be excused. The number of those excused is very small in all classes. The dangers of the drill in actual practice would seem to be quite small, if our experience is to be looked upon as furnishing a criterion.

Mr. Moses Merrill, Head-Master of the Boston Latin School, arose and said that during his connection with the schools of Boston, there have been numerous attacks upon this particular part of the school course. If there were positive harm from the drill, the system could hardly have survived these various attempts at its abolition.

Mr. Merrill added: "When it can be proved that the military drill, as now practised in the schools of Boston, is productive of injury, then I shall favor its abolition; but thus far, I have not been able to learn anything to convince me that this is so. I have heard nothing here to change my opinion of the effect of the drill as at present taught in the schools. I am rather surprised at the concessions which the paper of this evening contained, in favor of the moral advantages of the drill. As far as the drill goes, it is simply one branch of the school work. Cases are excused from any part of the school duties when this is necessary, and in the same way, pupils are excused from the drill, when, for any reason, this is considered necessary or advisable. No teacher would think of changing the entire school system because occasionally a pupil might require to be excused from a certain part of the curriculum. The time spent in military drill really refreshes the pupil, and is a recreation, from which the boys come back renewed and freshened, and are as bright as when they came to school in the morning. A well-known physician of Boston came to see me one day, and while in my office, General Moore came in. The two gentlemen had never met, and did not know each other. The physician, on being introduced to General Moore, thanked him for the benefit which his son had derived from the drill while in the school. He said that his son had improved in form and in strength under the drill, and hoped that this valuable exercise might be continued. The tendency is for boys to desire the drill, rather than to wish to be excused from it. No boy is allowed to join the drill until he is thirteen years old, but the boys are anxious to join before that time. If the pupil is to be thirteen in a few months, he is always anxious to join at the opening of the term, before he is really entitled to do so. The testimony of the boys themselves would be in favor of the continuance of the drill. This has often been satisfactorily demonstrated in the High and Latin schools.

At the request of Dr. J. G. Blake, the following letter was read by the Secretary:

Boston, April 14, 1886.

My Dear Sir, — I give you my opinion of military drill as a school exercise willingly. As the drill is conducted in the public schools of Boston, I favor it. I believe it imparts to boys a kind of practical knowledge that every male citizen of the Commonwealth should possess. It helps materially in training boys to habits of obedience — obedience which is prompt, which is unquestioning, and which boys feel to be manly. The American boy runs no risk of being overtrained in this direction. Especially, the drill furnishes to boys a species of physical exercise that is simple, light, safe and agreeable. Boys almost invariably like the drill. In ninety-nine out of a hundred cases, none care to be excused from it except for physical disability. Some, even when physically disabled, would rather drill than not. I know of very many boys who have been greatly benefited, physically and otherwise, by the drill. I know of none who have been injured by it. I am unable to recall an instance of a boy who has asked to be excused from drill. I will not say permanently, but even temporarily, in consequence of an injury received at drill. Hardly a week passes, however, in which some one of the six hundred boys who drill in the English High School, is not excused from one, or more than one, drill exercise because of a sprain or other hurt sustained either when performing feats in a gymnasium or while playing at base-ball.

Military Drill was introduced into the Newton High School when I was principal of the school. I do not know that I was decidedly against it, I was certainly not decidedly for it. The reason that I was not for it, was not that I apprehended, with a venerable professor of ethics, that the drill would engender in the boys a sanguinary spirit, nor, with an enthusiastic professor of gymnastics, that it would not prove good physical exercise for them. The fact is, I was engaged in fitting boys for college, I wanted all, and more than all the time I had for that purpose. I grudged the two hours a week I should have to give up, if the drill were introduced. Introduced, however, it was; and in no long time I found, much to my surprise, that the boys were making as good progress in their studies, as before the drill was introduced. I might with truth even say that they were making greater progress than before it was introduced. On the whole, I like to have the drill discussed. The more it is discussed, the more clearly in my judgment, its merits as a school exercise will appear; and consequently, the better the people will like it, and the more tenaciously they will hold on to it.

Very truly yours,

FRANCIS A. WATERHOUSE,

Montgomery St. *Head Master, English High School.*

Dr. J. B. Moran, Instructor in Hygiene in the Public Schools of Boston, was next called upon by the Chairman, and responded as follows:

I think it is proper that physicians should discuss matters pertaining to the education of the young, and should make suggestions as to the best means of carrying out this great task, which shall be for the benefit of the pupils, and of the general public. The present question is whether the exercises comprised in military drill are of benefit to boys in school. With all deference to the unquestioned authority of Dr. Withington and Prof. Sargent on this point, it is yet early to form a definite opinion upon this topic. On the other hand, the reports of committees often contain statements which are misleading and represent only the sentiments of the individual who writes the report, which, out of courtesy, is adopted. Military drill has some very desirable features and its effects are in some ways most valuable. It is a great developer of the qualities of manliness and obedience and discipline, which will never be lost. There are occasionally cases in which the drill may be productive of harm, but the general effect is undoubtedly good. Cases are found in which some degree of curvature or other injury may be produced by the drill, but cases are also found in which curvature exists, but in which military drill has never been performed, or other violent or sustained exercise carried out. A further modification of the drill and reduction in the weight of the guns, seems to me desirable. While the physicians of Suffolk are debating the propriety of military drill for boys, it is to be hoped that the fact will not be forgotten that physical exercise is much neglected in our schools. It is one of the most important features in the whole scheme of the education of the young, and I trust the medical faculty will use their influence towards its recognition and establishment in the schools, in a thorough and systematic manner. We have an excellent room for gymnastics in the Latin School building, but an incomplete apparatus, and no competent instruction for the pupils. The whole duty of the school authorities and the best good of the children in our schools will not be achieved until some provision is made for regular and proper exercise by the aid of intelligent and systematic instruction.

Dr. E. H. Bradford was called upon by the Chairman, as the one who saw more cases of curvature than any other physician of the city, and was asked to give his opinion as to the effect of military exercise in the production of this injury. Dr. Bradford stated that the question before the meeting really consisted of a series of questions, such as, 1st, Is military drill a good form of exercise? 2d, Does military drill cause curvature? In reply to the first of these questions we must admit that general exercise is undoubtedly better than military drill as far as the schools are concerned. Is military drill injurious? We have too few statistics to serve as a basis for a correct opinion on this point; and one is obliged to look to the theoretical effect for a discision. Cases in which actual physical harm is caused by the exercises of the drill must be rare. Dr. Bradford has never seen a case of curvature which was thought to be caused by the practice of the drill movements. There is no reason to think that the weight of the arms borne by the boys during the drill could cause curvature, if carried only a short time. Such a weight could produce no harm if borne for five minutes. If borne for two or three hours it might cause curvature in a growing boy. There is a much greater and constantly acting cause of curvature which has not been alluded to by any of the speakers here, as affecting school children, and that is the *seats occupied by the scholars in our public schools.* This one element has a greater influence for harm in causing curvature or other deformity than the drill or any other form of exercise can possibly possess. The chief sufferers from this cause are girls rather than boys. The drill may be so employed as to be of great advantage to boys while they are students. In some German cities the "setting-up drill" is used as a curative measure in the treatment of spinal and other deformities. The changes which are indicated in our system are a lighter weight of the arm used, and the more extensive employment of the "setting-up drill." There is no good reason why the practice of the drill in its entirety should be abolished, but it may be judiciously modified.

Dr. Howard M. Buck thought that two years' experience of military drill as enforced in the English High School under the late Mr. Sherwin (1868), might qualify him to present the privates' view. At that time excuses were so little favored that the principal boasted that "the boys in this school must drill even if the smaller companies have to be armed with popguns." Unfortunately there were for them only the reduced army muskets, and the fourteen-year-old boys of the "popgun" company were drilled to their satisfaction by sixteen-year-old officers, veterans of two years greater growth and experience. That company held, of course, the largest share of the young and puny recruits, and for their short legs the stride taken comfortably by the taller companies was very trying. At that time, 1868, it was expected that one or more members of the "popgun" company would faint during the public parades.

He, Dr. Buck, did not know whether the accoutrements were now lighter, but the same exhaustion was seen in a milder form, in the street parade of 1885.

The vanity of parents and the ambition of precocious boys will always supply overgrown privates for the larger, and stunted ones for the smallest companies; the pride in their full ranks, of the teachers and officers, will retain them.

The value to the State of the drill is often limited by the obsolete type of arms supplied, and the distaste acquired for "playing soldiers" keeps a certain proportion of graduates from joining the militia.

In connection with its moral benefits should be considered the experience generally acquired in the second year of wire-pulling for the next year's offices.

Dr. E. W. Cushing said that the exercise of the drill is too great a strain on the physical system of a schoolboy; the exertion is too severe in character and too prolonged in duration. Dr. Cushing was one of the first class in the public schools to take up the drill system. Under the oversight of Dr. Algernon Coolidge the boys were trained in the exercise of the manual. It was nothing unusual then, and it is nothing unusual now, for boys to be prostrated by the severity and long-continued strain of the manœuvres of this exercise, especially when conducted in warm weather, or in close and heated halls. Dr. Cushing has himself been overcome by faintness in the exercise.

Dr. Withington observed that the present question is not one of the moral effect of the drill, nor of its popularity with teachers or pupils. Nor is drill under consideration merely as one means of physical exercise, but as the *only form of physical culture* provided by the city of Boston for the benefit of its school children: while even this is applicable to but a very small portion of them. It is quite easy to believe that the boys join willingly in the drill, when the only alternative is to remain over their books.

With regard to the production of deformities, if there is a tendency to such a result, even though that tendency be in the majority of cases held in check, the system is faulty, and it may be doubted whether for the sake of disciplinary advantage we have a right to favor a system which in order that it may not produce actual physical harm, requires a degree of watchfulness that is not attainable for all boys. It is desirable that special attention be directed by medical men to possible participation of the drill, as one factor in the causation of spinal deviation in the youngest boys who carry these heavy muskets.

The speaker had written to two authorities on this subject, both of whom had kindly replied.

Dr. C. M. Hartwell, Associate in Physical Training in the Johns Hopkins University, gave his opinion as follows:

> "Military drill, pure and simple, that is, the school of the soldier and the manual of arms, is not so desirable a form of physical training as gymnastic drill, provided the latter is given by a competent teacher, in a well furnished gymnasium and according to a progressive, graded and well developed system, such as the German system of *Schulturnen* seems to me to be. At the same time, I always considered the military drill a good thing for the boys of the Boston School Regiments, since so little chance was given most of them for genuine athletic sports or for gymnastics. If care is taken to prevent the use of too heavy muskets, military drill in public schools, where gymnastics are neglected so generally, or not more than half taught, seems to be a good exercise for the trunk and limbs. . . . I am inclined to think that for the present it is cheaper and easier to organize military than gymnastic drill in the higher schools for boys."

One of the senior medical officers of the army writes:

> "In the corps of cadets I have never seen any asymmetry either of body or limbs produced by drills, either with or without the musket. The same is true of the enlisted men of the Army. The weight of the cadet musket is seven pounds, that of the regulation musket nine pounds. The cadet drill is supplemented by gymnastic exercises, in which every large muscle is brought into action; but I am sure that were this omitted, no

deviation from normal symmetry would be observed in the young men here, produced by their military exercise.

"At the same time, I am very willing to believe that in the case of young, growing boys, dumb bells or Indian clubs would be a far better means of exercise than the one-sided manœuvring with the musket."

Dr. **John G. Blake** asked if any system can be found which in its general application can be favorably compared with military drill as an exercise for the members of the public schools? Is there any other form of physical exercise which is of so much benefit in a general way, and is so free from accidents to life and limb as the exercise of military movements?

In reply, Dr. Withington said that if a system for physical culture were provided for all the boys and girls in the Grammar and High schools, say 30,000, there would doubtless at first be considerable expense in securing the requisite instruction, though the aggregate cost per capita, for a simple yet sufficiently effective apparatus, might be made less than for the drill. The 1,300 guns now owned by the city cost $6.50 apiece, while a set of apparatus consisting of a pair of wooden dumbbells and a wand could be bought at retail for $1.05. Allowing one set of such apparatus for five pupils, the total cost could be brought under $6,000, as against $8,500 for the guns, for there must be as many guns as there are boys who drill.

Dr. Blake said he has spent several years on the school board, and after much careful observation and close study, the exercise of military drill has impressed itself upon his mind as of great benefit to the boys. This opinion is still further strengthened by the great freedom of the drill from accidents or injuries. Dr. Blake has four sons in the public schools of Boston, who have taken the drill without injury. One of them fractured his arm while performing some exercise in the gymnasium. A short time ago the Secretary of this meeting and Dr. Blake were called to see a case in which the arm of a schoolboy was badly fractured while exercising in the gymnasium. A nephew of the Hon. Caleb Cushing was so unfortunate as to break his neck in the gymnasium. The son of Mr. Walsh, a most promising young man, only the other day was killed, by an accident while exercising in the gymnasium at Holy Cross College in Worcester. The Hemenway Gymnasium has its fair quota of accidents, as has every other gymnasium, and these are inseparably connected with the pursuit of general gymnastics. In military drill we have the fewest number of accidents which can be found associated with physical exercises.

Dr. **C. P. Putnam** stated that he saw the calisthenic drill in a girl's school in Vienna, and was much pleased with the exercises there introduced, which had all the advantages of drill and none of its disadvantages; it comprised almost all the free exercises of the body, and was not productive of fatigue, and did what physical exercise should do, that is, *exercise* the body without exhausting it. This feature could be introduced here with profit to both boys and girls, in our public schools, and with very little expense.

Dr. **Henry I. Bowditch** rose and said that the present subject is one of the greatest importance, and should not be allowed to drop here. This meeting is one of the most interesting he has ever attended, and the matter is one which concerns the welfare of the entire school system of our city. Dr. Bowditch then made a motion that this meeting be continued to some future time, when the entire subject of the physical culture of our youth of both sexes may be taken up and treated in a more satisfactory manner than it is possible to do at this time. The entire evening should be appropriated to this topic, and he hoped that the public might be invited to be present and take part in the discussion of a subject in which the whole of the inhabitants are interested, that is, that in the physical welfare of their children.

Dr. **J. G. Blake** seconded the motion of Dr. Bowditch, and it was unanimously carried.

The chairman instructed the Secretary to provide an occasion for the further discussion of the present subject, in accordance with the motion as passed by the Section.

Dr. Blake moved a vote of thanks to the officers of the Massachusetts Institute of Technology, who so generously extended the use of the hall of their building to the Section on this occasion, and who have at other times shown similar hospitality to our Society. The motion was seconded and carried unanimously.

Adjourned at 10.30 o'clock.

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AMERICAN SURGICAL ASSOCIATION.[1]

ANNUAL SESSION AT WASHINGTON.

SECOND DAY. — THURSDAY, APRIL 29. — MORNING SESSION.

A CONSIDERATION OF THE BACTERIA OF SURGICAL DISEASES

By **Harold C. Ernst**, M.D., Jamaica Plain, Mass.

After an extended description of the various bacteria met with in wounds, chronic abscesses, erysipelas, and other surgical affections, and an account of numerous experiments on animals, with an exhibition of specimens in culture mediums and under the microscope, the author presented the following conclusions:

(1) The experiments conducted over so long a time with the successful inoculation at the end of that time, indicate very plainly the retention of pathogenic powers of these organisms indefinitely. (2) Their permanence of form is also well established. (3) In order to obtain either a modification of their pathognomic forms or of their morphological properties,—if this is possible at all, some different methods of investigation must be used than those which have hitherto been employed. (6) The probabilities indicate that work in this direction is not likely to be successful. (5) So far as the experiments go, they tend to show that no form of the suppurative process in man is unattended by bacteria, and that the inoculation in the lower animals of pure cultures of these bacteria is followed by more or less acute and extensive suppuration. (6) The above conclusion is supported by the evidence of all workers in this field of research. (7) That a number of different clinical phenomena may be produced by the same organism, all of these phenomena, however, coming under the general head of the inflammatory and suppurative processes. (8) That the difference in the results produced by the same micro-organisms in different individuals depends upon influences outside of the bacteria themselves. (9) That these differences are the result of differences in the amount of the infectious material received into the system and of the locality or lesions by which it gains

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[1] Continued from page 423.

access, and also of variations in the individual condition, the personal equation being a very large factor in making up the sum of any results in bacteriological work.

DISCUSSION.

DR. S. W. GROSS. The observations made by Dr. Ernst confirm those made by other observers, showing very conclusively that the suppurative processes are dependent upon vegetable organisms. The most interesting part of the paper is that which relates to chronic suppuration. He has been, I think, the first to show that chronic suppuration is due to the same micrococci as the acute form.

DR. J. S. BILLINGS. A mere verbal statement of the difficulties which attend these experiments gives no definite idea of the difficulties encountered in this work. It is only by personal experience that they are learned. The methods now employed are much more satisfactory than those in use some twenty years ago. One of the difficulties in considering the probable relation between cause and effect in this work is that there seems to be no relation between the number of micrococci present and the effects produced. A second difficulty is that we are by no means sure of the specific differences between these various forms of microscopical organisms. As we cultivate bacteria in different media we find a change in their form; it is, perhaps, possible that they may gradually change by alteration of the medium of its chemical composition or of its temperature. In connection with this subject, a study of the chemical conditions under which these organisms exist is necessary. It is very desirable that the practical surgeon should have at his disposal the means of determining the presence of these organisms in any given case.

DR. N. SENN, of Milwaukee. I am in full accord with the conclusions of Dr. Ernst, and do not intend to criticise what he has said. I desire to say a few words in regards to the conditions which predispose to the action of germs introduced into the body. The object of the surgeon should be, in the first place, to prevent the introduction of these germs, and in the second place, to secure innocuity to the infection by preventing the occurrence of predisposing causes. The first predisposing condition is found in an unusual arrangement of the capillary circulation. This is well illustrated in osteo-myelitis. In this affection the germs are found in greatest abundance in those situations where the anatomical relations of the vessels predispose to engorgement and localization of the microbes; this is in the large vessels about the centres of ossification in the epiphyses of bones. The second predisposing influence is traumatism. The germs of osteomyelitis may be present in the body for a long time, and produce no effects until the occurrence of traumatism, as for instance a fracture, favors the localization of the microbes.

A STERILIZED ATMOSPHERE.

DR. DAVID PRINCE, of Jacksonville, Ill., exhibited a diagram and describes a form of room whereby a sterilized atmosphere could be secured for the patient by means of air treated with corrosive sublimate and forced through a tube opening immediately above the seat of operation.

The report of the committee appointed to consider the proposition for the organization of a CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS Offered at the meeting of Wednesday, by Dr. C. H. Mastin, was called for.

[An outline of the main points of this proposition was published in our editorial columns last week.]

Adopted. The President stated that he would name the committee to-morrow.

Adjourned.

AFTERNOON SESSION.

The first paper was by N. SENN, M.D., of Milwaukee, Wis., and was entitled

THE SURGERY OF THE PANCREAS AS BASED UPON EXPERIMENTS AND CLINICAL RESEARCHES.

The following conclusions were presented:

(1) Restoration of the continuity of the pancreatic duct does not take place after complete section of the pancreas. (2) Complete extirpation of the pancreas is invariably followed by death, produced either by the traumatism, or gangrene of the duodenum. (3) Partial excision of the pancreas for injury or disease is a feasible and justifiable surgical procedure. (4) Complete obstruction of the pancreatic duct, uncomplicated by pathological conditions of the parenchyma of the organ, never results in the formation of a cyst. (5) In simple obstruction of the pancreatic duct the pancreatic juice is removed by absorption. (6) Gradual atrophy of the pancreas from nutritive or degenerative changes of the secreting structures is not incompatible with health. (7) Physiological detachment of any portion of the pancreas is invariably followed by progressive degeneration of the glandular tissue. (8) Extravasation of pancreatic juice into the peritoneal cavity does not produce peritonitis. (9) Crushed or lacerated pancreatic tissue is removed by absorption, provided the site of operation remains aseptic. (10) Complete division of the pancreas by elastic constriction is never followed by restoration of interrupted anatomical continuities. (11) Limited detachment of the mesentery from the duodenum, as required in operations upon the pancreas, is not followed by gangrene of the bowel. (12) In all operations upon the head of the pancreas the physiological attachment of the peripheral portion of the gland should be maintained by preserving the integrity of the main pancreatic duct. (13) Partial excision of the splenic portion of the pancreas is indicated in cases of circumscribed abscess and malignant tumors, in all cases where the pathological product can be removed completely without danger of compromising pancreatic digestion or of inflicting additional injury upon important adjacent organs. (14) Ligation of the pancreas at the point or points of section should precede extirpation as a prophylactic measure against troublesome hæmorrhage and the extravasation of pancreatic juice into the peritoneal cavity. (15) The formation of external pancreatic fistula by abdominal section is indicated in the treatment of cyst, abscess, gangrene and hæmorrhage of the pancreas due to local causes. (16) Abdominal section and lumbar drainage is indicated in cases of abscess or gangrene of the pancreas where it is found impossible to establish an anterior abdominal fistula. (17) Thorough drainage is indicated in cases of abscess and gangrene of the pancreas with diffuse burrowing of pus in the retro-peritoneal space. (18) Removal of an impacted pancreatic calculus in the duodenal extremity of the duct of Wirsung by taxis or incision, and extraction

should be practiced in all cases where the common bile duct is compressed or obstructed by the calculus, and death is threatened by cholæmia. (19) In such cases, the principal source of danger, extravasation of bile into the peritoneal cavity should be avoided by preliminary aspiration of the dilated bile ducts, accurate closure of the visceral wound with fine silk sutures and absolute physiological rest of the organs of digestion during the time required in the healing of the visceral wound.

Remarks in discussion were made by Drs. Conner, Fenger and Parks.

Dr. Charles T. Parks, of Chicago, read a paper supplemental to his paper of last year, reporting two cases of cholecystotomy, both of which ended fatally.

Case I, was that of a woman who had suffered with gall stones for six years. The attacks of colic occurred as frequently as every week. Operation was decided upon. The gall bladder was found contracted, and reached with difficulty. Forty-three calculi were removed.

Case II, was that of Mrs. H., who for the past two years had suffered with attacks of pain lasting four or five days of each week. There were jaundice and other symptoms of obstruction of the flow of bile. There was enlargement of the liver. The operation showed that the gall bladder contained no calculi, but that the obstruction was caused by a body outside which seemed to be an encysted calculus pressing on the duct. The gall bladder could not be found. The patient died within twenty-four hours, and the post-mortem revealed the shrunken gall bladder with the induration which contained a gall stone, pressing on the duct.

DISCUSSION.

Dr. W. H. Carmalt, of New Haven. I wish to relate a case in the same line with those reported by Dr. Parks. The patient, a woman thirty-seven years of age, had suffered for several years with indefinite dragging sensations in the right hypochondriac region. This incapacitated her from performing her household duties. In 1883, she stated that she had been operated on in Berlin for floating kidney, and in evidence, showed a large scar in the lumbar region. She also stated that three weeks after operation, as a result of violent sneezing, the organ had become loosened. She came to me for the purpose of having the kidney removed. Examination showed the abdomen to be exceedingly pendulous. The tumor was rounded, and could be readily grasped between the fingers. It was very movable. It was decided, after keeping the woman under observation for some time, that the tumor should be removed. An incision was made just external to the rectus muscle over the tumor. When it was exposed, it was at once evident that it was not the kidney. Further examination showed it to be a dilated gall-bladder. An aspirator was introduced, and four ounces of inspissated mucus drawn off. The needle revealed the presence of a hard body. Manipulation brought the gall-stone up to the most accessible part of the bladder, and securing the gall-bladder by two ligatures, I opened it and removed a stone as large as the end of my thumb. Four other calculi were found. After thorough cleansing, the gall-bladder was closed with a continuous catgut suture. The wound in the peritoneum was closed in the same way. The muscles were united by interrupted silk sutures, and a continuous catgut suture was used for the incision in the skin. The patient recovered without difficulty, and is now able to attend to her duties, feeling better than for a long time.

A CASE SIMULATING, AND BELIEVED BY ALL CONSULTANTS TO BE ABDOMINAL PREGNANCY AT FULL TERM. LAPAROTOMY, CÆSARIAN SECTION, AND REMOVAL OF A LIVING CHILD WEIGHING SEVEN POUNDS.

By John S. Coleman, of Augusta.

In the absence of the author, the paper was read by the Secretary.

February 27, 1886, the writer was requested to see B. A., colored, primipara, twenty-four years old. The attending physician believed her to be the subject of extra-uterine pregnancy. She thought herself at the end of gestation, and for three days had suffered with pains, which were quieted by the administration of laudanum. The entire abdomen was greatly distended, particularly in the upper portion. Vaginal examination showed procidentia, the os projecting three inches beyond the labia. The os was sufficiently patulous to permit the entrance of the index finger. Rectal examination gave negative results. Palpation and auscultation showed the position of the fœtus to be dorso-anterior, and obliquely transverse. Placental souffle could not be heard. The abdomen was so large, and the fœtal heart-sounds so distinct, that the writer also concluded that the case was one of extra-uterine pregnancy. The patient was examined by a number of surgeons, who agreed in the diagnosis. The history and the symptoms indicated that the patient was at the full term of pregnancy, and it was decided that immediate surgical interference was imperative.

On March 3, the patient was operated upon. An incision six inches in length was made in the linea alba. The tumor exposed much resembled the pregnant uterus. The incision was extended above the umbilicus, and it was positively determined that the case was one of uterine pregnancy. The uterus was drawn forward, and its anterior wall cut through. He had not conceived it possible for the uterine tissue to be prolonged from the epigastrium to three inches beyond the vaginal notch. A vigorous female child, weighing seven or eight pounds, was removed. The hæmorrhage was not great. The placenta was removed without difficulty. The incision in the uterus was closed with deep and superficial catgut sutures. The peritoneum was closed with a continuous suture, and the abdominal wall with hair-lip pins and superficial sutures. Antiseptic precautions were adopted throughout the operation. Septicæmia developed, the patient living four days.

At the autopsy, there was found no decided injection of the peritoneum. Two moderate-sized clots were found on the peritoneum. This cavity contained nearly a quart of bloody serum. The uterus was one-half its former size, measuring, from fundus to os externum, twelve inches. The cervix measured six inches. The wound was found gaping throughout.

The author then gave an extended review of the literature of the subject, and related similar cases by various operators.

To the paper was appended a letter from Mr. Lawson Tait, endorsing the performance of abdominal section in the above case, and asserting his strong objections to operations looking to the breaking up of the fœtus. He thought that a preferable operation in the present case would have been the Porro operation. This would probably have been successful, both as regards the mother and the child.

Adjourned.

FRIDAY.— THIRD DAY.— MORNING SESSION.

The first paper read was entitled

TRAUMATIC ANEURISM OF THE INTERNAL CAROTID ARTERY,

by T. F. Prewitt, of St. Louis.

The speaker first referred to those cases of spontaneous aneurism of the internal carotid artery which are found in literature and the frequency with which this lesion had been confounded with cynanche tonsillaris. He had been unable to find more than one reported case of traumatic aneurism of this artery. This was reported by Dr. William T. Briggs, of Nashville. The aneurism in that case followed a stab wound and was operated on successfully.

Dr. Prewitt then described the following case. E. J., colored, seventeen years of age, was shot by her husband early in January, 1885. The weapon used was a revolver carrying a No. 32 ball. The shot was fired at a distance of two feet and entered the cheek over the malar bone ranging backwards. There was profuse hæmorrhage at the wound of entrance, there was no wound of exit. The bleeding was controlled by compression. There was hæmorrhage from the ear at the time and this recurred on two or three occasions. For some time after the accident the patient stated that there was some hæmorrhage from the mouth and nose on rising in the morning. There was some swelling at the time, which gradually increased until April 2d, when she was seen by the speaker. It then projected into the pharyngeal cavity and rested against the uvula and extended externally from the anterior petrous position of the temporal bone to the hyoid bone. The swelling pulsated in every direction and gave thrill and bruit. Immediately after the accident there was paralysis of taste and of the right side of the tongue. This continued. Pressure upon the carotid artery arrested the pulsation in the tumor. There was no difference in the pulsation of the two temporal arteries, the pupils were equal, and responded normally to light. There was persistent headache with sounds in the ear which were increased by lying upon that side. The voice was greatly interfered with, owing to paralysis of the right vocal cord. The appetite was poor and the patient emaciated. She was unable to swallow solids, and fluids regurgitated when the attempt to swallow was made.

With this history and with these symptoms, it was decided that there was an aneurism of the internal carotid artery, and that the vessel had been wounded near the carotid foramen, for nowhere else are the artery and nerve in such intimate connection.

It was determined to ligate at once the common carotid artery. The usual incision was made and the dissection continued until the artery was exposed. A silk ligature was passed from behind forwards. The vessel was then lifted to be sure that the pulsation was arrested before the ligature was applied. Finding that it was, the vessel was then tied. The pulsation was at first arrested, but in a few minutes it could be again felt. In the absence of all precedent, it was concluded to extend the incision upwards in front of the tragus and determine the feasibility of opening the sac and tying the distal end. This was a forlorn hope, for the diagnosis was that the aneurism was seated just external to the carotid foramen. An incision was then made below the ear and extended upwards back of the ear. A cautious dissection revealed the fact that the sac filled all the space between the mastoid process behind and the condyles and ramus of the jaw in front. It extended to the base of the skull to which it was closely adherent. It was therefore impossible to reach the artery in that direction. Further attempts were abandoned, the wound was closed, a drainage tube inserted and an antiseptic dressing applied.

On the eighth day, there was some hæmorrhage from an opening near the angle of the jaw. This was repeated and she spat up some blood on the following day. Examination showed a little coagulum at the angle of the jaw which was removed, and the left forefinger thrust into the opening. No coagulum could be felt within the sac. The attempt to detect the entrance of the artery with the finger failed. In order to avoid the hæmorrhage which would follow the removal of the finger, the sac was stuffed with lint treated with iodoform; this controlled the bleeding. The patient gradually became weaker and died on the twenty-fifth day after the operation, from exhaustion. Ten days after the sac was stuffed, epileptiform convulsions involving the facial muscles and the flexors of the forearm and hand appeared. These continued at intervals until her death.

The post-mortem showed the ball in the posterior part of the sac. The opening of the carotid artery was found close to the carotid foramen and seemed blocked up with clot. The blood vessels of the membrane of the brain were congested, particularly on the right side. The inferior petrosal and lateral sinuses were filled with thrombi up to the torcular herophili.

The differential diagnosis of aneurisms of the internal carotid artery from those of other arteries in this situation, was then considered. As regards operation in this case, compression and ligation were considered, but compression was rejected on account of the urgency of the symptoms. The patient was not a suitable one for this mode of treatment, being ignorant and irritable and unfitted to endure the annoyances of this method of treatment. Neither were skilled attendants available.

DISCUSSION.

Dr. J. Ford Thompson, of Washington, had never seen a case of aneurism of the internal carotid artery, but thought that the diagnosis would not be especially difficult. The bulging of the swelling into the pharynx is characteristic. The case reported might be open to some criticism from the fact that the patient was submitted to a severe and dangerous operation, and yet nothing in the way of relief was accomplished. The case also goes to show the uselessness of ligation of the common carotid artery for the cure of aneurism of the internal corotid artery. It would perhaps have been better if the operation of Syme had been performed, or, if necessary, the suggestion of Guthrie might have been carried out, that is, to make a section of the ramus of the jaw, so as to afford more room for dissection. As this lesion is followed by certain death, it was his opinion that it is the duty of the surgeon to perform the old operation, cutting into the sac and ligating the vessel at both ends.

Dr. William T. Briggs, of Nashville, referred to the case which he reported at a previous meeting of the association. It was that of a young man stabbed in the neck. Five weeks later the patient presented himself at the clinic with a swelling of the neck presenting all the evidences of aneurism. It was considered to be a small aneurism of one of the branches of the external carotid artery that could be readily reached and ligated. An opening large enough to permit the introduction of the finger was made, and it was at once found that the condition was more serious. The hæmorrhage was controlled by stuffing a sponge into the sac and the common carotid ligated. When the sponge was removed, the hæmorrhage was as free as before. The opening in the sac was then enlarged, the opening of the artery having been found and controlled by the finger. The vessel was then hooked up and a ligature applied above and below the sac. The patient recovered and is still living in perfect health. The speaker thought that in all cases where it was possible, the operation of Syme should be employed.

Dr. D. Hayes Agnew, of Philadelphia, remarked that three years ago a woman presented herself at the University Hospital with a tumor as large as an orange just beneath and behind the angle of the jaw. There was also a projection into the pharynx. This tumor had grown slowly for eight months, and was attributed to a blow on the side of the head. He considered it a case of aneurism of the internal carotid and ligated the common carotid above the omo-hyoid muscle. The pulsation was diminished, but it could still be felt. He then tied the superior thyroid and the lingual. This stopped all pulsation. The patient did well for two weeks, when pulsation again returned. Pressure on the carotid of the other side controlled the pulsation and a ligature was then applied to the primitive carotid of that side. During his absence from the city, ulceration took place and a gush of blood into the pharynx occurred. The resident stuffed the cavity, but the patient died eight days later apparently from septic poison. He had determined if hæmorrhage occurred to have laid the sac open and to have tied above and below. From the history of these cases he believed that in this condition the operation should be a formal one of section of the jaw with ligation above and below the sac.

Dr. A. Vanderveer, of Albany, reported the following case:

In December, 1882, a man forty-two years of age, a farmer, was sent to him with a swelling of the neck which was diagnosticated to be an aneurism of the internal carotid artery. It was attributed to forced motion of the head to one side which was required in a certain part of his work. It was decided to first try compression. This was faithfully carried out and at the end of six days the swelling was much diminished and the tumor in the pharynx seemed more solid. The patient then went to his home, but returned one month later, the previous condition having returned. Compression was again tried and at the end of five days there was a marked diminution in the size of the tumor. He then returned home and continued in apparently good health for four or five weeks, when he suddenly complained of a severe pain in his head and fell dead. An autopsy was made, but no satisfactory explanation of his death could be found. The physician was inclined to attribute it to apoplexy.

Dr. L. McLain Tiffany, of Baltimore, said that in the case reported by Dr. Prewitt, there was no room for a distal ligature. In this case, however, it might have been possible to apply a compress, pressing the artery against the base of the skull. We have a record of such a case in Guthrie's Commentaries. It is the case of E. Twitchell, of New Hampshire. A man had part of his neck blown away by a cannon shot, exposing the carotid artery. Ten days later, while the physician was in the house, the artery gave way. The hæmorrhage was controlled by the finger and a ligature applied below the opening. The hæmorrhage still continued. There was not room for a ligature on the distal portion of the vessel. The doctor made a graduated compress and pressed the artery against the base of the skull. The patient recovered.

The speaker had had one case in which he controlled hæmorrhage from the jugular vein by pressure made in this way. The patient was a child who had an abscess of the neck following scarlet fever, which opened the jugular vein. As a result of this, there was great swelling of the neck. The sac was laid open and the vein controlled by a compress making pressure against the vessel just external to the jugular foramen.

Dr. Prewitt agreed with those who had taken part in the discussion that the old operation was the proper one for traumatic aneurism where it is possible to apply it. In this case this could not be done. Dr. Thompson had said that it is useless to tie the common carotid artery for aneurism of the internal carotid artery. There are only two cases reported where the ligature was applied. In the case of Syme, death did not appear to be due to the operation. Compression has been alluded to, but we should not expect compression to succeed in a case where ligation failed. If the circumstances had been suitable, he would have tried compression, but the symptoms were too urgent to permit of this. Dr. Tiffany had suggested compression of the vessel at the carotid opening, but, believing as he did, that there was no artery outside of the skull, it would have been bold surgery to have laid open the sac and sought for the opening which could not be detected with the finger in the sac.

LIPOMA TESTIS, OR A LARGE ACCUMULATION OF FAT IN THE TUNICA VAGINALIS.

By Roswell Park, M.D., of Buffalo.

Lipomata of the spermatic cord are rare enough to always attract attention, but lipomata of the testicle are of such exceeding rarity that believing that I have had a case which deserves this designation, I desire to put it on record.

J. P., age forty, was first seen in September, 1885. For eighteen months the patient had noticed a slow but continuous enlargement of the right testicle. This was almost painless, but caused inconvenience by its weight. At this time the tumor had reached the size of a cocoanut.

Examination showed the scrotum to be filled with a large mass, the testicle being crowded into a small space at its upper part. This mass was solid, yet soft and not tender. Obscure fluctuation was noticed but no fluid was obtained upon explorative puncture. The patient's general appearance excluded all idea of malignancy. The scrotal integument moved with perfect freedom over the tumor.

On October 4th, the patient was operated on. A free incision through the tunica vaginalis revealed a mass of densely packed fat which was slightly adherent, but was turned out without difficulty. On separating the lobular masses by the fingers, the right testicle was found not merely imbedded in its upper part but incorporated by apparently intimate tissue connection. It was supplied with blood both from the testis and from the cord. The cord seemed to pass for a distance of two inches through the mass before reaching the testicle. No evidence of past or present hernia could be found, the ring and canal being no larger than on the opposite side. Finding the fibrous trabeculæ and blood vessels radiating from the testicle to the fatty mass so numerous and distinct, it was decided to remove the whole *en masse*, which was done. The patient recovered without incident. After removal the mass weighed three pounds. It was not possible to decide the exact origin of the fatty growth, whether it had started from the cord or from the testicles.

The literature of this subject is very meagre, the author being able to find but three similar cases on record. Kimball[2] and Jobert[3] report authentic cases. Deguise[4] also reports a case in which the tumor was as large as an adult head, and had been growing for twelve years.

Numerous authors state that lipoma of the cord may extend downward and spread over the testicle, and it is possible that this case may have begun in this way, but there was nothing to indicate such an origin.

The rarity of the lesion coupled its pathological interest, and the obscurity which attends the diagnosis was the author's reason for reporting the case to the Association.

DR. PARK also read a paper entitled,

NEPHRECTOMY ON A PATIENT TWENTY-THREE MONTHS OLD.

B. B., born October 4, 1883, appeared at birth to be perfectly healthy. During the following winter the nurse noticed an enlargement in the right side of the abdomen and the attention of the attending physician was called to it.

July 31, 1885, the attention of the writer was called to the child who appeared to be perfectly healthy. There was a history of steady enlargement of the growth. The bladder was examined with the sound, but no evidence of calculus found. The urine contained numerous crystals of triple phosphates, otherwise normal. Examination of the abdomen revealed a firm resisting tumor about the size and shape of the fœtal head at term occupying the right half of the abdominal cavity. A portion of the fluid was removed and examined with negative results. The diagnosis was fibro-cystic tumor of the right kidney, probably of congenital origin. Five weeks later the tumor was found to have increased decidedly in size, and operation was decided upon.

The operation was performed September 15, 1885. An incision was made in the right semi-lunaris. Slight adhesions were found. The peritoneum covering the growth was incised and the tumor shelled out without much difficulty. The pedicle was tied and dropped into the abdominal cavity. On the twelfth day the patient was removed to his home and now, seven months after operation, is perfectly well. The tumor proved to be a fibro-cystic tumor of the right kidney, the cystic element predominating. Immediately after removal it weighed four pounds.

In searching the literature of this subject, the writer had been able to find but three cases in which the age of the patient approximated that of the one now reported. These cases were respectively: one, two and one-fourth years, recovered: one, two and one-half years, died, and one at eleven months, died. The case reported, therefore, appears to be the youngest who has survived nephrectomy, he being twenty-three months old at the time of operation. The abdominal incision in this case was made not from choice but from necessity, the tumor being altogether too large for extraction through a small opening in the lumbar region.

DISCUSSION.

DR. MCLANE TIFFANY, Baltimore, said that fibrocyst of the kidney in the child is almost always congenital and is frequently accompanied by lack of development in other parts of the body. It seems that in these cases the malphigian capsules which form the cyst do not unite with the pelvis, and as a result such kidneys never secrete urine. Urea, he thought was always found in the fluid from such a cyst.

DR. W. W. KEEN of Philadelphia then read a paper on

STRETCHING OF THE FACIAL NERVE.

He first related a recent case in which he had done the operation, and added a table of twenty-one cases so far reported.

His own case was that of a woman aged forty-eight years. She was admitted to the Woman's Hospital, April 1, 1886. She had had severe attacks of nervous trouble in early childhood, and had twice been paralyzed. Five years ago coincident with menstrual disturbances, her right eyelids began to twitch, and in six months the whole face and the platysma were incessantly in spasm, which was increased by mental or muscular effort, such as eating, speaking or being spoken to; later this was accompanied with constant pain.

In June, 1884, the right infra-orbital had been resected with partial relief for only six weeks. Not long after the twitching extended to the right side and leg.

April 2, Dr. Keen cut down on the seventh nerve by an incision (Baum's) behind the right ear, displacing the parotid gland forwards and getting access to the nerve just after its exit from the stylo-mastoid foramen. Imbedded in connective tissue, it requires considerable search and dissection to lay bare the nerve in this case. The exact point of its entrance into the parotid was quickly discovered by a very weak current of electricity, one electrode being placed on the cheek and the other, consisting simply of the wire, being touched at successive points from above downwards. The trunk was then laid bare and stretched, the force being estimated at four or five pounds, just short of lifting the entire head.

Total facial palsy followed, with relief not only from the spasms in the face and neck, but also of that in the side and leg. The wound healed in four days, when the sutures were removed, the highest temperature having been 100.4°. The operation was done twenty-five days ago, and so far there has been no return of the spasms.

DR. G. B. MASSEY had examined the case electrically and found the reactions of degeneration; the later history of the case will be reported subsequently.

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[2] Boston Medical and Surgical Journal.
[3] Gaz. Med. de Paris, 1850.
[4] Ann. de la Soc. de Chir., ix.

Next a table of the other twenty cases so far reported since Baum, in 1878, first stretched the facial nerve, was given, with remarks on the operation. The paralysis always disappears, no matter how severely the nerve had been stretched, and while the spasms often return they are lessened in severity. In fourteen of the cases, the spasms recurred within a week, in three cases. In five others, absolute relief extended over three weeks to five months, the improvement in four of them lasting much longer. In the remaining six cases the relief extended from four months to a year with improvement still existing in three of them. As a palliative operation, therefore, it would seem to be indicated. while of the five cases reported cured, two had continued three months, three had remained well for from two and a half to five years. Two of the twenty-one cases were too recently reported to give the final results.

The speaker preferred Baum's method of operating decidedly to Heuter's, in which the nerve is reached through the parotid gland. He bandages the lower jaw and gives liquid food for three or four days in order to keep the parts quiet while healing.

He called attention to two cases in which a palsy existing prior to the operation was benefited by the nerve stretching, both electrical and voluntary control being obtained to some extent, and he suggested that in persistent facial palsy, stretching of the facial nerve be tried as a therapeutic operation.

(To be continued.)

THIRTY-SEVENTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, MAY 4TH, 5TH, 6TH, 7TH.[1]

FOURTH DAY'S PROCEEDINGS. — GENERAL SESSION.

The session was opened with prayer at 10 o'clock, A. M. Gen. W. T. Sherman, U. S. A., who was present, was invited to the platform, and made a brief congratulatory address before taking his seat.

The Nominating Committee reported the following as officers of the new Section upon Medical Jurisprudence: J. N. Quinby, M.D., of Jersey City, Chairman; and H. H. Kimble, M.D., of Minnesota, Secretary.

The Trustees of the Association Journal reported that the Journal had been issued regularly each week, and that its mailing list had increased by two hundred and fifty-one during its past year. A report from the Editor was included in the report, which showed that, owing to purchase of type, and printing the Journal in its own office, a saving of over seven hundred dollars had been made in the annual expenditure. At the earnest solicitation of the Board of Trustees, Dr. Davis has consented to serve as editor for another year, and they accordingly have re-elected him.

The Judicial Council presented its report by J. M. Toner, M.D. With regard to the Tri-States Medical Society, the Council decided that, inasmuch as the Constitution of the Association declares that this body shall be made up of representatives of State and County societies, the Tri-States Society cannot be allowed the privilege of sending delegates.

In the matter of the protest against the admission of delegates from the Davidson County Medical Society, the Tennessee State Medical Society, the Mississippi Valley Association, it was decided that sufficient evidence had not been presented to warrant such refusal. The credentials of the delegates from the Philadelphia County Medical Society were rejected, on account of irregularity in the manner in which they were elected, and it was recommended that their registration fees be returned to them. and that the papers in reference to this subject be referred to the Philadelphia County Medical Society for further consideration.

Dr. Jackson, of Philadelphia, asked for a ruling of the Chair as to the status of those members from Philadelphia who had already registered.

The President replied that the Judicial Council had just decided that they had no status, and could not be admitted.

Dr. Jackson pressed his question, but was declared out of order.

The Chairman of the Section of Ophthalmology, Otology, and Laryngology, Dr. Eugene Smith of Michigan then read his address upon advances in these departments during the year.

After considering the therapeutic application of cocaine, and accidents following its use, he recommended the employment of one or two per cent.-solutions, as the most efficient and safe. Blepharoplasty, the genesis of sympathetic ophthalmia (in which he recognized a morbid condition of the optic nerve, as well as of its sheath), and the rare occurrence of corneal sloughing after cataract extraction, owing to improved technique, cleanliness and antiseptics were the subjects specially considered under ophthalmology. In the department of ear diseases, cocaine in two to four per cent.-solution is often of great service in painful conditions. He did not advocate the exclusive employment of the dry method in treating cases of suppurative otitis media; it is valuable in some, though not in all cases. The relations existing between certain nervous disorders and morbid states of the upper air-passages were referred to, and the necessity of recognizing the reflex irritation set up by nasal hypertrophies and pharyngeal disorders insisted upon. Turning to disease of the throat, he referred to the ingenious instruments which have been invented in this department, and the comparative value of the actual cautery over the wire snare. From intubation of the larynx, as a substitute for tracheotomy, perfectly marvellous results have been reported. In many cases, it is an efficient substitute.

In conclusion, he offered a suggestion as to the order of proceedings of the Association. The principal object of the meeting is to have subjects discussed in such a way as to disseminate the best principles of treatment. As it has been hitherto, papers are prepared to be read in certain sections, where the audience largely consists of specialists in certain departments. Consequently, the papers are too technical for the practitioner. The change that he would recommend would be to have on the programme a place for one or two papers, and discussions upon subjects of general interest, such as "ophthalmia neonatorum," in which all would be interested. In conclusion, he congratulated his hearers upon the valuable contributions recently made in this department of medicine by American authors. Should all other sources of supply be closed, the students would be sufficiently equipped with American text-books for the practice of all specialties in medicine.

The Chairman of the Section on Diseases of Children, Dr. W. D. Haggard, of Tennessee, read his address by title. It was a "Plea for the Better Recognition of the Importance of the Study of Diseases of Children."

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[1] Continued from page 431. Previous report by telegraph.

The Chairman of the Section in Oral and Dental Surgery also read his address by title.

The Report of the Committee on Necrology was not presented, as it was published in the Journal during the year.

The Section on State Medicine reported the election of Dr. George H. Rohé, Baltimore, Md., Chairman; and W. Wyman, U. S. N., Secretary. With reference to cremation, the Section offered the following resolution: Resolved, that a Committee of this Section be appointed to further consider the subject of cremation, with instructions to report their conclusions to the Association at its next meeting.

In the matter of Dr. Rauch's proposed law, it was resolved that a Committee be appointed to frame a law regulating the practice of medicine, to be recommended by this Association for adoption by States which have not as yet similar laws in operation; also to report at the next meeting. The report was adopted.

Notice was given of an amendment constituting a new Section on Dermatology and Syphilis.

On motion, it was resolved that at the next meeting, the Report of the Committee on Publication shall be received on the first day, and be entered upon the programme as part of the first day's proceedings.

Dr. Roberts presented a series of resolutions as Acting Chairman of the delegates from Philadelphia. The President decided that the language of the resolutions contained a reflection upon the Association and Judicial Council, and were out of order. On motion, they were laid on the table.

The Committee upon Changes in the Constituent Societies and Branches of this Association recommended that a Committee be appointed, consisting of the ex-President and President-elect, five Vice-Presidents, and Drs. N. S. Davis and J. M. Toner, to report at the next meeting of the Association. Adopted.

The President announced a number of delegates to foreign societies. *British Medical Association*, N. S. Davis, Chicago, Ill.; W. T. Briggs, Nashville, Tenn.; Wm. H. Pancoast, Philadelphia, Pa.; S. C. Gordon, Portland, Me.; John V. Shoemaker, Phila.; E. Cutler, New York; Eugene Smith, Detroit, Mich.; W. W. Dawson, Cincinnati, Ohio; W. McLean, Ann Arbor, Mich.; B. A. Watson, Jersey City, N. J.; William Brodie, Detroit; Liston Montgomery, Chicago. *Ontario Medical Society*, H. O. Walker; *Canada Medical Society*, William Brodie.

Dr. McGaston, of Mobile, offered a series of resolutions referring to the claims of Domingo Freire and Dr. Carmona to having discovered a means of preventing yellow fever by inoculation, and urging each member of the Association to exert his influence towards having a Commission appointed by Congress to investigate these claims as to the protective inoculation against yellow fever. Adopted unanimously.

Dr. John B. Roberts tendered his resignation as Chairman of the Section on Anatomy. It was, on motion, accepted, and the retiring Chairman of the Section authorized to fill the vacancy.

The usual vote of thanks to the profession and citizens of St. Louis, was passed by a rising vote.

The newly-elected President, Dr. Gregory, was led to the chair by Drs. McPhaeters and Porter, and after brief addresses by the retiring President and the President-elect, the meeting adjourned.

Medical and Surgical Journal.

THURSDAY, MAY 13, 1886.

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THE INFECTION OF MALARIAL FEVER.

During the past few years, Professor Machiafava and Dr. Celli[1] have made yearly investigations as to the cause of the malarial fever so prevalent in the neighborhood of Rome. They have already made two preliminary reports, the statements of which have been confirmed by the experience of the last summer, and further facts have been collected.

In 1883, they stated that in melanæmia, which forms a characteristic dyscrasia in malaria, pigment was formed in the interior of homogeneous masses in the circulating blood, especially in the red blood-corpuscles. These masses could be colored by certain aniline dyes (methyl-blue and vesuvin), and were considered to be of a parasitic nature. Later, it was found that these fresh red corpuscles contained little bodies within themselves, which were endowed with a lively amœboid movement, and which also could be stained as above. Further, in a very few cases, the pigmented forms were seen to be provided with cilia. Breaking up of these oodies into minuter ones was also observed. Finally, experiment proved that the fever could be communicated by the injection of blood. This was not only made certain by the typical course of the disease and the specific action of quinine, but also by the presence of these little masses within the red corpuscles, and the presence of black pigment within the white.

The bodies above mentioned consist of small, homogeneous clumps of protoplasm (hyaloplasm), varying in size from one-tenth to one-third or more of the diameter of a red corpuscle. They have an extremely rapid amœboid movement, changing their form and assuming the most peculiar shapes. They are seen to stretch out finely-glancing, often branched, arms, which oscillate and are then withdrawn, to be thrust out anew from the same or other points. When they cease their motion they assume a circular shape, and appear like dark stains, which gradually become more distinct as they grow smaller. In this state of "rest," they have the form of a biconcave lens. Before they are entirely quiet, they often make a series of contractions and expansions, or a few slow, amœboid movements are noticed. This happens when the preparation is irrigated with water warmed to 42°–43° C. Even bodies which have come to rest can be again stimulated in this way, and slow movements can be rendered quicker.

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[1] Fortschritte der Medecin., 1886, page 787.

The bodies retain their mobility for different lengths of time, at the ordinary temperature. The extreme was five hours, the general average being from twenty to thirty minutes. The activity also varied greatly.

They lie entirely within the protoplasm of the corpuscles, as is shown by their arms never extending beyond their boundaries; they seem to swim in the substance, and can be seen to turn over. It must be added, however, that they project at times, as if in the act of leaving or entering, but in this case, they are always immovable.

They can be colored by treating a dried film of blood on a cover-glass with a saturated alcoholic solution of methyl blue. They appear then either uniformly colored, or as a blue ring with a serpentine outline, in which are intensely-colored points. A double staining has succeeded, by first staining with a saturated alcoholic solution of safranin, when the blood-corpuscles are stained rose-color, and then afterward using blue, as above.

They are much more difficult of detection in fresh blood. The film should be exceedingly thin, the corpuscles must not be shrunken, and must be separated from each other; moreover, very high powers of the microscope have to be used. In this way, the authors have convinced themselves that they are never wanting in the fresh blood in recent malarial affections. Their number varies in the different cases. At times, they are very numerous in a single field; at other times, many must be searched through before one is discovered. Either these bodies are found alone, or else they are associated with those containing pigment. These latter are, however, as a rule, less abundant.

From what has been said, these bodies are entirely distinct from any accidental or pathological substance which has hitherto been noticed in the red blood-corpuscles. They are therefore regarded as of parasitic nature, and the name of *plasmodium malariæ* has been adopted for them. They are most numerous just before or at the beginning of an attack, in this respect resembling the *spirillum* of relapsing fever.

A number of typical cases are recorded, in all of which these plasmoids were found, and they alone. And in these cases, they were found in great numbers before and during an attack, while afterwards, or after the exhibition of quinine, only a very few were found and those without motion, or else they were entirely wanting.

As a rule, the corpuscles which contain the plasmoids have a normal aspect, and preserve their elasticity. But occasionally they are smaller, puckered, and of a dark yellow color, or else they have a clear, dark contour. The plasmoids, too, often show in their interior, granules of black or reddish-black pigment. These can come out of the blood-corpuscles and become free in the blood, or the cells can gradually disappear with the increase of size of the plasmoids, and in this way, those lost apparently become free. The pigment is derived from the coloring matter of the blood, and there has been a direct observation of the gradual change from the color of hæmoglobin into black particles.

The pigmented plasmoids can also be colored and preserved in balsam. Then they show either a regular staining, or else interspersed with clear spots (vacuoles), while the pigment is either irregularly distributed, or heaped into balls in the interior or on the peripheries of the vacuoles.

When there are found one or more of these pigmented plasmoids within the red corpuscles, there are frequently seen a varying number of more or less intensely-colored round points, which closely resemble large micrococci. These are suspected of being the initial stage of the larger parasites, but further investigation is needed on this point. The forms, on the other hand, which have been found provided with cilia, are regarded as being the latest stage in their development.

A manner of division has also been recognized in them, in which the pigment gradually accumulates at the central part, and the body splits up into smaller ones. This can occur before they have consumed the entire corpuscle; then its remnant is observed as a colored outline of hæmoglobin about the dividing body. This is believed to represent the method of increase, and to explain its vital processes in the human body. After these pigmented forms have divided, there is found a stage in which numerous unpigmented plasmoids are present. This idea of the method of increase is still further strengthened by the condition found in the bloodvessels after death.

If sections from the hyperæmic organs, especially the brain, are colored with a watery solution of vesuvin, the cells are found to be entirely occupied by the colorless forms. These are, at times, granular, and at times consist of two parts, one taking color very faintly, the other intensely, and assuming the shape of a ring, or of a half-circle lying on the periphery. In addition, there are found groups of deeply-stained granules, which have arisen from division. Thus all stages are represented. Division commences in the intensely-colored spots, and progresses until aggregations of granules are formed, which are gradually seen to separate one from the other, until they appear as if falling apart. These are round, oval, or pear-shaped, and sometimes are regularly distributed about a small, central, colored point. So it seems that pigmentation is not an essential step previous to division.

If these bodies are true parasites, they must belong to the simplest class of protozoa, which Heckel has named moneres. That such can have a parasitic action, has been shown in certain plants; and in one, there is an accumulation of pigment, as in malarial fever.

The actual existence of such bodies is still further proved by their independent discovery by a Frenchman. Laveran, who preceded the Italians in point of time, but who has not worked them up as carefully as they have, and who, we believe, observed only the pigmented forms. As yet their pure culture outside of the body has not been effected, nor their natural source discovered. These details are awaiting future investigations.

Celli is, we understand, an assistant of Tommasi-Crudeli in his laboratory at Rome, and both he and his colleague have had every facility for pursuing their investigations. Their results seem to offer real ground for hope that the veil may shortly be torn away from the malaria-mystery, a hope which we allow ourselves to believe may be realized, notwithstanding the warning disappointments following previous announcements by Salisbury, by Tommasi-Crudeli himself, with Klebs, and by so many others.

THE ADMISSION OF WOMEN TO THE OPERATING THEATRES OF GENERAL HOSPITALS.

The recent ill-advised and persistent attempts of some young female medical students to occupy places in the public operating room of the Boston City Hospital has brought the question of the propriety and desirability of permitting the presence of women at that place on the so-called public operating days, before the Trustees of that Institution. At present the rules provide only for the attendance of men, and it seems to have been quite difficult to persuade these young women of the propriety of observing the rules as they exist.

A similar question is, we believe, at the present moment, under advisement by the Trustees of the Massachusetts General Hospital, and of the New York Hospital, and we understand that the surgeons attached to the former hospital have unanimously recommended that permission for the attendance of women upon operating days be not granted.

There are several points of view from which this question should be regarded, and the decision should, naturally, not be a hasty one. The claims which women may have in common with men, as students, and the importance of their obtaining sound surgical instruction, if they receive any at all, are points which are pretty sure to receive due consideration. We desire, therefore, to direct attention to one or two aspects of the question which are, perhaps, more apt to be overlooked.

The giving of surgical instruction is by no means obligatory upon the attending surgeons of our hospitals, neither is the furnishing of object lessons for instruction in surgery obligatory upon the patients who are called upon to submit to operations. It may be,—and in the opinion of some of our more advanced friends probably is — that both surgeons and patients are laboring under a false delicacy, nurtured by the prejudices of an unenlightened past, from which a less narrow future will in time enable them to free themselves. But it is a fact that, at present, both surgeons and patients,— male and female — object to operations upon certain portions of the body before a large number of spectators of both sexes. Operations upon the genito-urinary apparatus of the female are not as a rule performed in our public hospitals before classes of students upon the regular operating days. The same exemption from making an exhibition of themselves, is and will continue to be claimed by male patients, especially when the female spectators are armed with opera glasses; and from an anatomical standpoint with even more reason, as the male is endowed with *external* genitals which the female practically is not.

Such operations might, it is true, be done at a different time or place, but such an arrangement would waste the time of the surgeons, who already do much gratuitous work; of the assistants; of the attendants; and of the students themselves. The genito-urinary surgery of the male is one of the most important departments of surgery for the male student to familiarize himself with, and any arrangement by which male students were deprived of opportunities for such familiarity would, we fear, be attended by a greater loss than gain to the practice of surgery and the welfare of the public in the rôle of patient.

We doubt not that our hospital trustees before whom this question comes, will give it careful thought, and be guided to wise decisions.

THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The recent meeting of the American Medical Association was harmonious and peaceful. The West and Southwest have every reason to be gratified by the elections and appointments; St. Louis and Chicago seem to have divided the honors of the offices in the Association and the organization of the proposed International Congress.

Our readers can judge of the meeting for themselves from the accounts which have been published; the medical discussions in the Sections were certainly not the most interesting or important part of the proceedings. "The malcontents of New York and Philadelphia," to say nothing of members of the profession in less metropolitan Eastern centres, "have been rebuked."

The passage of a resolution to appeal to Congress for aid in meeting the expenses of the International entertainment indicates that, though on pleasure bent, the present Executive Committee, representing the Association or not as it may prefer, has a frugal mind. Any such appeal, it seems to us, will be regarded as coming with peculiarly bad grace, either directly or indirectly, from an assemblage of men, which if it is insisting upon anything is insisting upon the principle that the International Organization is the American Medical Association. If that Association is to manage the proposed gathering in its own exclusive interest it should at least pay the incidental expenses, and not assess the general taxpayer of the country at large.

We imagine such a proposition will not prove extensively acceptable.

MEDICAL NOTES.

— Sir William Jenner has been elected for the sixth time president of the Royal College of Physicians and Surgeons of London.

— The St. Louis daily papers improved the occasion of the meeting of the American Medical Association for a goodly display of journalistic enterprise. Cuts of various gentlemen of greater or less prominence were published and the various types of manly beauty in the great West were very liberally represented. The opportunities of the ball were also met with the true Jenkinsian fervor, and some seven or eight columns of the *Globe Democrat* chronicle what was worn by various "Mrs. Drs." and their daughters.

— At the annual meeting of the Essex North District Medical Society which was held at the Essex House in Lawrence last week, among the officers elected for the ensuing year were the following: President, Dr. E. P. Hurd, Newburyport; Vice-President, Dr. C. G. Carleton, Lawrence; Secretary and Treasurer, Dr. George W. Snow, Newburyport; Corresponding Secretary, Dr. M. D. Clarke, Haverhill; Commissioner of Trials, Dr. F. A. Howe, Newburyport; Councillors, Drs. H. M. Chase, R. B. Root, C. H. Johnson, C. N. Chamberlain, L. A. Woodbury, George Montgomery, F. H. Allen, F. A. Howe, H. M. Cushing; Censors, Drs. J. Crowell, F. B. Flanders, J. F. Young, R. C. Huse, A. F. Shea.

BOSTON.

— The eighteenth annual Commencement of the Massachusetts College of Pharmacy was held on the evening of the 15th inst. Twenty young men received the degree of Ph. G.

— There have been some scenes in the operating room of the City Hospital, during the last few weeks, which were not calculated to inspire the beholder with chivalric sentiments towards the female sex, as represented among the students of one of the medical schools of the city. In defiance of the distinct rules of the trustees regarding admission to the operations, certain women have repeatedly forced themselves into the seats, even during the performance of private operations upon the private parts of private male patients, so that the operator was obliged to remove his patient to another room. This course was continued even pending action by the trustees of the hospital on demands of the petitioners.

— At the annual meeting of the Boston Medical Association, held May 3d, the following officers were elected: Standing Committee, Drs. F. Minot, C. D. Homans, B. Brown, J. C. Warren and C. P. Putnam; Secretary and Treasurer, W. D. Hodges. This society, one of the oldest medical associations in this city, was founded in 1806, and has for its objects the regulation of the medical police of the city, and the establishing of a Fee Table. Its membership consists of medical practitioners in this city, with whom the Fellows of the Massachusetts Medical Society may lawfully hold consultation. The Code of Medical Ethics adopted by the society, is the foundation of the one governing all regular practitioners established in the city. The Fee Table, modified from time to time, as the cost of living increases, is the standard, according to which charges are generally made throughout the city. Any regular physician may become a member by applying to the secretary, Dr. W. D. Hodges, 220 Clarendon Street, between 1.30 and 3 P.M., paying one dollar, and signing the constitution.

NEW YORK.

The annual Commencement of the College of Physicians and Surgeons will be held at Steinway Hall, May 13th; when the address to the graduating class will be delivered by Gen. Horace Porter.

— Mrs. Leland Sanford, wife of the millionaire Senator from California, has purchased a piece of land on Washington Avenue, Albany, adjoining the site of the old Lathrop mansion, and it is stated that on the whole property she will erect a handsome and well-appointed hospital for old men and women, as a memorial of her parents.

— The graduating exercises of the training school for nurses of the Mount Sinai Hospital were held at the Home connected with that institution on Wednesday evening, May 5th. Two handsome brownstone houses on Lexington Avenue, near the hospital, have been converted into the Nurses' Home. This is the fourth year of the Mount Sinai training school, and on the present occasion there were fifteen graduates; to whom an address was delivered by Dr. Paul F. Mundé. The Hornthal medal for general excellence was presented to Miss M. J. Leary, and the prize for the best essay, to Miss A. L. Alston, of the graduating class.

— In the course of his oration on the occasion of the laying of the corner-stone of the new buildings of the College of Physicians and Surgeons, a ceremony which was performed by Mr. George W. Vanderbilt, youngest son of the deceased millionaire, Mr. Chauncey M. Depew said: "The most instructive and pleasurable of our public assemblies are those which commemorate the better element of our common humanity. The fierce competitions of our industrial conditions present the possibilities for unequal success, and provoke the antagonisms which threaten social order and security. As the less fortunate drift into hostility to their more successful brethren, and those who by their own ability or by inheritance, have been lifted above the struggles of life, lose sight of and sympathy with the workers, the internal relations of crowded communities become dangerous and intolerable. At this point the man of wealth who founds or endows an institution which shall contribute in a large and permanent way to the welfare of the people becomes a statesman, as well as a philanthropist. He brings us back to first principles in this recognition of our common origin and interests. The currents of human sympathy again flow and throb between the avenue and the alley, the cottage and the palace.

"But how most wisely to invest the money which is to carry out a charitable purpose is not an easy problem. It is often partly wasted to gratify the vanity of the donor. Mr. Vanderbilt had become familiar by his own sufferings, so patiently endured that none but his intimate friends knew of them, with the beneficial effects of medical skill and the possibilities of its growth. With his strong common-sense he saw that here was practically an untried field, where the advancement of science might work out the most beneficient and benevolent ends. Libraries, hospitals, and art and literary institutions existed in numbers, each doing in its own way admirable work. While in the Old World governments fostered schools of medicine, here their only patrons were the profession, and there was not a single great endowment in the land. To build a college to be called by his name was a temptation; but in a city where so many excellent universities already existed, he saw that the wiser use of his money was to develop and enlarge an old institution, whose age, traditions and experience were of incalculable value, and constituted a permanent capital which wealth could not create. In selecting the College of Physicians and Surgeons, he chose the oldest in years, and the equal in rank and equipment of the best."

Mr. Depew then outlined the early struggles and subsequent history of the college, whose founders established the first free dispensary New York ever had, and spoke of the influence of the institution on the progress of medicine in America. He also noted the incidents of the old contest for supremacy with Columbia College, which became one of the political issues of the time and ended in triumph of the medical school; after which he went on to say:

"The College of Physicians and Surgeons becomes one of the strongest and best appointed schools in the world, through the medium of the splendid benefaction we this day commemorate. Upon these grounds, donated by William H. Vanderbilt, whose gift erects, furnishes and endows a building equal to all the requirements of the present and the needs of the future. Mr. William D. Sloane builds the Maternity Hospital, and the generosity of his wife endows all the beds, making them free; while the four sons create the clinic, which will be a vast dispensary, giving without charge, to the poor for all time, medicines and the best professional attendance, as a memorial of their father, more grateful to him if living, and to his spirit now that he is dead, than stately shaft or gorgeous mausoleum. A private benefaction renders possible the construction and equipment of a medical college superior to any ever known in this country, and equal to the best in the world. With this endowment, and the immense inspiration which will follow it, New York will become the centre of medical learning, education, and acquirement for the American continent.

"William H. Vanderbilt led a life of work and care. He knew merit, and recognized, rewarded, and promoted it in numberless ways. He despised pretenders, idlers and shams. He wanted his fellowmen to look through the wealth he was administering to the best of his ability, and see him as he understood himself, claiming no superiority to which he was not fairly entitled, trying to do his duty as a man and a citizen, living temperately, loving his friends, and willing to help in every good or public work. He was proud of New York, and besides his conspicuous gifts for the obelisk and this college, he contributed in an unobtrusive way vast sums for religious, benevolent, art and educational enterprizes. May his example inspire others to those deeds which are possible only to a few, but, wisely bestowed, may make our metropolis supreme in every department which educates, elevates and ennobles the race."

PHILADELPHIA.

— The annual Commencements passed off as usual, the Jefferson heading the list with two hundred and twenty-three graduates, of April 2d; the University following on May 1st, with about one hundred and fifty recipients of the medical degree, and the Medico-Chirurgical coming in with only five in the graduating class. The Spring Courses have begun, and will last until June; the clinics continue until summer.

◆

Miscellany.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

The programme of the Eighth Annual Congress of this Association, to be held at the hall of the College of Physicians, corner Thirteenth and Locust Streets, Philadelphia, May 27th, 28th, and 29th, is as follows:

May 27th.

Morning Session, at 10 o'clock. Roll-call, reception of guests, etc.; President's address. Papers: 1, Two Instances of Adenoid Disease of the Root of the Pharynx which exhibited Unusual Features, Harrison Allen, M.D., Philadelphia; 2, The Intrinsic Muscles of the Larynx, Prof. Joseph Leidy, M.D., LL.D., Philadelphia (by invitation of the Council). Appointment of Nominating and Auditing Committees, presentation of instruments, etc. Adjournment at 1 o'clock.

Afternoon Session, at 3 o'clock. 3, Concerning the Positions of Paralyzed Vocal Bands, from the Physiological Laboratory, Harvard Medical School, Franklin N. Hooper, M.D., Boston; 4, "Laryngeal Vertigo," Frederick I. Knight, M.D., Boston; 5, Further History of the Case of Paralysis of the Posterior Crico-Arytenoid Muscles presented at the first meeting of the Association (1879), with report of Autopsy and Exhibition of Specimens, J. Solis-Cohen, M.D., Philadelphia; 6, A Case of Congenital Defect of the Epiglottis, illustrating its Function in Deglutition, Frank Donaldson, M.D., Baltimore; 7, Buccal Tuberculosis, D. Bryson Delavan, M.D., New York.

Evening. Reception by the President to the Fellows of the Association.

May 28th.

Morning Session, at 10 o'clock, promptly. Business meeting; open to the Fellows of the Association only.

1. Report of the Secretary: 2, Report of the Treasurer and Auditing Committee; 3, Report of the Librarian; 4, Report of Committee on Nominations for 1886–7; 5, Miscellaneous Business. At 11 o'clock the doors will be opened, and the reading of papers commenced: 8, Observations on the Use of some of the newer Remedies in Diseases of the Upper Air-Passages, E. L. Shurly, M.D., Detroit; 9, The simplest and most efficient Treatment of Diphtheria, Wm. H. Daly, M.D., Pittsburgh; 10, The question of Hæmorrhage following Uvulotomy, E. Carroll Morgan, M.D., Washington; 11, *a*. Three Cases of Thyrotomy; recovery in each case, with excellent voice. *b*. Alarming Hæmorrhage after Tonsillar Excision arrested by Torsion of the Artery, Clinton Wagner, M.D., of New York. Adjournment at 1 o'clock.

May 28th.

Afternoon Session, at 3 o'clock. 12, The Laryngeal Image as seen in Photographs taken during the production of Tones in the Singing Voice, with Lantern Exhibition of Photographs, Thomas R. French, M.D., Brooklyn; 13, Clinical Notes on Prolapse of the Laryngeal Ventricles, with cases, George W. Major, M.D., Montreal; 14, A Novel Procedure for the Removal of Sub-Glottic Laryngeal Growths, Wm. C. Jarvis, M.D., of New York; 15, Cases of Laryngeal Œdema, T. Armory DeBlois, M.D., of Boston; 16, A Case of Perichondritis of the Larynx, with specimen, Charles H. Knight, M.D., of New York; 17, A Case of Gummatous Disease of the Larynx, with spontaneous re-opening of Larynx after Thyroid Laryngotomy, Edgar Holden, M.D., Newark; 18, Gummatous Infiltration of the Base of the Tongue. U. G. Hitchcock, M.D., New York.

Evening. Annual dinner of the Association at the St. George Hotel, at 8 o'clock.

May 29th.

Morning Session, at 10 o'clock. 19, A Case of Hysterical Sneezing, apparently cured by applications to the Nasal Passages of the continuous Battery Current, S. Solis-Cohen, M.D., Philadelphia; 20, A Contribution to the Pathology and Treatment of the Respiratory Vaso-Motor Neuroses, John N. Mackenzie, M.D., Baltimore; 21, Inflammation of the Antrum, Beverley Robinson, M.D., New York; 22, A Case of Naso-Pharyngeal Growth, Samuel Johnston, M.D., Baltimore; 23, What Cases of Nasal Catarrh require Surgical Treatment? Clarence C. Rice, M.D., New York. Adjournment at 1 o'clock.

Afternoon, at 2. Reading and Discussion of four Candidates' Theses. Election of Fellows, ballot for officers, 1886–7, and their induction into office. Adjournment. Excursion.

President,
Harrison Allen, M.D.

Secretary,
D. Bryson Delavan, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 1, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	657	223	14.70	19.50	1.80	6.60	1.35
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	257	104	14.44	15.96	.38	7.42	2.28
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	156	47	14.08	14.08	2.56	4.48	3.84
St. Louis	417,220	—	—	—	—	—	—	—
Baltimore	400,000	169	73	2.36	17.70	.59	1.18	.59
Cincinnati	325,000	109	39	6.44	30.24	1.84	2.76	.92
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	84	24	9.52	11.90	1.19	—	1.19
Pittsburgh	190,000	57	22	14.00	15.75	—	5.25	1.75
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	35	7	8.58	20.22	—	5.36	2.68
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	36	15	13.12	13.90	5.56	—	—
Worcester	68,383	21	8	9.52	20.80	4.76	4.76	—
Lowell	64,051	21	6	33.32	9.52	9.52	14.28	—
Cambridge	59,660	16	2	—	37.50	—	—	—
Fall River	56,863	16	6	12.50	12.50	6.25	—	6.25
Lynn	45,861	13	3	—	15.38	—	—	—
Lawrence	38,825	12	2	—	25.00	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	9	3	11.11	11.11	11.11	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	2	—	25 00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	2	11.11	22.22	—	—	—
Taunton	23,674	8	2	12.50	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	2	—	20.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	—	33.33	16.66	16.66	—	—
Malden	16,407	5	2	40.00	20.00	—	40.00	—
Fitchburg	15,375	4	—	—	—	—	—	—
Waltham	14,609	1	—	—	—	—	—	—
Newburyport	13,716	4	—	—	—	—	—	—
Northampton	12,896	7	3	14.28	14.28	—	14 28	—
89 Massachusetts Towns	—	52	15	13.94	14.87	—	9.65	5.79

Deaths reported 1,777: under five years of age 612: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 225, consumption 315, lung diseases 274, diarrhœal diseases 31, diphtheria and croup 92, scarlet fever 29, whooping-cough 27, typhoid fever 11, cerebro-spinal meningitis eight, malarial fever eight, puerperal fever six, erysipelas six, measles four, small-pox (New York) one. From whooping-cough, New York 16, Brooklyn four, Boston and Pittsburg two each, Charleston, Chelsea and Taunton one each. From typhoid fever, Boston and District of Columbia three each, Lowell two, Cincinnati, Charleston and Newton one each. From cerebro-spinal meningitis, New York seven, Fall River one. From malarial fevers, New York six, District of Columbia two. From puerperal fever, New York and Brooklyn two each, Boston and District of Columbia one each. From erysipelas, Brooklyn five, Boston one. From measles, Boston two, New York and Brooklyn one each.

In 105 cities and towns of Massachusetts, with a population of 1,187,123 (population of the State 1,941,465), the total death-rate for the week was 15.47 against 18.02 and 15.99 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 17th the death-rate was 20.3. Deaths reported 3,535: infants under one year of age 832; acute diseases of the respiratory organs (London) 362; whooping-cough 140, measles 114, diarrhœal diseases 43, diphtheria 26, fever 23, scarlet fever 21.

The death-rates ranged from 14.4 in Wolverhampton to 32.3 in Blackston; Birkenhead 15.3; Birmingham 24.6; Hull 18.0; Leeds 19.4; Leicester 17.6; Liverpool 19.3; London 19.8; Manchester 27.1; Newcastle-on-Tyne 18.5; Nottingham 21.8; Sheffield 18.0.

In Edinburgh 18.0; Glasgow 22.9; Dublin 25.0.

For the week ending April 17th in the Swiss towns, there were 46 deaths from lung diseases, consumption 37, diarrhœal diseases 11, diphtheria and croup five, typhoid fever four, small-pox three, measles, whooping-cough and erysipelas one each.

The death-rates were: at Zurich 15.3; Geneva 13.1; Basle 20.7; Berne 34.2.

The meteorological record for week ending May 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, May 1, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...25	30.050	47.5	53.6	44.3	50.0	72.0	60.0	60.7	E.	E.	W.	15	12	12	C.	C.	C.	—	—
Monday, ..26	29.913	52.3	69.0	46.0	34.0	56.0	58.0	49.3	N.E.	E.	E.	6	8	15	F.	C.	C.	—	—
Tuesday, ..27	29.962	47.3	51.4	44.4	34.0	59.0	75.0	56.0	E.	S.E.	W.	15	12	12	C.	O.	L. Rain	—	—
Wednes., .28	29.883	47.4	55.0	43.5	80.0	71.0	89.0	80.0	N.W.	E.	N.E.	9	12	7	O.	F.	O.	—	—
Thursday, 29	29.995	47.6	50.1	45.2	66.0	55.0	61.0	60.7	S.E.	E.	E.	15	12	6	O.	C.	O.	—	—
Friday, ...30	30.026	46.0	49.9	43.5	72.0	68.0	86.0	75.3	E.	E.	N.	17	22	3	O.	C.	C.	—	—
Saturday, . 1	29.954	49.0	55.3	39.9	59.0	60.0	72.0	63.7	N.W.	S.E.	N.E.	2	11	8	C.	F.	C.	.6	0.02
Mean, the Week.	29.969	48.2	54.9	43.8				63.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 1, 1886, TO MAY 7, 1886.

Town, Francis L., major and surgeon. Granted leave of absence for eight months, with permission to go beyond sea, to take effect when his services can be spared by his Department Commander. S. O. 101, A. G. O., April 30, 1886.

Wilson, Wm. J., assistant surgeon and captain. Died May 2, 1886, at Plattsburg Barracks, N. Y.

Wilson, Geo. F., first lieutenant and assistant surgeon. Ordered for duty at Fort Shaw, M. T. S. O. 37, Department of Dakota, April 26, 1886.

Polhemus, A. S., first lieutenant and assistant surgeon. Relieved from duty at Presidio of San Francisco, Cal., and ordered for duty as post-surgeon, Fort Halleck, Nev. S. O. 28, Department of California, April 26, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 8, 1886.

Kite, Isaac, assistant surgeon. Ordered to Naval Hospital, Brooklyn.

Simon, W. J., passed assistant surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

Lippincott, Geo. C., passed assistant surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MAY 1, 1886.

Magruder, G. M., assistant surgeon. Appointed an assistant surgeon, April 24, 1886. Assigned to temporary duty at Norfolk, Va., April 26, 1886.

SOCIETY NOTICES.

Suffolk District Medical Society. Obstetric and Gynæcological Section. — The last meeting of this Section, for the season, will be held in the large Medical Library Room, 19 Boylston Place, on Wednesday evening, May 19th at 7.45 o'clock. Communications: "Dr. J. C. Irish, of Lowell, "Discussion of Statistics of Ovariotomy." Dr. W. E. Boardman, "A Case of Labor complicated by Fibroids; with some Remarks." Dr. J. R. Chadwick, "A Case of Extra-Uterine Fœtation, with Presentation of the Specimen." Several gentlemen prominent in the specialties to be treated have consented to take part in the discussions. Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman.*

Robert B. Dixon, M.D., *Secretary.*

DEATH.

Died in Gardner, Mass., May 8, 1886, David Parker. M.D., M.M.S.S., aged eighty-four years.

BOOKS AND PAMPHLETS RECEIVED.

Outlines for a Museum of Anatomy. Prepared for the Bureau of Education by R. W. Shufeldt. Washington. 1885.

The Home Vapor Bath, Disinfector, Inhaler and Needle Bath, etc. Home Vapor Bath Co. New York. 1886.

Handbook for the Instruction of Attendants on the Insane. Boston: Cupples, Upham & Co. 1886.

Faith Cures, by James Hendrie Lloyd, A.M., M.D., Instructor in Electro-Therapeutics in the University of Pennsylvania. (Reprinted from the Medical Record, March 27, 1886.)

Eleventh Annual Announcement and Catalogue of Meharry Medical Department of Central Tennessee College, Nashville, Tenn. 1885–86.

Sixteenth Annual Report of the Massachusetts Homœopathic Hospital and of the Ladies' Aid Association. For the Year ending December 31, 1885.

Clinical Lectures in Orthopœdic Surgery. Delivered at the Philadelphia Hospital, by A. Sidney Roberts, M.D. Nos. I, II. The Etiology of Morbid Anatomy, Varieties and Treatment of Club-Foot. (Reprint from the Medical News, March 13 and 20, 1886.)

Water-Supply of Cities and Villages. The Anniversary Address before the Medical Society of the State of New York at the Eightieth Annual Meeting. Delivered at Albany, February 3, 1886, by A. Vander Veer, A.M., M.D., Albany, N. Y. (Reprint from Transactions of the Society. 1886.)

Original Articles.

A CASE OF EXTRA-UTERINE PREGNANCY OF SEVEN YEARS DURATION, IN WHICH THE BONES OF AN ADULT FŒTUS WERE FOUND DURING AN ATTEMPT AT OVARIOTOMY.[1]

BY JOHN HOMANS, M.D.,

Instructor in Harvard University in the Diagnosis and Treatment of Ovarian Tumors. Surgeon to the Massachusetts General Hospital.

On the 4th of March, 1886, I went to Dorchester to see a woman in consultation with Dr. E. G. West. I found a married woman, thirty-five years old, in bed, pale, breathing about thirty times a minute, measuring thirty-four and a half inches in circumference at the umbilicus, and dull everywhere over the abdomen to a point about an inch above the umbilicus. She stated that she had been seized with sudden abdominal pain on February 10th, and had sent for Dr. Edward G. West. Up to that time she had worked in a bookbindery. I will give Dr. West's history of the case, and his treatment.

March 10, 1886.

Dr. John Homans: —

Dear Sir :— At your request I write out the following history, as far as I have been able to obtain it, of Mrs. J. S.

A woman of Irish descent, medium height, dark complexion, weighing about one hundred and thirty-pounds, and about thirty-five years old. She had always enjoyed the best of health till August, 1879. I learned from her that during the latter part of August when about six weeks pregnant, she was taken sick with uterine hæmorrhage and probably pelvic peritonitis. About a couple of months afterwards she was again taken sick with the same symptoms. During the following winter the attending physician told her that the fœtus was outside of the uterus in the abdomen (extra-uterine pregnancy).

About the eleventh or twelfth month of pregnancy, while flowing, she called on Dr. J. R. Chadwick, who told her he suspected abdominal pregnancy. Soon after this time, that is in June or July, 1880, her flowing ceased and she gained strength and went to work to support herself and husband, and enjoyed fairly good health in spite of the enlargement of the abdomen. She was always regular as to her catamenia and had never conceived again. On February 10th, 1886, I was called in. I found her suffering from a great deal of pain referred to the abdomen with the temperature at 100° and pulse about one hundred. She was flowing at the time, and stated that she had had a dejection within twenty-four hours, and gave me the above history. Examination revealed the abdomen quite lax and a hard mass in the left hypochondriac and iliac regions, oblong in shape, running longitudinally with the body, about as large as your two fists placed together, and in the location of the descending colon. She stated positively that her bowels had moved every day, and that she had taken physic to open them.

Owing to her flowing I made no vaginal examination. After injecting one-eighth grain of morphia twice, I controlled the pain and left with her a few one-eighth grain pills of morphia, and ordered steaming hot flannels to be placed on the abdomen. In the evening I found her quite comfortable.

February 11th. The next morning I found her condition about the same. The pain was still referred to the abdomen, particularly to the left side whenever the morphia was remitted.

February 12th. I found she had vomited considerably during the night, and the abdomen was more swollen, and was tympanitic over about the whole surface except over the left hypochondrium. I ordered milk and lime-water in equal quantities, and powders of subnitrate of bismuth. She had ceased flowing and I ordered an enema of soap suds, which was given with little or no results.

February 13th. The pulse and temperature remaining the same and the vomiting being controlled to some extent, I ordered an ounce of castor oil beaten up in lemon, and a couple of hours afterward another enema, but the oil was thrown off and the enema produced no effect. On my afternoon call I examined per vaginam and found the uterus quite immovable and a hardened doughy mass behind it, besides evidences of hardened fæces. I gave an enema myself and removed a small amount of yellowish slate-colored fæces. To relieve the distension I directed that turpentine should be sprinkled upon the hot flannels applied to the abdomen.

February 14th. The condition was the same except that the turpentine had caused some irritation to the abdomen and she had discarded it. I again gave her an enema and broke up the hardened fæces digitally through the vagina and rectum, using two to three quarts of water and obtaining a very large movement. I ordered two tablespoonsful of salts to be given the first thing on the next day.

February 15th. I found her in exactly the same condition, but the salts had not operated nor disturbed her. Again I gave her an enema, and finding hardened masses in the rectum I again broke them up digitally, and again obtained a very large movement. I ordered an enema of ℥iv sweet oil, but on calling in the afternoon I found that this had had no effect and again I repeated the operation of the morning, with the same results, and much to the relief of my patient.

February 16th. Her condition was improved, she felt more comfortable and relieved. The temperature was about 99° but the pulse about 100, but she had had no voluntary dejections and none of the bismuth had shown itself, all the dejections being a yellowish slate color. She had now been under my care about a week, and evidently although I had removed at the very least, two quarts of solid fæcal matter, there was no clear passage. Heretofore, I had moved slowly for fear of lighting up her old pelvic celulitis, but now I decided to use water as long as I could obtain any results. All this time the tumor in the left side was plainly felt and was evidently fæcal. I therefore raised the foot of the bed high up and the hips high up upon pillows so as to place a vessel under her. Then using the fountain syringe and a weak solution of salt in warm water, I passed the tubing as high up as I could, first dilating the passage with the water, and continued the use of the water until I had used three gallons, washing away a thick muddy pea-soup mixture and keeping it up until the water came away clear, and the tumor in the side had disappeared. But there was no evidences of bismuth, even though I removed at this sitting over six quarts of solid matter at the very least calculation, or a full peck in all. I therefore ordered a dose of salts of three tablespoonsful for the next morning.

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[1] Read, by invitation, before the Obstetrical Society of Boston, March 13, 1886.

February 17th. I found she had had a voluntary dejection, and before night four more very large and quite thick, and at last the bismuth appeared, but still there were hard black masses and I ordered another dose of salts the next morning. She said she was more comfortable, and the temperature and pulse was very near normal, but the abdomen was distended as largely as ever, and the lower part from three inches above the navel was flat and evidently filled with fluid which neither the salts nor the injections made any impression upon. She had lost but little flesh and said she felt quite strong.

February 18th. I found she had had ten movements of the bowels, large and watery and with large quantities of fæcal matter mixed with mucus, but with no diminution in the size of the abdomen. Her temperature and pulse were nearly normal, and she laughed and talked very pleasantly about herself. The tenderness in the left hypochondrium where the tumor originally had been, was subsiding. She appeared to be improving in every way but the size of the abdomen, which appeared to be larger than when she first took to her bed. There was no swelling of the legs and the heart's action was normal, nor were there any other symptoms of local or general dropsy. I ordered a pill containing

℞	Strychnia	gr. 1-20.
	Extr. Belladonna, podophyllin āā . .	gr. 1-5.
	Pulv. ferri. sulf., aloes soc. . . .	gr. j.
	Syr. simp.	gr. s.

to be given one every eight hours, which caused from two to four large watery movements per day, containing large quantities of fæcal matter.

On the 19th and 20th, she appeared to be improving, or at least holding her own, but the enlargement of the abdomen remained the same, if not a little greater.

On the 21st, I found the temperature normal, the pulse about 100, but the respiration which I had noticed was quickened during several days past, I found increased to forty per minute. On percussion of the back I found a tympanitic percussion note high up behind the ribs where the liver should have been, and evidently pressing the latter upon the space of the lungs. The lower part of the lungs was flat shading off into dulness, but the respiratory murmur could be heard through it with a few coarse râles. There were no crepitant râles nor bronchophony. Hence I concluded the condition was due to pressure of the liver upwards and hypostatic congestion of the lungs, and not pneumonia; although she had a frequent cough at this time and at times spat mucus streaked with blood, there was no typical rusty-colored sputa of pneumonia. Since that time I find that she had been suffering from a so-called cold for some time before she was taken sick, and that her father died from consumption, but many years after she was born. There have been no other cases in the family. At this time, considering her history and the tumor to be felt in the vagina behind the uterus and the dulness and fluctuation wave in the abdomen, the area of dulness not being increased or diminished by her lying either on one side or the other, I concluded I must be dealing with some cystic tumor, probably of the ovary. There was no distinct fluctuation from the abdomen to the tumor or the uterus in the vagina.

February 25th. I called in Dr. J. R. Chadwick in consultation, and asked to see his notes of the case taken seven years before; these he very kindly showed me and they were in effect that he had suspected abdominal pregnancy. At this time her respirations had risen to 55 or 60, and her temperature to 100. After a thorough examination we decided to aspirate through the abdominal walls at a point about three inches below the umbilicus. The fluid first drawn had all the appearances of pure pus. Thinking that if it was such the proper place to make a counter-opening was through the vagina, if it was a large pelvic abscess, we left the aspirating needle in the abdomen and plunged a large trocar in the mass felt in vagina, but from that, much to our surprise, about 4℥ of thick oily fluid looking like melted butter flowed out which hardened upon cooling, and evidently could only come from a dermoid cyst. Hereupon Dr. Chadwick tried to reach the cyst above, but could not. Then we returned to the abdomen and drew by aspirating, three pints of the pus-looking fluid, considerably relieving the respiration of our patient; after emptying one sac we struck another, but did not empty it. Dr. Chadwick sent a specimen of both fluids to Dr. Gannett, who made the enclosed report, confirming our diagnosis of multilocular cystic dermoid tumor.

110 Boylston Street, March 3, 1886.

Dear Dr. Chadwick, — The clear fatty fluid undoubtedly comes from a dermoid cyst. The other fluid, which is of the consistency and of about the color of thick pea soup, is a fatty emulsion, containing numerous hæmatoidin crystals. This latter may come either from an ordinary ovarian cyst or from a dermoid of ovary. There is little doubt, in my opinion, but that the case is one of tumor of ovary, probably multilocular, some portions of which, at least, are dermoid.

The presence of hæmatoidin means simply an earlier hæmorrhage. Sincerely,

W. W. Gannett.

After the operation, her respiration was improved but the temperature remained about 101° and the pulse 100, but from this time on a hectic flush appeared up the cheeks and gradually the temperature rose to 103 1-2° and the pulse to 120, the respiration remaining about 40; for the last ten days she could only lie upon her back. In spite of brandy and other stimulants, strong soups, egg nogs, etc., she was perceptibly failing day by day.

On March 4th, I called Dr. John Homans in consultation, who kindly consented to gratuitously give my patient a chance for another lease of life by performing ovariotomy on her in spite of the unfavorable conditions. This he thought best to do soon, first on account of her rapidly failing health, and second, because her catamenia would be due in a week. The operation took place March 8th, and I leave Dr. Homans to relate the rest.

E. G. West, M.D.

It was evident that the patient was suffering from peritonitis and from some embarrassment in the right lung, and it was also evident that there was a cystic tumor in the abdomen. I inquired of Dr. West, and of the patient and of her sisters, whether they thought she was failing or gaining. They agreed that she was losing ground. I learned from Dr. West the story of the pregnancy, seven years before, and of his success in unloading the colon, and the relief which followed the removal of the fluid by aspiration. The case looked to me like one of ovarian cyst, with more or less peritonitis and œdema of the lung, and I supposed that, if there had been extra-uterine pregnancy, the products of conception would now be tightly encysted in a hard mass, or even cretaceous, after so many years. The question for me to decide was, whether to operate at once, or wait for her to get stronger, and have a better pulse and temperature. My experience had been that in debility and peritonitis, particularly after aspiration, time is lost, and not gained, by waiting, and patients generally go from bad to worse, until an operation is hopeless; besides, the case was evidently one of ovarian cystic disease, both in its appearance and symptoms, and from Dr. Gannett's report of the fluid. Accordingly, Dr. Pratt, at my request, kindly sent the ambulance of the Massachusetts General Hospital, and brought the patient to St. Margaret's Home. The ride was well borne, and the patient seemed to improve somewhat in the quiet and care of the Home. Dr. E. G. Cutler kindly examined the chest, and reported that the right lung was œdematous at its lower part, and that the first sound of the heart was weak. I found a trace of albumen in the urine.

I had just had two cases similar to the present one in regard to ovarian disease and peritonitis; and in one I had operated and cured the patient, and in the other I had waited and lost her, so I decided to operate on March 8th. My incision was enlarged until it measured five inches. I found an ovarian cyst, containing about five pounds of fluid, thoroughly adherent and incorporated by old and recent peritonitis to the parieties, to the intestines, and to another cyst beneath. I tried to peel off the wall of the ovarian cyst from its attachments, but my attempts were followed by hæmorrhage and laceration of the cyst-wall, which was yellow and rotten; it tore in strips, and its outline was lost. I then tried to trace the cyst-wall down to the uterus and to secure the pedicle, but I found the pelvic brim covered with peritoneum, or some other membrane, running from each ilium over another cyst in the pubic region. This cyst was brought to light by emptying the first one I had opened and sponging it out, and the tumor I now saw was either contained in the first cyst, or was distinct from it. Its wall was continuous with the bladder in front and the intestines behind. I said to the spectators that the tumor we now saw was not like an ovarian cyst, nor did it seem to be the bladder with thickened and distended walls, nor was it the uterus, although it resembled it somewhat. In color, the outer surface of the tumor was dark red, and to the touch, its walls seemed about half an inch thick, and it was filled with fluid.

This cyst was about the size of a man's head, and its covering membrane was continuous with the peritoneum of the intestines and bladder. It occupied the left side very slightly more than the right, though it was nearly central. On feeling, I could not touch a Fallopian tube, ovary, or uterus, nor could I pass my hand around the cyst into the pelvis any more than I could pass it into the thorax, without making a hole in the diaphragm. A large-sized aspirating needle was thrust into the tumor, but brought nothing out; then a large canula was put in, and about four or five pounds of greenish-yellow, thick, *very offensive* matter, looking exactly like pus, ran out. This was examined by Dr. Gannett, with the accompanying result.

Harvard Medical School, March 9, 1886.

Dear Dr. Homans,— The fluid received this morning, removed at operation from Mrs. S., is of a red[2] tint, and of the consistency of thin cream. Microscopically, it shows an abundance of fine, fat drops; numerous degenerated red blood-corpuscles; granular corpuscles (fatty degenerated); finely-granular matter; hæmatoidin crystals; an occasional nucleus. I can find no histological evidence of pus, but consider the specimen a fluid in which a fatty-granular detritus is suspended, and into which, at earlier periods, hæmorrhages have taken place. Sincerely,

W. W. Gannett.

After emptying this sac, which was one of abdominal pregnancy, I passed in my hand, and at the bottom, found all the bones of an adult fœtus completely macerated and separated. These bones were removed, washed, and dried, and are in this bottle, which I will pass around. They are a complete set of the bones of a fœtus at the eighth or ninth month of pregnancy, and were completely macerated when I took them out. Some of the smaller bones may have been lost in sponging out the sac, or in some other way, but they seem complete. The abdominal cavity was cleansed, a glass drainage-tube was put in above the fœtal sac, and the wall of the sac and the skin of the abdominal incision were sewed together. The great shock of the operation and the loss of blood in this patient, worn down by weeks or months of peritonitis and decomposition, had made the pulse very feeble. After removal to the bed, transfusion of warm salt and water into the median cephalic vein of the right arm was done, ten ounces being passed in. The patient was by no means bloodless, but I wished to see if transfusion would strengthen her. Later, in about three-quarters of an hour, Drs. F. B. Harrington and John Homans, Second, transfused thirty ounces into the left arm; but although the first transfusion brought back or induced, or, at least, was followed by a perceptible pulse of 140 to the minute, there was no real improvement, and the patient died about four hours after the operation began. No thorough autopsy was obtained. In preparing the wound for the undertaker, I found that I could not trace the walls of the rotten ovarian sac, and that the sac of pregnancy was underneath at the time of the operation. This sac rested on top of the uterus, which was adherent to it, and it seemed to have started rather on the left side of the pelvis. It was tough, and its walls were about one-third of an inch thick. The uterus was elongated and enlarged. It was tightly fixed, as were apparently all the pelvic viscera. No ovaries, tubes, nor any outlines, except those of the uterus, could be made out through the undissected tissues.

While it would be satisfactory, and would make this case more complete to have found out whether the ovaries or the tubes, or the broad ligaments, were to be found, yet practically, this knowledge would not have affected the treatment or the result. There existed a multilocular ovarian cyst and the cyst of extra-uterine pregnancy.

I can but theorize on the original relations between the ovarian cyst and the extra-uterine pregnancy. Either the pregnancy was ovarian in a dermoid ovary, or tubular, or abdominal, near a dermoid ovary. If the pregnancy was ovarian, it is easy to conceive that, as the fœtus gradually shrank, the cysts might grow until nothing but macerated bones remaining, the tumor would become, to all appearances, an ordinary ovarian one; or an ovarian cyst might begin to grow near, and become incorporated with the sac containing the fœtus. I did not feel the tumor between the uterus and rectum mentioned by Dr. West, as I never reached the lower part of the pelvis and I think it must have been thoroughly emptied by the tapping on February 25th. The duration of extra-uterine pregnancy or abdominal gestation generally comes to an end by rupture of the sac about the third month, but cases are on record where the fœtus has been carried as long as fifty-six years. I am not aware that abdominal pregnancy has been mentioned as a complication of ovariotomy, although the differential diagnosis between this tumor and an ovarian cyst has always been taught. I have several times, before and after death, seen tubular pregnancy, but this is the first case that has come under my personal observation of abdominal pregnancy in which the bones of a fœtus were found so many years after impregnation had taken place.

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[2] The fluid got mixed with some of the blood of the operation. J. H.

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REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEDGWICK MINOT, M.D.

THE extreme rapidity with which discovery after discovery follows previous discoveries in histology and embryology, renders it altogether impracticable to even attempt, within the limits of a short report, a general review. We necessarily, under the circumstances, confine ourselves to a few notices of some of the more important advances.

DEVELOPMENT OF THE SPERMATOZA.

We are now able to form, for the first time, a tolerably clear and complete conception of the development of the mammalian spermatoza. Several important papers on the subject have been published during the last year, and they have so supplemented one another, that without following any one author, we can construct a tolerably full history of spermatogenesis. Of the papers[1] cited, the most important are those of Brown, 1; Weidersperg, 2; and Biondi, 4.

The development of the seminiferous tubules in the embryo has not yet been satisfactorily ascertained; nor has the progressive differentiation of the cells of the tubules during fœtal life been properly worked out. Fortunately, in the adult, the various stages are found side by side. The first stage is the mother-cell, which appears next the outer surface of the tubule, and lies between columns of cells, in various stages of metamorphosis. The mother-cells are rounded with a relatively large nucleus, in which the chromation is distributed in a rather coarse network, as in resting nuclei. The next stage is the first step on the part of the mother-cell in the production of the columns of cells, which stretch in radical lines from the mother-cells towards the centre of the tubule. Apparently, the mother-cells divide in such a way that the cells resulting from the division are unlike, one of them preserving the character of the mother, and the other differing from it in having a relatively larger nucleus and a finer chromation network; the cell like the original one, and which we may still call the mother-cell, lies at the outer edge of the tubule, while the other, or daughter-cell, lies towards the centre. The mother-cell continues to produce daughter-cells, so that the column grows centripetally; how many daughter-cells are produced is not known. The column also grows by the multiplication of the daughter-cells, but the cells thus formed lie in the innermost part of the column; they are smaller than the first generation of daughter-cells; they have relatively large nuclei, with the chromation gathered into two or three spots — nucleoli. We thus have a column of cells, in which we can distinguish three zones: 1, The outer zone of the mother-cell; 2, the middle zone of the daughter-cells; 3, the inner zone of the second generation of daughter-cells. These zones remain more or less marked for some time, for as the cells of the inner zone change into spermatoblasts, those of the middle zone change into second daughter-cells; and as the inner spermatoblasts change into spermatozoa, the cells of the second zone change into spermatoblasts. Hence, through several stages, the three zones are marked out, and in a section, where we find the stages jumbled together alongside one another, the wall of the tubule shows the well-known division into three zones.

The spermatoblasts arise from the nuclei of second daughter-cells, and not as Brown has, I think erroneously, believed, out of the whole cell. Biondi seems to me right in his statement that the cells break down and form a granular mass or column, in which the nuclei are found. When all the cells have thus broken down, the developing spermatozoa lie in the column produced by their detritus; at the outer end of this column, the mother-cell can often be distinguished, and has been taken by many observers for the nucleus of a big, so-called supporting cell, the body of which these observers supposed the mass to be, in which the spermatoblasts are seen imbedded. The mother-cell has altered its character, especially in that the chromatin has gathered into a single spot or nucleolus, as in an ovum. The mother-cell ultimately disappears, but how is not satisfactorily ascertained.

The nuclei change into spermatozoa as follows: the chromatin gathers at one end, and makes the head of the spermatozon, and a small tail arises within the nucleus, and attached to the hump of the chromatin (head). The nuclear membrane is very distinct. It soon elongates into an oval bag, at one end the young spermatozoon head, and at the other, the remnants of the nucleus, together with a special round body, which may be obtained by chloride of gold, while the chromatin is unstained. The tail grows out beyond the membrane; the head elongates, and gradually assumes its adult form. The remainder of the nucleus undergoes certain changes of form, which are well figured by Brown. Finally, however, as shown by Weidersperg, the membrane ruptures, and it and its contents are lost, leaving the spermatozoon lying in the detritus. From this the spermatoza are ultimately liberated, and falling into the lumen of the tubule, pass off.

The series of changes may be summed up as follows:

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[1] The papers referred to are:

1. Herbert H. Brown. On Spermatogenesis in the Rat. Quart. Jour. Microsc. Sci., July, 1885, xxv., 343.

2. Gustav. von Wiedersperg. Beiträge zur Entwickelungsgeschichte der Samenkörper. Arch. für Mikros. Anat., xxv., 113.

3. Gustav Platner. Ueber die Spermatogenese bei den Pulmonaten. Arch. Mikros. Anat., xxv., 564.

4 D. Biondi. Die Entwickelung der Spermatozoiden. Arch. Mikros. Anat., xxv., 594.

5. Gustav Platner. Ueber die Entstehtung des Nebenkerns und seine Beziehung zur Kerntheilung. Arch. für Mikros. Anat., xxvi., 343.

6. Valette St. George. Spermatologische Beiträge. Erste Mittheilung. Arch. Mikros Anat., xxv., 581.

The mother-cell produces a number of daughter-cells, which also multiply by division; the daughter-cells break down, forming a column of matter (detritus), in which lie their nuclei, and at the base of which is the mother-cell; the mother-cell ultimately disappears, but how is not decided; the nuclei of the daughter-cells produce each a spermatozoon. The head and tail become visible within the nuclear membrane; the head is apparently formed by the chromatin of the nucleus; the nuclear membrane finally ruptures, and it, as well as the contents of the nucleus which have not taken part in the formation of the spermatozoon, are lost; among the last parts, is a special round body of small size, which appears in the nucleus while the spermatozoon is developing; this body is stained by chloride of gold, but not by hæmatoxyline; its significance is unknown. The long column with the mother-cell at the base has generally been taken for a large cell; it is the spermatocyst of La Valette, the supporting cell, *auct.*

THEORY OF HEREDITY.

The development of the spermatozoon in mammals as just described, show us that the spermatozoon consists chiefly of chromatin. Now it is known that hereditary transmission from the father is possible and usual; and further, it is probable that a single spermatozoon suffices for fertilization, as is known to be the case with some animals; hence it is probable that the chromatin is the material agent of hereditary transmission. The idea has been gaining ground for several years that the nucleus was the organ of heredity. This conception was, I believe, first brought forward by O. Hertwig after his observation that fertilization consists in the conversion of the spermatozoon within the ovum into a so-called male pronucleus, which unites with the nucleus of the ovum (female pronucleus) to form the permanent nucleus, the parent of all the nuclei produced during the development of the ovum. The idea of the importance of the nucleus is much strengthened by the discovery of Strassburger, that only the nucleus of the pollen grain, with possibly a very little protoplasm about it actually unites with the ovule in certain plants.

There are various observations which suggest that the nucleus has direct control over the organization of the cell, and that the essential part of the nucleus is the chromatin. We are, in fact, forced to the hypothesis that the chromatin is the physical basis in which the formative force of the organism is actually situated, and that the reason why children are like their parents is that they contain some of the same kind of, actually some of the very same, chromatin, as their parents, and therefore the same forms are reproduced because the form-regulating substance is identical. Variations occur because there is chromatin from two parents, and the two sorts of chromatin may differ in potency.

This theory renders pangenesis, both in the form advanced by Darwin, and in the infelicitous modification advocated by Haeckel and W. K. Brooks, unnecessary.

The hypothesis here given is not quite like any hitherto formulated, but is essentially similar to Weissmann's and Kölliker's. The whole subject has been elaborately discussed in a series of able essays.[2] That of Kölliker's may be specially recommended to those who wish to understand the problems without exhaustive study.

MECHANISM OF IMPREGNATION.

Science has hitherto had no explanation to offer as to why or how the spermatozoon seeks, finds and enters the ovum. We have been rather in the habit of considering it a matter of chance, and that the excessive number of spermatozoa was established to increase the chances; the suggestion is, however, hardly a tenable one, especially in the case of ova with a narrow micropyle, where chance has to hit a very small spot. On the other hand, Pfeffer's experiments lend support to the notion, which doubtless many have held, that the ova by chemical or other means exercise a specific attraction upon the spermatozoa. Pfeffer[3] found that certain chemical substances have a special attraction for certain moving vegetable organisms, for example, malic acid attracted them like light.

Dewitz[4] has observed that in the cockroach (Blatta orientalis) there is a relation between the spermatozoon and the ovum, which facilitates impregnation. The spermatozoa, which may be kept alive in 0.8–0.9 per cent. solution of common salt, are irresistibly attracted, so long as they are alive, by surfaces of any kind bounding the fluid in which they move. Upon these surfaces they move for the most part in curves, going always to the left as one looks at the surface from the side of the fluid; the movement is not quite in circles, though sometimes nearly so, but is interrupted occasionally by a straight motion, or one of greater or less curvature. Now the ovum is large, somewhat bean-shaped; the end which comes down last through the female ducts has a large number of funnel-shaped micropyles. Into the oviduct not far from its external os, opens the duct of the receptaculum seminis. It is supposed that the ovum passes by this point and immediately after causes an irritation which results by reflex action in the contraction of the receptaculum seminis so that the seminal fluid is thrown into the oviduct and on to the micropylar end of the ovum. The spermatozoa which come in contact with the surface of the ovum remain upon it moving around in leftward curves, and hence are almost certain to come across one of the micropyles, and by entering it, to penetrate the ovum. It was observed that spermatozoa placed upon the shell of an ovum do find and enter the micropyles quite readily. It appears then that the peculiar movement of the spermatoza and their tendency to follow surfaces, when matched by the modelling of the egg-shell contributes a mechanical device to ensure fertilization in the cockroach. For this species we need not assume either chance or a specific power of attraction. Dewitz's paper is valuable and suggestive; we therefore regret the more that it is two or three times as long as the matter it contains can possibly justify.

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[2] v. Nägeli. Mechanisch-physiologische Theorie der Abstammungslehre. München. 1884.

O. Hertwig. Das Problem der Befruchtung und der Isotropie des Eies, eine Theorie der Vererbung. Jena'ische Zeitschr. xviii. 1884.

E. Strassburger. Neue Untersuchungen über den Befruchbungsvorgang Heibden Phenerogarnen als Grundlage fur eine Theorie der Zeugung, Jena, 1884.

Weissmann. Ueber die Uerebung, Jena, 1884.

——Continuität des Keimplasmas, etc., Jena, 1885.

Kölliker, A. Die Bedentung der Zellenkeme für die Vorgänge der Vererbung. Zeitschr. für wissensch. Zool., xlii, 1–46.

[3] N. Pfeffer. Locomotorische Richtungsbewegung durch chemische Reize. Untersuch. aus der bot. Inst. Tubingen. Bd. 1. Hft. 3, 1884.

[4] J. Dewitz. Ueber Gesetzmassigkeit in der Ostsveränderung der Spermatozoon und in der Vereinigung derselben mit dem Ei. Pflüger's Arch., xxxviii, 658–385. Taf. iv.

GROWTH OF TISSUES.

The discovery that in most cases cells divide by an indirect process enables us to study the growth of tissues in a new way. The so-called karyokinetic figures (mitoses of Flemming), as the nuclei in process of indirect division are called, are very distinct and distinctive; and many of the stages of these figures enable us to recognize in what axis the division is taking place. Hence by the microscopic examination of suitably prepared tissues, especially of embryonic structures which are growing rapidly, we can readily ascertain in what parts the cell proliferation is most active, by merely counting the number of karyonetic figures, and we can also by noting the planes of division determine the direction of growth. It is evident that we have thus opened up to us, an important field of research, all the more welcome because we have so few ways of advancing our knowledge of growth, which is one of the fundamental and to us most obscure of vital phenomena.

A beginning in this direction has been made, which gives somewhat unexpected results in regard to the growth of the central nervous system. The first observations were those of Altmann,[5] which I know only from various abstracts. Next follow the investigations of Uskow,[6] and of Pfitzner,[7] and the incidental observations of Vignal.[8] More important are the results published by Koganei,[9] but the chief paper is that by Merk,[10] which is very excellent. Rauber, who published a short note[11] on the subject in 1882, has recently recurred to it in an article[12] not yet completed. The following may be considered as the essential results thus far reached. In all that part of the ectoderm, which forms the medullary groove, that is to say, in the walls of the medullary canal and its derivatives (especially the optic vesicles) the production of cells takes place almost exclusively during the early stages next to the originally outer surface, that is next the lumen of the canal. Not only this but the cells divide nearly all in planes parallel to the surface. Hence when the wall grows in thickness the cells move from their original sites outward. In fact the growth involves two distinct processes, 1st, the production; 2, the migration of cells. That epithelial cells move among their fellows is not a new fact; for example, Balfour has shown that part of the early growth of the ectoderm must be accounted for in that way; and Kupffer has described a similar process among the cells of the primitive streak in vertebrate ova. The layer of cells next the cavity of the central nervous system must be regarded as the matrix from which all the cells arise. In somewhat older embryos the distinction is lost and the karyonkinetic figures with their axes variously turned are formed through the whole thickness of the wall. In the youngest embryos studied by Merk the cerebellum was characterized by cell divisions going on throughout it; probably in earlier stages it was like the rest, and has merely changed its manner of growing precociously, the other parts copy the alteration later.

STRUCTURE OF THE NERVOUS SYSTEM.

There are two subjects we wish to notice under this head; 1st, the origin of the nerve fibres; 2d, the structure of the neuroglia.

It has been suggested by Hensen[13] that the nerves fibres are persistent connections left between the cells during the process of growth, but His[14] and others have maintained that the nerve fibres actually grow out from the cells of the central nervous system, (medullary canal of the embryo), to their ultimate destination. Kölliker[15] now advocates the very same view in consequence of renewed observations on the development of the nerves in the tail of tadpoles, the very object on the study of which Hensen based his view. Kölliker remarks that the number of nerve fibres and of the branches and anastomoses thereof increases with the age of the animal, they being at first so few in number that it is evident that the innervation of the most part must be developed later, there not being branches enough at first to supply the terminal organs, which are ultimately furnished with nerves. Kölliker also shows that the medullary sheaths are developed from cells of the mesoderm (embryonic connective tissue) each cell forming one of Ranvier's segments.

Our knowledge of the neuroglia has been greatly advanced by the fine researches of Gierke, which are a veritable model of laborious thoroughness. We cannot do better than condense Eberth's abstract:—"The supporting substance of the central nervous system is not to be described as connective tissue, since it is histologically and embryologically distinct therefrom. It arises from the same formative cells of the ectoderm as the ganglion cells, and consists of basal substance and of cells with their processes. The first is of homogeneous, structureless, and of soft but firm consistency. The molecules ascribed to it do not exist. Its origin is unknown; it is perhaps produced as an excretion of the neuroglia cells, or by their metamorphosis. The cells all arise similarly from the round cells of the ectoderm; some from the originally ciliated lining of the medullary cavity, but the majority undergo cornification. The protoplasm of the body of the cells and their processes and frequently, perhaps always, the nuclei also are changed into a characteristic horny substance, the neurokeratin, the change varying in the age at which it occurs and in its intensity. The nuclei may partly or wholly atrophy or change in the same manner as the cells producing unnucleated glia cells. Traces of nuclear division are not rare. The neuroglia form two layers without nervous elements, one against the inner cavities (ventricles, etc.) and the other upon the outer surface; between them is a network of glia cells, the interstices of which hold the nervous elements.

"The smaller nerve cells and the finer nerve fibres lie in the meshes of this general framework, and are sufficiently enveloped and supported by it. The larger nerve elements have special envelopes; each of the larger nerve fibres and cells lie in a felted sheath formed of glia cells and their processes. In the white substance these processes form the chief framework, but in the gray substance there is neuroglia between these special sheaths. With rare exceptions there are no cells without processes and no isolated granules.

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[5] Altmann, Ueber embryonales Wachsthum, Leipzig, April, 1881.

[6] Uskow, Arch. fur mikrosk. Anat., xxi. 293.

[7] Pfitzner, Arch. fur mikros. Anat., xx. 127.

[8] Vignal, Arch. Physiol. Norm. Pathol., Sev. iii. T. iv. p. 177 v. 364.

[9] Koganei, Untersuchungen ueber die Histiogenere der Retina. Arch. fur mikros. Anat., xxiii.

[10] L. Merk. Neber die Anordnung der Korntheilungsfiguren im Centralnervensystem und der Retina bei Natter embryonen. Sitzungsber, Wien. Akad., Bd. xcii, avth. iii. s. i.

[11] Rauber, Sitzungsber, Naturforsch Ges., Leipzig, 1882.

[12] Rauber, A. Die Kerntheilungsfiguren im Medullarvohr der Wirkelthiere. Arch. fur. Mikrosk, Anat,, xxvi, 622—644, Taf., xxxi.

[13] Virchow's Arch., 1864, xxxi, 51, and Arch. f. mikros. Anat., 1868, iv, iii.

[14] His. Ueber das Auftrehen der weissen Substarrz, etc., Arch. Anat. Physiol.; Anat., Abth, 1883, 163–170.

[15] Kölliker. Histologische Studien au Batrachierlaweu. Zeitsch. f. wirsensch. Zool., xliii. 1–40; Taf., i–ii,

"The distinction between the spongy and gelatinous supporting tissue of the spinal cord is in so far not justifiable that the structure is the same in both; the differences are only quantitative; in the spongy portion the glia cells are not numerous and their processes form wide meshes; in the gelatinous portion the glia cells are crowded together and their processes form a very fine reticulum. (Gierke gives a detailed account of the neuroglia in the different parts of the nervous system, for which we refer to the original).

"The neuroglia also forms the lymphatic channels for the lymph produced by the neural elements, and participates in the formation of the collecting spaces for the outflowing liquid. The lymph spaces are in part simple cavities in the basal substance, in part walled in by glia cells. Their beginnings are bordered by the nervous elements and the basal substance; of these beginnings, the most important are the peri-cellular spaces, which open into the perivascular channels or into the space between the outer neuroglia layer and the pia mater. The lymph-vessels proper have a separate endothelial lining."

HUMAN EMBRYOLOGY.

It would be pleasant to do full justice in this report to Prof. Wilhelm His's great work, Anatomie Menschlicher Embryonen, but our space renders it impossible to do more than indicate a few of its many excellencies and a few of the numerous results of the long continued researches of the author. The third part, published in 1885, is devoted to the history of the organs, and comprises two hundred and sixty pages of text in 8vo, and a set of large folio plates. The foundation of Prof. His's success, is his method ;— the reconstruction of the anatomy from the sections,— a method the character and importance of which was sufficiently indicated in our report for last year. By this means the anatomy of embryos, altogether too small to be dissected, may be exhaustively worked out, and by geometrical reconstructions, accurate pictures of the organs obtained. In this way Prof. His has investigated no less than thirty-two embryos, varying in length from 2.15 to 22 millimetres.

He gives a series of pictures and descriptions of the results obtained from the study of this unique series of embryos, which carry our knowledge so far that it seems to me not too much to say that owing to the labors of His, we are now more thoroughly acquainted with the anatomy of the human embryo than with that of any other vertebrate species; anterior to His's work our acquaintance with human embryology was excessively meagre. Very remarkable for their minute accuracy and beauty are the large figures of entire embryos, while the series of figures of Plate X, of normal development, supplies most satisfactorily a long-felt want.

The topics dealt with in Part III, are the development of the intestinal canal, of the mouth, nose, palate and face; the history of the pharynx, including the gill arches, tongue, epiglottis, lungs, thyroid and thymus; the disposition of the cephalic nerves in the embryo, and the metamorphoses of the heart, together with those of the aortic and venous systems; the development of the external ear, and finally that of the umbilical cord.

In each and all of these chapters are additions to embryological knowledge of fundamental importance, and often the traditional descriptions of the course of development of a part is shown to be altogether erroneous; as for instance, in the case of the thymus gland, which is traced to the ectoderm covering the posterior bronchial arches; or again, still more remarkably in regard to, the whole one is tempted to say, history of the heart. In short, Prof. His's monograph is the most important investigation in mammalian embryology since the time of Bischoff's memoirs, which were published from twenty-five to forty years ago, and I think that it has never been surpassed, perhaps never even equalled in extent and in exhaustive thoroughness and accuracy by any embryological investigation.

Another very important contribution to human embryology is Fol's description of an embryo, of 5.6 mm., published not long since in the first volume of the *Receuil Suisse de Zoologie.* A summary of the earliest stages known, is given by Minot in the *New York Medical Journal* for August 22, and October 10 and 17, 1886.

Hospital Practice and Clinical Memoranda.

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.[1]

BOSTON LYING-IN HOSPITAL, SERVICE OF DR. W. E. BOARDMAN.

REPORTED BY EDWARD REYNOLDS, M.D., *House Physician.*

The patient was a mulatto, twenty years old, and a primipara. On the 9th of February, after a normal pregnancy, she stumbled against the back of a chair and received a slight blow on the upper part of the abdomen, which, however, was followed by no pain or inconvenience.

Labor began at midnight on the 12th of February, that being the date at which she had expected her confinement. She entered the hospital at 7 A.M. of the 13th, when the following account was entered in the records. Presentation, head. Position, O. L. A. Os uteri dilated to about the size of a silver dollar. Fœtal heart 140, left and below, very loud and distinct. Pelvis roomy. Head not large. Pains moderate and regular.

Labor progressed steadily and easily. The os became fully dilated at 9.15 A.M., and the membranes were ruptured manually a few moments later.

The head descended rapidly through the pelvis and engaged in the inferior strait. Everything promised a rapid and easy normal labor, when at 9.30 A.M. the patient sighed deeply two or three times, and asked to be fanned. The lips rapidly became somewhat blanched; the pulse was rapid and somewhat feeble; the respirations became shallow and irregular, the woman complained of faintness and began to toss about upon the bed.

On examination of the abdomen, I found that at the fundus of the uterus, and especially on the right side, the breech of the child could no longer be found, but was replaced by an ill-defined mass, along the edge of which an extremity could be felt. This mass was distinguishable from the breech by its greater breadth, by its flattened form, and by a somewhat boggy sensation which it yielded to the touch. On auscultation, the fœtal heart was found to be rapid and feeble, in marked contrast to its condition but a short time before.

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[1] Read, by invitation, before the Obstetrical Society of Boston, March 13, 1886.

A rapid etherization was at once begun. During the administration of the ether its primary stimulant effect was well marked, the maternal pulse becoming full and very slow. Meanwhile the tumor increased slightly in size and distinctness, and the fœtal heart became even more rapid and feeble than before.

Forceps were applied and the child rapidly extracted, the woman's pulse failing so much during the operation as to be barely perceptible at the time of delivery.

The child was born somewhat asphyxiated, but a little slapping and the application of ice to the back of the neck provoked respiration, and it cried well without any further treatment.

The cord was twenty-four inches long, and not coiled about the child; it pulsated feebly at birth, but stopped almost immediately.

Nothing abnormal was detected in the placenta.

No blood followed the delivery, but the uterus, though followed down by the hand remained soft and larger than a child's head, and at the first effort of expression, the placenta was thrown forcibly into the bed, and a large quantity of blood was driven out with such violence that it struck the wall of the room, four or five feet distant, and covered everybody in the neighborhood.

Evidently the blood had been confined by the margins of the placenta until they were loosened by a manual attempt at expression.

Considerable post-partum hæmorrhage followed, but was readily controlled by an intrauterine injection of corrosive sublimate, 1-2500 in equal parts of vinegar and hot water.

The mother's condition was by this time very poor, the face blanched, the pulse just perceptible.

The foot of the bed was raised, heaters applied, and brandy and ether given subcutaneously; fifteen minutes later, brandy and ergot were given by the mouth, and retained.

The uterus showed a decided tendency to relax, and was guarded by the hand till nearly midnight, more than fourteen hours after delivery; ergot being given every few hours, while brandy, carbonate of ammonia, and milk and eggs were taken in small quantities every few minutes.

She slept six hours that night, and was in fair condition in the morning.

The further history of the case is that of rapid recovery. The temperature was steadily normal, she gained strength very rapidly, had sufficient milk for the child, which did thoroughly well, and was ready for discharge on the fourteenth day, mother and child well.

There were present three out of the four cardinal symptoms of concealed hæmorrhage, namely, unexplained collapse of the mother, enlargement of the uterus, and disturbance of the fœtal circulation, while the absence of the fourth sign, pain admits of explanation.

The remaining symptoms which are described as diagnostic of this accident, namely, the absence or feebleness of the pains of labor, bloody liquor amnii, and the escape of small quantities or blood or of bloody serum from the vagina, are inconstant, and only occur when the condition has been allowed to go on unrelieved for a long time, and consequently were not to be expected in this case.

This differed from most cases of concealed hæmorrhage in two particulars; first, in the occurrence of the hæmorrhage so late in labor: and second, in the absence of the intolerable pain, which is described as an almost constant symptom.

With regard to the first point, I have been able to find only one recorded case in which the hæmorrhage occurred after the completion of the first stage of labor, and in that one case, though the os was fully dilated, the head had not passed the superior strait.

I think that this fact of the occurrence of the hæmorrhage late in labor may explain the absence of pain: for the pain being of a stretching, bursting character, usually referred to the site of the placenta, and due to the overdistention of the uterus, I think it becomes an interesting question whether its absence was not due to the fact that the uterus had been already partially emptied of its contents by the escape of the head into the pelvic cavity, and could consequently allow the presence of a moderate amount of blood without undue distention.

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Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

March 13, 1886. Dr. Cotting, and subsequently Vice-President Dr. Doe, in the Chair.

Dr. Edward Reynolds reported, by invitation,

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.[1]

Dr. Boardman wished to thank Dr. Reynolds for his prompt and successful treatment of the case. The results in such cases are usually bad. In this instance the favorable result was in a manner due to the fact that the head was sufficiently low in the pelvis to admit of rapid extraction.

Dr. J. P. Reynolds said that in this case the amount of hæmorrhage was apparently limited by the margin of the placenta; if the placental margin had burst, the hæmorrhage would doubtless have been much greater. In reply to a question he said that in his experience electricity acted efficiently to make the uterus contract post partum, even when the loss of blood had been great.

EXTREME METEORISM RELIEVED BY ELECTRICITY.

Dr. John Homans, present by invitation, spoke of a case of extreme meteorism after hysterectomy, in which the abdominal distention embarrassed respiration to an alarming degree. Puncture with needles afforded no relief; and placing the patient in a half-sitting position had no effect in promoting the escape of gas upward. He then used a battery with satisfactory results, the electricity causing the intestines to contract and expel the flatus.

Dr. Blake said he not only used acupuncture of the intestines to relieve meteorism; but, when this failed, employed the aspirating pump with satisfactory results.

Dr. Boardman reported two cases of

TEDIOUS LABOR, WITH REMARKS ON ITS CONDUCT.

Dr. Strong said that he had no doubt but that life would be saved in many cases by more prompt delivery: he thought that if brandy is given before ether, the vomiting is aggravated.

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[1] See page 463.

Dr. Blake quoted Goodell as recommending more speedy delivery in tedious cases, and thought better results were obtained thereby. In his own practice if, after rupture of the membranes, the os does not dilate in from four to six hours, he uses ether and dilates the os with dilators or with the fingers. He would prefer not to use ether soon after chloral, and would stimulate in such cases before giving ether.

Dr. J. P. Reynolds said that chloral and ether could be used consecutively with good effect; but after having given sixty grains of chloral, he would wait an hour before giving ether. He thought when the os acted as it did in the cases reported, it meant fatigue and distress, mental or otherwise. In such cases he would give opium to make the patient comfortable, and would use ether in small quantities for a long time; he would dilate the cervix under ether with fingers or water bags, and when the os was dilated would use forceps. He believed in the abolition of conscious suffering, be it to use opium, ether, or forceps; and if one would not use forceps, he should at least use ether.

Dr. John Homans reported, by invitation,

A CASE OF EXTRA-UTERINE PREGNANCY OF SEVEN YEARS DURATION: OPERATION.[2]

Dr. E. G. West, present by invitation, alluded to another case of his of extra-uterine pregnancy, which had been reported to the Society by Dr. Chadwick,[3] in which the result was better, the tumor having ceased to be felt after the use of electricity. He also spoke of the great amount of fæcal accumulation in the case reported by Dr. Homans, and of the difficulty of removing it.

Dr. Lyman said that to relieve an impacted rectum no method could be better than that employed by Dr. West. When a large amount of water is used, the water passes by the fæcal mass and distends the intestine above; this distention induces intestinal contraction, and the fæces are thus forced out of the rectum.

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AMERICAN SURGICAL ASSOCIATION.[1]

THIRD DAY, APRIL 30.—AFTERNOON SESSION.

The discussion of Dr. Keen's paper was taken up.

Dr. B. A. Watson said that the thorough character of the paper left little to be said. This is a comparatively recent operation and one with which we are not as yet perfectly familiar. Very little is known of the changes to which the cure is to be attributed; that nerve stretching is advantageous in neuralgia and in certain cases of epilepsy and certain spasmodic convulsions he thought had been demonstrated. Whether the relief is due to the gross changes in the nerve, to molecular changes, or to both has not been thoroughly determined. In this particular case it would seem that elongation of the nerve possessed advantages over neurectomy. Neurotomy even in the successful cases gives but temporary relief. The relief in these cases has usually been of only a few days duration, or a few weeks, and at best, only a few months. Neurectomy has given better results and although, as a rule, the results are only temporary, the relief may continue for a number of years. In neurectomy the relief appears to have been directly proportional to the amount of nerve removed. A longer period of relief has been secured after elongation than after neurotomy. In the case reported, the neuralgia appears to have been of central origin, and it seems almost marvellous that the relief afforded should have been so great. He could only commend the paper and the operation, and particularly the means employed for finding the nerve.

Dr. W. W. Keen, referring to the question of the way in which nerve stretching produces its effects, thought that a large part of the effect was due to the gross mechanical disturbance of the nerve trunk, interfering with nerve conduction, a large element being the physiological rest which is secured to the muscle, and which at the same time aids in breaking up the vicious habit. He presumed that the nutrition of the nerve is also affected in this case, though there was no direct influence upon the centre. The relief to the facial spasm and to the beginning convulsive movements in the right side and leg, were as surprising to him as they were to Dr. Watson. Certain it is that for twenty-five days the patient had been entirely free from any inconvenience.

The discussion was also participated in by **Dr. Prewitt** and **Dr. Roberts**.

SUBCUTANEOUS DIVISION OF URETHRAL STRICTURE.

By **Dr. C. H. Mastin**, M.D., of Mobile.

The history of the operation for external urethrotomy was first considered, and next were described the various methods which have been proposed for its performance. The objections to these were then gone into at length. The main objection to most of them is that they leave an open wound in the perineum to heal by granulation.

External urethrotomy is called for only under special circumstances. It has been laid down as a rule that where water can escape through a stricture the surgeon should always by patience be able to get an instrument through the stricture. The speaker thought that there were exceptions to this rule.

The indications which render the operation necessary are:

(1) The impossibility of passing a sound into the bladder through the urethral canal, where a firm organic stricture blocks up the urethra and dilatation or internal urethrotomy is not available.

(2) In cases where a tight stricture has ruptured and an abscess has formed. Under such circumstances it is necessary to open the abscess, and it may be well to carry the incision further and lay the stricture open.

(3) Certain cases of old tight stricture complicated with urethral fistulæ through which the urine is passed in the act of urination. In almost all these cases, however, as soon as the lumen of the tube is restored, the fistulæ heal. The writer prefers internal section in such cases.

(4) A most important indication which may arise is rupture of the urethra by a blow, the effects of which are violent and severe.

(5) Traumatic stricture, that is, where the stricture is the result of direct injury to the urethra. In these cases ordinary dilatation is inefficient, and internal urethrotomy is often of little or no benefit.

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[1] Concluded from page 449.

[2] See page 457.

[3] See Vol. CXI, No. 11, page 250.

(6) A calculus impacted behind stricture may be an indication for an external section.

(7) When extravasation of urine has occurred from sudden rupture of the urethra, followed in a short time by extensive sloughing of the penis, scrotum and groin.

(8) The last indication is one in which Mr. Reginald Harrison recommends combined external and internal urethrotomy with the introduction of a large tube.

Having decided that external section is required, the question is, which operation gives the best prospects of success and is most readily performed. The claims of the various operations proposed were then considered.

The author next described the operation which he had employed with entire satisfaction since 1868. The patient being properly prepared is put in the ordinary position for cystotomy. An anæsthetic is administered. A tube, open at both ends is passed down to the stricture. This protects the walls of the urethra and puts on the stretch the face of the stricture. The tube is then filled with small whalebone probes and one after another is tried with the hope that one will enter the stricture. This being accomplished the tube and probes are removed. The probe engaged in the stricture is then pushed forward and a Wheelhaus sound carried down to the stricture. An incision one-half inch in length is then made in the anterior wall of the urethra on the groove of the sound. The sound is withdrawn a short distance and the whalebone bougie sought for as it passes through the stricture and drawn out of the original wound. Over the probe a gorget is passed having its blade upwards. This is passed downwards cutting the stricture on its superior face. A catheter is then passed along the entire urethra into the bladder and the urine evacuated. The stricture is then examined to determine whether or not any points of narrowing still remain. If so, they are divided.

If, in the first instance, it is found impossible to pass the whalebone bougie, a staff with a deep groove is passed to the strictnre and a small opening made. A whalebone bougie is then passed through the stricture and the operation is completed as in the previous case. After operation a full-sized ordinary soft catheter is introduced to the prostatic portion of the urethra, but not into the bladder. The patient is put to bed on the left side and directed to push the catheter into the bladder when the desire to urinate is felt, and to withdraw it beyond the neck of the bladder, but not through the stricture after the urine has been passed. This is used only for the first twenty-four or thirty-six hours to protect the wound from the contact of the urine. The speaker was opposed on general principles of allowing a catheter to remain in the bladder; at the end of the time mentioned the catheter is dispensed with. Immediately after the stricture has been incised and the calibre of the urethra restored, the external wound is closed with three fine pins, passing sufficiently deep to grasp the walls of the urethra. These are removed in from four to six days. In the course of eight or ten days the patient is able to return to his work. The maximum calibre of the urethra is restored by the use of graduated sounds.

The advantages of this operation are. the short time of confinement for the patient, the freedom from hæmorrhage, the quick union by primary adhesion, and the small amount of cicatricial tissue left.

DISCUSSION.

DR. N. P. DANDRIDGE, of Cincinnati, had had no experience with the operation described by the author of the paper, but with the majority of his conclusions with reference to external urethrotomy, he agreed. In regard, however, to cases of stricture with urethral fistula, he thought that unless the stricture be recent, not indurated and particularly not multiple, in the majority of cases external urethrotomy should be the rule, not denying that in some cases internal urethrotomy may be a proper operation. He believed that too much stress had been laid upon the danger of making the incision upon the floor of the urethra. In many cases there is an advantage in the incision in the floor of the urethra, for it often happens that there is found the thickest portion of the stricture. Another disadvantage is that the operation requires special instruments for its performance. Reference has been made to the rapid healing after this operation as an advantage. It is sometimes advantageous in those cases where some cystitis has developed, to leave the opening patulous for a time.

DR. DAVID PRINCE, of Jacksonville, Ill., remarked that it was with great diffidence he rose to speak on this subject on account of the small number of cases which he had treated. He had, however, seen enough cases to give him confidence in a particular method of treatment. About twelve years ago, he became aware of the power of the negative pole of a battery to resolve neoplasms, and had applied this principle with success to the treatment of stricture of the urethra. A catheter connected with the negative pole of the battery is passed down to the stricture and the circuit completed by placing a sponge electrode connected with the positive pole over the sacrum so that the distance between the two poles would be as short as possible. This treatment is frequently repeated, and in a number of cases he had obtained entirely satisfactory results.

DR. DUNOTT said that his experience in dealing with so-called impermeable or impassable stricture has not been small. He had been able to deal with them even when there was great induration, almost without exception by the ordinary internal urethrotomy operation. In fifty or sixty cases he had been compelled in but one or two instances to perform external section. He thought that the main reason that external urethrotomy is so frequently necessary is want of patience on the part of the surgeon. He believed that almost without exception where one drop of urine will pass through the urethra, a guide can be gotten in, provided the surgeon has the patience to wait for it.

DR. J. EWING MEARS offered an amendment to the by-law providing for the appointment of a committee of five, of which the president shall be chairman, to have charge of the preparation of the scientific work of each Session.

Laid over until the next meeting.

The President announced the following committee on the proposition, looking to the formation of a Congress of American physicians and surgeons: Drs. C. H. Mastin, Charles T. Parkes, J. Ford Thompson, J. Ewing Mears and N. Senn.

The officers elected were as follows:

President, Hunter McGuire, M.D., of Richmond, Va.

Vice-Presidents, T. F. Prewitt, M.D., of St. Louis, and J. W. Gouley, of New York.

Secretary, J. R. Weist, M.D., of Richmond, Ind.
Recorder, J. Ewing Mears, M.D., of Philadelphia.
Treasurer, P. S. Conner, M.D., of Cincinnati.
Council, Drs. Hunter, McGuire, John S. Billings, L. McLane Tiffany, R. A. Kinloch and Moses Gunn.
Honorary Members, Foreign, Sir William McCormac; American, Prof. Henry J. Bigelow.
Active Members elected, Drs. H. H. Mudd, of St. Louis, and Joseph Ransohoff, of Cincinnati.

Time and place of next meeting, the second Wednesday of May, 1887, at Washington.

Adjourned.

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AMERICAN MEDICAL ASSOCIATION. SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

J. F. WHITTAKER, M.D., OF CINCINNATI, OHIO, CHAIRMAN; B. L. COLEMAN, M.D., OF LEXINGTON, KY., SECRETARY.

The first paper presented was entitled,

THE ÆTIOLOGY OF DISEASE.

It was read by the author, Dr. Alfred C. Haven, of Lake Forest, Illinois.

Acknowledging the difficulty in framing a satisfactory definition, and insisting upon the essential identity of life in plant and animal, he recognized the evidences of law in the different forms assumed by protoplasm. Disease is of external origin, but may be transmitted by heredity; many of the causes have been traced to zymotic germs. In order to further science, the author recommended the performance of physiological experiment upon criminals.

In the succeeding discussion, opposing views were expressed. Dr. Wetmore, of Illinois, denied the active agency of bacteria; Dr. Bremen, of St. Louis, warmly defended it; and Dr. Lynch, of Baltimore, Md., believed that the microbes may be only the common carriers, or many of them may be the results, and not the causes, of disease. No difference can be detected by the microscope between an inflamed gland, and a scrofulous gland prior to caseation. The bacteria accompanying the caseous process in tubercle, if at all connected with it, are secondary, and not causative.

The next paper was on

THE EFFECT OF CERTAIN PHYSIOLOGICAL PRINCIPLES THAT HAVE BEEN NOTICED IN AID OF THE CIRCULATION OF THE BLOOD.

By Dr. Frederick N. Huston, of Rockland, Maine.

In the absence of the writer of the paper, it was read by Dr. Francis E. Hitchcock, of the same place. The idea of the paper was, that the cohesive force of the vessels exerted upon the blood, was an active force in carrying on the circulation. This explains the aspiration of air into a large vein when it is opened. The respiratory movements of the chest walls also draw the blood to the heart. He had found that, when giving a hypodermic injection, the danger of introducing air into a vein is diminished by directing the patient to hold his breath for the moment.

ESSENTIAL VERTIGO

was the subject of the next communication, made by Dr. L. Bremen, of St. Louis, Mo.

Apart from symptomatic vertigo, accompanying gross lesions of nervous system, stomach, or special senses, may be considered the vertigo which may occur in a person who otherwise enjoys sound health. This has been called by Nothnagel, Essential Vertigo; in the present state of our knowledge, it is to be classed with nervousness. The patient is generally, though not always, more or less anæmic-looking, debilitated, and nervously exhausted by overwork or disease. The attack of vertigo may have come on suddenly, or after certain premonitory signs, while walking, sitting, or lying down, during the day or night, often in the midst of apparent perfect health. At other times, upon the supervention of slight ailments, acute catarrh, indigestion, or other troubles of the system. The victim of the attack feels as if his full strength had dropped away from him, as if the ground were drawn from under him. He is at sea, unstable on his legs, and, as if on board a ship, he straddles, in order to enlarge his base of support, or grasps at near objects. In severe cases, he actually falls to the ground, but this is done in coördinated measure, unlike any epileptic attack. If the attack be a severe one, and the patient be not yet accustomed to vertiginous feelings, a very striking symptom is the intense terror, a vague fear of becoming paralyzed, or dropping suddenly out of existence. Generally speaking, essential vertigo comes in by spells, the whole attack lasting only a few minutes. Sometimes, however, cases occur in which the patient is unable to return to daily employment, or to do anything at all for weeks, or even months. Such patients are apt to be nervous and impressionable. A lowered tone of the whole nervous system, presenting often unequivocal neurasthenia in its manifold manifestations, is met with in all cases of confirmed vertigo, either as a cause or result, or both.

Equilibration is the result of a special mechanism, not confined to one céntre, but composed of a complex apparatus, consisting of a very different and specialized nerve element, the harmonious co-operation of which constitute the balancing power. In short, there are a number of balancing or equilibrial centres, corresponding to a number of equilibrial peripheral nerves. An injury, or functional impairing of any part of this mechanism, central or peripheral, will be followed by incoordination, that is, vertigo.

There is, consequently, a vertigo of peripheral, and one of central origin. It is the latter, which, in the absence of coarse lesions, constitutes essential vertigo. It probably depends primarily upon vaso-motor disturbances, which secondarily gives rise to weakness and irritability of the cells of the equilibrial centres. These centres, situated in the mid-brain, are nourished by branches of the basilar artery. A spasm of this artery, or any of its branches, determines impairment of nutrition, and consequently, of function of the equilibrial cells. By repeated attacks of such angio spasms, there is set up a permanent weakness of these centres. Hence the apparent aural, ocular, or gastric vertigo, in the nervously-exhausted who are free from organic diseases. Vertigo, also, may be connected with vasomotor disorder in the cerebral cortex, or in the medulla oblongata. It is also one of the commonest symptoms of structural disease of the cervical portion of the spinal cord. The form of vertigo may vary with the locality of the disturbance. In the treatment, the greatest stress was laid upon dress, diet, regulated exercise; alcohol was considered a valuable agent in palliating the symptom.

Dr. O. F. Schultz, of Mt. Vernon, Indiana, read a paper on the

USE OF SO-CALLED ANTIPYRETIC DOSES OF QUININE IN PNEUMONIA.

In typhoid pneumonia, quinine not only reduced temperature, but exercises, also, a favorable influence upon the course of the disease. He advocated early administration as soon as typhoid symptoms appear, and in most cases, it should be begun on the fifth day of disease, in doses of fifteen to thirty grains, given every evening, if the temperature be over 102°. If the heart should be weak, the dose is to be preceded by brandy or whiskey.

SECOND DAY.

Dr. S. L. Laws, of Columbia, Mo., read a communication entitled the

LIFE AND LABORS OF LOUIS PASTEUR.

which recalled the "Histoire d'un Savant par un Ignorant" of Pasteur's son-in-law.

THE DIAGNOSTIC VALUE OF THE KNEE PHENOMENON, OR THE PATELLAR-TENDON REFLEX, IN DISEASES OF THE NERVOUS SYSTEM,

was the subject of an interesting paper by Philip Zenner, M.D., of Cincinnati, Ohio.

Erb and Westphal simultaneously called attention to this phenomenon in 1875. It is present in health, and diminished or absent in posterior spinal sclerosis, anterior poliomyelitis, and neuritis. When the lumbar portion of the cord, or its nerves, are the seat of disease, it may also be absent; also in diabetes mellitus, or temporarily during chronic alcoholism, or after diphtheria.

As to the uniform presence of the phenomenon in health, authorities are not agreed. The author, after examining 2,106 persons, mostly in apparent health, found that the knee phenomenon was abolished in two hundred and eighty-one, five of whom had fully-developed ataxia, and twelve were in the earlier stages of the disease. Out of twenty-eight cases of insanity with abolished knee phenomenon, ten were cases of general paralysis, and in two, it was doubtful whether or not general paralysis was present. In many cases of general paralysis and locomotor ataxia, we have reflector rigidity of the pupils, and they do not respond to light. In 1,000 insane, 492 had rigidity of the pupils, 85 had general paralysis. Nine out of ten of the reported cases of general paralysis, had pupil symptoms; one out of two of the doubtful cases; and only two out or the eleven other cases.

The knee phenomenon, in 932 sane persons, was found absent in five only, two of whom had healthy spinal cords. He had not found it absent too often in diabetes mellitus, as some have asserted. In chronic alcoholism it is rarely absent, and can be restored by strychnine. It is not always absent in locomotor ataxia, especially in the early stages of the disease.

Dr. Joseph Jones, New Orleans, read a paper on

SOME PRACTICAL OBSERVATIONS ON THE RESULTS OF MEDICAL TREATMENT IN THE CHARITY HOSPITAL AT NEW ORLEANS, LA., DURING SIXTEEN YEARS, 1869–86.

This statistical paper did not admit of being abstracted. It dealt largely with malaria as a factor in disease production.

POTASSIUM CHLORIDE

was the subject of a brief paper by A. F. Pattee, of Boston, Mass.

After considering the different physiological relations of the potassium and sodium salts, the former being found largely in the solids, and the latter in the fluids, he dwelt upon the value of the potassium salt as a tissue food. He said that a marked increase of muscular tissue would result from the administration of twenty-grain doses of chloride of potassium three times a day. He had used it with excellent effect in anemia, giving five grains every three hours. Cirrhosis of liver, stomatitis are favorably influenced; neuralgia, menstrual headache and morbid wakefulness relieved by its use. It may be given in combination with corrosive chloride of mercury, or tincture of chloride of iron.

Dr. John A. Octerlony, of Louisville, Ky., read a paper describing a case and giving the differential diagnosis and clinical aspects of

RENAL CANCER.

A volunteer paper was presented by J. W. McLaughlin, M.D., of Austin, Texas, entitled

RESEARCHES IN THE ÆTIOLOGY OF DENGUE.

The epidemic of dengue which prevailed throughout the State of Texas during the fall of 1885, was unusual in many respects, for example, in its universality, (2) in the violence of its symptoms, (3) in its manifest contagiousness, (4) in the protracted convalescence of its subjects, (5) in its hæmorrhagic tendencies, and (6) in its numerous sequelæ.

From Galveston, located in the south-eastern portion of the State, it spread in the course of a few months to its northern border. During this time almost every city and many of the country districts within these limits, fell under the epidemic influence of this disease.

In the city of Austin about sixteen thousand cases of dengue occurred during this time, out of a population of about twenty-two thousand inhabitants. I am informed that other sections of the State suffered as severely, that is, had as many cases in proportion to population as did Austin.

Many cases where direct contagion was the cause of this disease came under the observation of the writer. There can be no doubt that by this means it was carried and spread from one neighborhood to another, and from the city to the country by infected individuals.

The violent type of the disease, the protracted convalescence of its victims, and its many sequelæ were unusually prominent in this epidemic, the first by the suddenness of its invasion, often with an initial chill, its pyrexia, its excruciating pains, nausea, and the constancy of its exanthemata. The second, by the mental and physical prostration which follows its defervescence; this often continues for weeks or months with anorexia and languor. The sequelæ most frequently observed were dysentery, entero-collitis, nephritis, bronchial and gastric catarrh, abscesses, glandular enlargements and eruptions of the skin.

It would seem from the peculiar clinical history of dengue and its epidemic character, that it is a specific disease, that micro-organisms are the source of its infection and that these micro-organisms find in the blood a suitable environment for their growth and multiplication.

In order to determine the correctness of this theory, and if possible to obtain information with reference to the ætiology and pathology of this malady, especially as medical literature is silent upon these matters, the following investigations were made. First, blood was obtained from living subjects during the various stages of dengue and microscopically examined directly, that is, without the addition of chemical re-agents. Second, after treatment with such agents, namely, glacial acetic acid, with and without dilution, caustic potash in strong and weak solutions, chloroform and ether. Third, the blood was dried upon sterilized cover glasses and subjected to the action of the various staining agents. Fourth, dengue blood obtained from living subjects was introduced into test tubes containing sterilized culture media prepared for this purpose, these were closed with sterilized cotton plugs and kept at 100° F., for the growth and multiplication of those organisms which were contained in the blood. Fifth, blood was drawn directly from the veins of a dengue subject into a series of sterilized glass bulbs united by a capillary glass tube. This was done in such a manner as to effectually guard against the introduction of all foreign germs. The series of bulbs were then put into an incubator and kept at 100°F. Sixth, the matters vomited and urine passed by dengue subjects were microscopically examined.

The following are the results obtained. In the blood examined directly or after treatment with the chemical agents named, stained or unstained, I found, often in great numbers, in the cell elements as well as in the plasma micrococci about 1-20 to 1-30 the size of the red cells, spherical in shape and red or pinkish in color, often surrounded by gelatinous capsules. I always succeeded in growing culture tubes upon the surface of the culture jelly, micrococci and no other form of bacteria, which in size, color, shape and behavior are identical with those seen in fresh dengue blood. The blood contained in the series of glass bulbs was examined; the first bulb at the expiration of six weeks, the other after three months. I found the blood to contain a pure culture of micrococci which in all respects were identical with those previously seen in fresh blood and grown upon culture jelly.

These organisms were also seen in the matters vomited in certain malignant cases of dengue characterized by much gastric catarrh and in the urine passed. In a few cases I found this to contain casts of the uriniferous tubes which were composed of these organisms held together by their gelatinous envelopes; at the end of these casts, where they were less firmly attached or cemented together, the shape, size and color of the micro-organisms were found to correspond with those seen in the blood or grown upon the jelly.

The blood used in these examinations was obtained from many different individuals at different times and places, and during the various stages of dengue. The arm or finger was first thoroughly washed and then treated with a strong solution of carbolic acid. The needle with which the puncture was made was always sterilized by heat just before it was used. The blood was carefully spread by a sterilized platinum wire upon cover glasses, sterilized by heat and then dried by passing these through the flame of a spirit lamp. As thus prepared they were subjected to acids, as glacial acetic, and to a ten per cent. solution of caustic potash, also to chloroform and ether. None of these agents exerted any destructive effect upon the organisms which this blood contained: whilst on the other hand, the cell elements or blood cells, and protoplasmic granules found in the blood, were completely destroyed. It would seem evident that if spherical bodies, uniform in size, shape, color and behavior are found in the blood in certain pathological conditions, and that these bodies can resist the destructive action of the chemical agents named that there must be micrococci, inasmuch as all the blood cells and granules are destroyed by these chemicals. Sterilized cover glasses upon which dengue blood had been dried was subjected to the action of many aniline dyes to obtain, if possible, one for which these micrococci have an elective affinity. After many trials and failures with bismark-brown, vesuvin, fuchsin, aniline-green, picro-carmin, and eosin in various solutions, I succeeded in staining the organisms with methyl-blue in a solution of caustic potash, in a prominent manner. Thus stained, the cover-glass specimens were washed in a one per cent. solution of acetic acid and subsequently in absolute alcohol, without having their color extracted by these decolorizing agents. A better picture is obtained and the relative position of the micro-organism to the blood cells is beautifully shown if this process of extraction is arrested before the blood cells are entirely decolorized. As thus stained, the blood cells are seen faintly stained, whilst their contained micrococci are deeply stained. These schizomycetes were uniformly found in the blood of about forty cases of dengue, the number from which blood was obtained. No doubt they would have been found in other cases if looked for.

CULTURE INVESTIGATION.

Miquel's lichen jelly prepared from beef broth and Irish moss was introduced into chemically clean and sterilized test tubes. These were then plugged with absorbent cotton and subjected to a temperature of 100° F. for one hour each day for seven successive days. When the jelly became solid a small quantity of dengue blood obtained in the manner described, was introduced into the test tube and brought into contact with the contained jelly. Many tubes of the culture meda were thus inoculated at various times and from many different subjects. The culture tubes were then put into an incubator where the temperature was constantly maintained at 100° F.

In every instance tubes thus inoculated showed upon the surface of the jelly at the point of inoculation a white spot elevated above the surface. When a small amount of this was examined under a higher power 1-12 H. I., objective, with Abbe's Illuminator or other suitable sub-stage condenser, showed invariably a pure culture of micrococci which in every respect are identical with those found in dengue blood.

The uniformity of these results in growing pure cultures of dengue micrococci indicates that the matter of inoculation came from a common source, that is, the blood.

These cultures were continued from test tube to test tube for a period of six months in the following manner: A test tube containing sterilized culture jelly was inoculated from one which had previously been inoculated from the blood; a third was inoculated from the second; a fourth from the third, and thus continued through many generations of the micrococci.

During this long period of time the micro-organisms bred true and the cultures remained pure.

In an abstract of this sort it is impossible to give the technique of sterilizing instruments, glass apparatus, etc., or the methods of staining and many other matters necessary to the proper appreciation of the labors performed or the results obtained in these researches, which were described in this excellent paper.

Papers by DR. S. S. TODD, of Kansas City, Mo., on

ASIATIC CHOLERA AND ITS TREATMENT BY SUBCUTANEOUS INJECTIONS OF WARM WATER,

and DR. J. B. MARVIN, of Louisville, Ky., on

PROGRESSIVE MUSCULAR ATROPHY BEGINNING IN THE LEGS.

were both read by title.

THIRD DAY.

DR. F. H. PATTEN, of the National Military Home, Dayton, Ohio, read a paper on

PNEUMONIA IN THE OLD,

which was not discussed.

DR. HERBERT F. WILLIAMS, of New York, exhibited the Pneumatic Cabinet, and read a paper on

PNEUMATIC DIFFERENTIATION.

The discussion was opened by DR. FLETCHER INGALS, of Chicago, Ill., who spoke approvingly of this method of treating pulmonary disease. The Chairman, Dr. Whittaker, also warmly endorsed this method especially for cases of incipient phthisis, who are unable by reason of want of means to make a change of residence to a region of country more elevated and salubrious than that surrounding a city home.

A paper on

MECONEUROPATHIA,

by DR. C. H. HUGHES, of St. Louis, Mo., and one on

LAWS DETERMINING SEX, DISCOVERED AND DEMONSTRATED BY ORIGINAL RESEARCH,

by DR. ROBERT FUNKHAUSER, of St. Louis, were read by title.

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THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

ANNUAL MEETING AT ST. LOUIS, MAY 3, 1886.

THE annual meeting of the Editor's Association was held at the St. Louis Club, 29th and Locust Streets, St. Louis, on Monday evening, May 3d. Dr. Wm. Porter, of St. Louis, was elected Secretary *pro tem.* in the absence of the Secretary.

The President, Dr. H. O. Walker, of Detroit, read the Annual Address. The topic selected was the consideration of some topics connected with medical journalism. He condemned the inflated circulation of specimen and free copies, as the bane of journalism, the *bona fide* subscription list should alone be taken as the evidence of prosperity of a medical journal. Many physicians neglect to subscribe for any journal because they are so liberally supplied with specimen copies as not to need any more, thus working injustice to both editors and publishers who wish to see their subscriptions increase. Regretting the necessity of publishing advertisements of proprietary remedies, attention was called to the fact that as matters now are, it is beyond the power of the editor to comply fully with the Code of Ethics in this regard. "The time is coming and even now is, when medical journalism in America, to be what it should be, in view of the status of medicine in this country, must become more distinctly a business." "The pursuit of literature and the practice of medicine are two separate and distinct callings, either one of which is sufficient to occupy to the utmost degree the capacity of any man, and when it is sought to combine with these the very diverse qualifications of the business man, the chances are that the venture in the interests of which the combination is sought to be made is doomed to failure in the beginning."

The Association next proceeded to the election of officers for the ensuing year with the following result:

President, Dr. J. V. Shoemaker, of Philadelphia.

Vice-President, Dr. Dudley S. Reynolds, of Louisville, Ky.

Secretary, Dr. William Porter, of St. Louis, Mo.

After inducting the newly-elected officers, the Association sat down to a banquet as the guests of the Medical and Library Association. This was the most successful and enjoyable session ever held by the Editor's Association, and established a precedent which will not be allowed to fall into neglect.

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THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

THIRD ANNUAL SESSION.

HELD at the Hall of the College of Physicians, Philadelphia, May 10 and 11, 1886.

The meeting was called to order at 3 o'clock, P.M., by the President, WILLIAM PEPPER, M.D., LL.D., of Philadelphia.

The president opened the session with an address on the causes and distribution of consumption in Pennsylvania. The data for this paper had been procured in correspondence with physicians in all parts of the State, and from a study of the public records where they were kept. In the beginning, the speaker referred to the investigations of Dr. H. I. Bowditch, of Boston, with reference to consumption in the State of Massachusetts. The method of Dr. Bowditch was adopted in all its essential features in the prosecution of this inquiry. The author wished the present communication to be considered simply as a preliminary report which he hoped to be able to continue to a greater degree of completeness. The physical characters of the State were then taken up. The data obtained, while not sufficient to warrant any positive conclusions, seemed to indicate that consumption was most prevalent in the counties of low altitude where the rain fall was greater, and that the number of deaths in proportion to the population gradually diminished as higher elevations with a smaller rain-fall were reached, until, when an altitude of two thousand feet was reached, the death rate had diminished to less than one per thousand.

The city of Philadelphia was separately considered. In a period of twenty-six years it was found that there had been sixty thousand deaths out of a total of four hundred thousand deaths, the rate for each year being quite uniform. The rate among negroes was over twice that of the general population. Among the foreign population the death rate was also in excess of the people at large. Deducting the deaths among negroes and foreigners, the true mortality among the American race in Philadelphia, is much lower than is commonly believed. The percentage of deaths from consumption, as compared with the total number of deaths, is by this method, nine and one-half per cent., as contrasted with fourteen per cent., the rate when all classes are included.

THE EFFECT OF HIGH ALTITUDES ON CARDIAC DISEASE,

by DR. A. L. LOOMIS, of New York.

In the summer of 1880, while at St. Regis Lake, in the Adirondacks, the author was requested to see a gentleman who had just arrived and was thought to be dying. The patient, aged forty years, was found gasping for breath, cyanosed, with no apparent radial pulse and bathed with profuse perspiration. Neither heart sound could be heard. Under the hypodermic use of digitalis, morphia and brandy, he improved. The following day it was learned that he had left New York apparently perfectly well. When he reached an elevation of one thousand feet, the breathing became difficult, and as a higher altitude was reached the difficulty was increased and was accompanied by cardiac palpitation, and a sense of oppression in the epigastrium. When he reached St. Regis Lake, at an elevation of two thousand feet he appeared to be dying. Physical examination showed well-marked dilatation of both ventricles, with a loud systolic murmur heard over the præcordia and transmitted a little to the left. At the end of three days he returned to New York. As he reached lower levels, the difficulty of breathing diminished, and when he reached New York he could walk on a level. The irregular heart action, however, continued, and the feet soon became œdematous, and he died six weeks later with general anasarca and heart insufficiency. No autopsy was made. The patient had never presented any evidence of cardiac disease prior to his trip to the mountains.

The speaker had seen in all twenty-six similar cases, the histories of five of which were given.

The second case was Mr. M., aged fifty-two years, with aortic insufficiency which had never given trouble. He started for St. Regis Lake, but when he reached his destination, the breathing was gasping in character and the pulse could not be counted. There was profuse pulmonary hæmorrhage. Digitalis was employed and gave relief to a certain extent. Examination showed enlargement of the heart, feeble irregular heart action, and absence of the muscular element of the first sound. The urine contained albumen but no casts. He returned to his home on the third day and was much more comfortable. General anasarca supervened and he died suddenly two months later. No autopsy was had.

Mrs. S., aged forty-three, had mitral insufficiency for over ten years, but never exhibited any cardiac symptoms. She went to Colorado. When she reached an elevation of four thousand feet, she was suddenly seized with extreme dyspnœa and pulmonary hæmorrhage. There was palpitation of the heart, and constriction of the chest. The following day she started on her return. As she reached a lower level she improved. Physical examination revealed extreme dilatation of both ventricles, complete cardiac diastolism, indistinct apex beat, crepitation over the base of both lungs, with feeble, or absent respiratory murmur. The patient died four weeks after her return. The autopsy showed both ventricles much dilated, old thickening and insufficiency of the mitral valve, some interstitial myocarditis and degeneration of the muscular fibre of the heart walls. The right lung was the seat of pneumonia and old infarctions. All the other viscera were in a state of extreme venous congestion.

Case IV. B., age 46, with aortic insufficiency and moderate excentric hypertrophy visited the Catskill Mountains. After a walk was seized with great difficulty of breathing, cyanosis and unconsciousness. The next day he was somewhat relieved. He returned to his home three days later. Œdema of the feet supervened, albumen and casts were found in the urine, and the patient died three weeks later. At the autopsy both ventricles were dilated. The walls of the left side were hypertrophied. The aortic valves were thickened and contracted, the heart walls were the seat of chronic interstitial myocarditis. The kidneys were cirrhotic and the lungs congested and œdematous.

Case V. H., age 26, syphilitic history and consolidation of the upper third of the right lung of one year's standing, was found to have a feeble heart, irregular in force. The muscular quality was absent. Contrary to advice, he went to an elevated place. Before he reached his destination breathing became difficult and he died seven days later.

The last case reported was that of Mrs. T., age 50. She had always been well with the exception of an attack of rheumatism ten years previously. Eighteen months before she had had an attack of cardiac palpitation which was relieved by the use of digitalis. She went to St. Regis Lake and soon complained of epigastric oppression, palpitation, dyspnœa and great prostration. Both ventricles were found dilated with a soft systolic murmur at the base. There was no marked cyanosis or œdema, the urine was scanty but contained neither sugar nor albumen. Under digitalis and stimulants she improved but in a few days the symptoms returned, vomiting came on, the pulse became more rapid and feeble. Attacks of syncope occurred, and she died three weeks after the on-set of the unfavorable symptoms. No autopsy could be obtained.

Dr. Loomis then went on to say that in all the cases coming under his observation the ventricular dilatation was unquestionably the cause of the sudden development of distressing symptoms, and that the commencement of the fatal issue seemed to be directly due to the effects on the cardiac circulation of a change from a lower to a higher altitude.

The probable explanation of these cases was then considered, the speaker first referring to the nervous supply of the heart. The quality of the atmosphere which is probably the only operative one, under these circumstance, is the diminished density.

The two important factors which lead to permanent cardiac insufficiency, are, first, the condition of pulmonary distension consequent upon rarefaction of the atmosphere, and second, the resultant condition of the circulating blood. In the first, the terminations of the vagus are excited by the distension of the lungs; by the excitation of these afferent fibres, the cardiac walls and inhibitory ganglia of the medulla are paralyzed or weakened. The inhibitory control being lost, the diastolic intervals shorten and the rhythm is increased but the amount of work accomplished is not proportionate to the visible cardiac energy. The change in the blood which acts as an important and ultimately the principal factor in producing the cardiac insufficiency is the deficiency in oxygen. The vaso-motor centres influenced by the want of oxygen in the blood supply, excite a general contraction of the arterioles of the body, filling the veins and affording a large heart supply while the arterial pressure rapidly rises as the peripheral resistance is increased. Ordinarily the heart would relieve itself by excitation of the cardio and vaso inhibitory centres, but these centres are held in abeyance by the condition of the blood circulating in the medulla. This increase in the intra-cardial pressure cannot continue, and sooner or later the heart passes into a state of diastolic relaxation which is the primary step of a condition of ventricular dilatation. It is not improbable that the blood heavily laden with carbon-dioxide also acts as a disturbing factor of the normal action of the heart through this same afferent mechanism.

If the explanation of the effects of high altitude upon the cardiac circulation be accepted, the risk which one with even slight cardiac insufficiency runs by passing from a lower to a higher altitude, is certainly very great, and if the insufficiency is extensive, such changes become immediately dangerous. It must be remembered that cardiac insufficiency may exist in those who give no evidence of it.

Clinically, the speaker relied upon what is termed the muscular element of the first sound of the heart, in determining the condition of the muscle-walls. He gave the reasons for supposing that one portion of the first sound was dependent upon the muscular contraction of the heart. The absence of this element of the first sound indicates a failure in the integrity of the heart power, which would lead him to advise such a one against passing rapidly from a lower to a higher altitude. Clinical experience had also convinced him that it was unsafe for one to make such change whose cardiac rhythm was greatly disturbed by nervous excitement, or by rapidly ascending a long flight of stairs.

Dr. Frank Donaldson, of Baltimore, read a paper entitled.

A PRELIMINARY ACCOUNT IN REGARD TO CIRCULATORY AND RESPIRATORY CHANGES OBSERVED IN ANIMALS PLACED IN THE PNEUMATIC CABINET.

The experiments had been performed by Prof. H. N. Martin, of the Johns Hopkins University, and the writer. The animals employed were rabbits which had been chloralized. It was found:

(1) When the animal is breathing air from outside of the cabinet, rarefaction of air within the cabinet causes a marked fall of general arterial pressure, but has no influence on the pulse rate. The fall of pressure lasts only a short time (ten to twenty seconds), and is often followed by a temporary rise above the normal.

(2) This fall of systemic arterial pressure depends on two factors: greater flow of blood to the skin when the air around the animal is rarefied, and greater accumulation of blood in the lungs when they are distended.

(3) Of these two factors, accumulation of blood in the lungs is the more effective, for if the animal breathes air from the cabinet, and not from the outside, rarefaction of the air within the cabinet (in this case, accompanied by no special expansion of the thorax) has but a trivial effect in lowering arterial pressure.

(4) When the animal is breathing external air, rarefaction of the air within the cabinet usually has no effect upon the respiratory rate, nor upon the extent of individual respiratory acts, unless the fall of blood-pressure be considerable. If it be considerable, symptoms of anæmia of the medulla oblongta show themselves. In some cases, there is more forcible dyspnœic breathing, and in some, dyspnœic convulsions similar to those which occur when an animal is bled to death, and due to the same cause, namely, deficient blood flowing through the respiratory centre.

(5) The rapid recovery of general arterial pressure while the animal is still in a rarefied atmosphere, but still breathing external air, is probably due to excitation of the vaso-motor centre, which, as is well known, is excited whenever the blood supply is defective.

(6) The brain enclosed in a rigid box, which is practically unaffected by variations in the atmospheric pressure, has its circulation more disturbed in the pneumatic cabinet than any other organ, with the exception of the lungs.

(7) Compression of the air within the cabinet while the lungs are in communication with the external air, causes a considerable transient rise of blood-pressure. This is probably mainly due to the forcing of the blood from the cutaneous vessels, but there has not yet been sufficient time to thoroughly investigate this point.

(8) Compression of air within the cabinet while the lungs are in communication with the external air, slows the pulse as the arterial pressure rises. This is probably due to excitation of the cardio-inhibitory centre by increased intra-cranial blood-pressure. Further experiments are, however, necessary before this can be positively stated.

(9) In certain cases, when the air within the cabinet is rarefied, and the animal is breathing external air, the respiratory movements cease altogether for several seconds. As to the cause of this physiological apnœa, we are not yet ready to form an opinion. It may be due to extra accumulation of air in the alveoli of the lung, or to distension of the lungs, exciting those fibres of the pneumogastric which tend to check inspiration.

DISCUSSION.

The President. Not only in the class of cases described by Dr. Loomis, but also in cases of cardiac disease originating in high altitudes, have I observed the grave consequences which followed. A small amount of organic lesion, under such circumstances, produce very serious symptoms, even preventing the patient from assuming the erect posture.

Dr. E. D. Hudson, of New York. It seems to me, that the effect of high altitudes upon cardiac disease is not unlike its effect upon consumption. A consumptive patient who rapidly goes into these heights, is liable to suffer with hæmorrhage, but by a gradual transition, no unpleasant effects are produced. I think that heart disease is not prevalent in high altitudes, and that the tonicity of the heart is really increased, so that such persons are better able to withstand fatigue than those of a lower level. The recognition of the importance of the point to which Dr. Loomis has called attention, will, no doubt, result in the saving of many lives. Still, when necessary, we should not be deterred in sending patients to high altitudes, taking care that sufficient time is spent in the transition, so that the circulation may gradually adapt itself to the change in altitude.

Dr. Loomis. My opinion is, that a normal muscle with normal innervation, will resist any amount of pressure. There is no danger to a good heart, whose nervous condition is normal. If such individuals suffer, it is only temporarily. It seemed to me, that the cases were best explained on the ground which I have taken. If physiology shows that there is an anæmic condition of the nerve-centres under these conditions, the explanation will be perfectly clear. I do not maintain that it is dangerous for a man a little out of health to go into high altitudes, provided the heart walls are normal. After fifty years of age, the condition of the heart walls is uncertain. The more I study heart disease, the more I am convinced that it is not so much the valvular lesion, as it is the condition of the cardiac muscle. This high altitude is only one of the causes of over-distension of the cardiac cavities. I do not believe that it is safe for any man with arterial degeneration or dilatation of the ventricles, to take the chances of going into a high altitude, or taxing his heart beyond a certain limit.

EVENING SESSION.

A CLINICAL REPORT OF CASES TREATED BY PNEUMATIC DIFFERENTIATION.

By Dr. H. F. Williams, of New York, with the assistance of Mr. Ketchum the inventor of the apparatus, a demonstration of the working of the pneumatic cabinet was given.

The speaker then reported forty-five cases in addition to those previously reported in which he had used the cabinet as a method of treatment. Sixteen cases were reported in detail.

This was followed by a paper entitled:

TEN MONTHS' EXPERIENCE WITH PNEUMATIC DIFFERENTIATION,

by Dr. Vincent Y. Bowditch, M.D., of Boston.

The speaker gave the clinical results of the treatment in twenty-seven cases since June 30th, 1885. Pulmonary phthisis in its tubercular and non-tubercular forms; bronchitis in its acute and chronic forms, with and without emphysema or asthma, and retraction of the lung from long standing pleuritic effusions, were the diseases which he had treated in the pneumatic cabinet. His experience was such that although be had been unable to accomplish thus far such brilliant results as some others had claimed, yet he felt convinced of the very marked beneficial effect of the cabinet in many cases where other means had failed to give relief, and of its curative power in one case of incipient tubercular trouble, and he looked forward with hope to what may be done in the future with this new method of treatment. The speaker said his chief desire was that the profession should investigate the matter thoroughly and with fairness and publish their results, for by this means only can a just estimate of the merits of the treatment be established. He felt that it should be entrusted only to a physician's care or to that of a reliable assistant, and that if placed in hospitals the most accurate methods of recording cases should be insisted upon before allowing the cabinets to be used. Carelessness of investigation in the present stage of its existence might do infinite harm to a method which may prove when properly used of infinite service.

The following table was given, showing the percentage of cases in which benefit had been accomplished:

19 + % of all the cases treated received no benefit.
23 + % of all the cases treated received very slight, moderate or temporary benefit.
46 + % of all the cases treated received marked benefit (for varying periods.)
7 + % of all the cases treated received remarkable benefit.
3 + %
One case of incipient tuberculosis was cured.

THE PHYSICS AND PHYSIOLOGICAL ACTION OF PNEUMATIC DIFFERENTIATION,

by Dr. I. H. Platt, of Brooklyn, N.Y.

Pneumatic differentiation is the process by which the air surrounding the body and that entering the lungs is rendered of different densities. There are three forms which for convenience may be designated, positive, negative, and alternative. I propose to consider chiefly positive differentiation, which is the form in which the air surrounding the body is of less pressure than that entering the lungs, the apparatus introduced to the profession by Dr. Williams and known as the pneumatic cabinet is the most convenient for applying this treatment. As the difference in pressure used is very slight, seldom exceeding that indicated by a fall of one inch of the mercurial column, the absolute change in air pressure is an insignificant factor, the essential element being the differentiation.

The effect of reduced air pressure upon the periphery of the body is to increase the expansion of the thorax in inspiration and to diminish its contraction in expiration, consequently to increase the amount of residual air. By the increased pressure in the lungs it will tend to exsanguinate them and to raise the arterial blood pressure in the general circulation.

Two of the claims put forward by Dr. Williams and Mr. Ketchum, I believe to be unfounded. The first is that the effect of removing a slight degree of pressure from the periphery of the body is radically different from that of increasing the pressure of the air entering the lungs, the former acting as a *vis a fronte*, the latter as a *vis a tergo*. One of the most elementary principles of physics teaches that suction is not a force operating from in front, but is merely the removing the pressure from one side of a body and allowing the undiminished pressure to act upon the other side. It makes no difference whether pressure is taken from the outside of the thorax or added to the inside; in either case it is the unbalanced pressure which causes the increased expansion. The other proposition which I combat is that the spray or vapor used in conjunction with the differential process can be carried further into the air passages or more thoroughly condensed upon them than a spray or vapor could be under normal conditions. It cannot be carried so far for the reason that the residual air is increased and consequently the inspired air which carries the vapor or spray cannot penetrate so far. It is claimed that the vapor of medicinal substances is condensed in the lungs during the differential process by the compression consequent upon the commencement of the expiratory act. This is impossible, first, because compression only acts to condense a saturated vapor and the air passages cannot be saturated with the vapor of a medicinal substance, and secondly, because no greater compression is produced at the commencement of the expiration under the influence of differential pressure than under other circumstances. Such compression as does occur is due to the resistance offered by friction of the bronchial tubes and by the narrow opening of the glottis, and it is impossible that these should be affected by the differential pressure.

I believe that such benefit as results from the use of the cabinet is due mainly to the reduction of congestion in the lungs by the air pressure within them and by the increased expansion and movement of the lungs favoring their greater action and modifying their nutrition.

(To be continued.)

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THE ARRANGEMENT OF MUSEUMS OF ANATOMY.

THAT the anatomical museums of our medical colleges are far from what they should be is a rule to which we fear there are but few exceptions. Perhaps one of the best criteria of the merits of a professor of anatomy is the collection that is, or should be, in his charge. As a type of a collection which was well nigh perfect, as far as it went, we would mention that of the late Professor Jeffries Wyman, which in his lifetime was at Boylston Hall at Cambridge. As an instance of a great one which may well serve for a model, we have no hesitation in naming that of the Royal College of Surgeons known from its founder as the Hunterian Museum. We believe that Dr. Shufeldt of the United States Army is much of our opinion. He has written a paper on the "Outlines of a Museum of Anatomy," which has been published at the recommendation of the Bureau of Education. The work is evidently the result of much study, and deserves careful perusal, which it is the more likely to receive that it is very readable. Dr. Shufeldt has the courage of his convictions and writes with vigor if not always with judgment. We agree with him so fully on many points that when we must criticize we do so unwillingly.

We are quite in accord with his condemnation of the abominable jumbles of specimens which by courtesy, or rather by flattery, are called museums. Every specimen should be so mounted that it can be seen and should teach something definite. Casts, models, photographs, microscopic slides all have their usefulness. The suggestion of series of specimens put away in drawers to be reserved for special students is a very good one.

The plan of arrangement is, of course, of primary importance. Dr. Shufeldt well says: "The chief aim of the collection, as a whole, is to present to the mind of the student or visitor as clear a conception as possible, so far as our knowledge goes, of the subject of morphology, or the structure of animal forms, in all its bearings, and to the full extent to which our ingenuity will carry us, the fundamental principles of physiology." He then continues: "To do this in a proper manner, every specimen or series of specimens must be arranged throughout, wherever it can be conveniently accomplished, in accordance with our present understanding of the laws of evolution and consecutive development." He declares that he would no more think of attempting to demonstrate the truth of evolution than he would Newton's law of gravitation. He will not even define its laws, which certainly is an oversight, when he quotes among the defenders of evolution scientists who differ so widely as Haeckel and Mivart. That they both believe in transformism is true, but evolution as professed by either is widely different from the evolution of the other. It seems to us a serious scientific error to maintain that evolution is a demonstrated fact. A working hypothesis is one thing; an established truth another. It must be admitted that Dr. Shufeldt shows signs of a lively and unbridled imagination, as the following passage on the future of medicine attests. "So far as the treatment of human disease is concerned, I must believe, that if at any time in the infinite future — so infinite that present man may have assumed other shapes — disease is to be eliminated, it will *not* be through the agency of drugs, but through acumulative knowledge of the intimate structure of organic forms, of cell function in physiology, and of the relation of life to its environment, and through the results of such a perfected knowledge finally in constant practice."

The second law for the arrangement is "that in order to obtain a correct knowledge of the anatomy of any form we must have a general conception of the structure of all other forms in nature, and, as near as possible, an exact knowledge of those more nearly related to any special one we intend to study." While endorsing this heartily we find ourselves compelled to dissent from the very first application of it. "Medicine and surgery progress and become perfected *pari passu* as our knowledge of pathology increases; our knowledge of pathology rests entirely upon our knowledge of physiology, and, as a rule, advances with it; we cannot know physiology unless we know structure, and in the case of man our knowledge of his structure only advances as our knowledge of the anatomy of other animals and the significance of general morphology becomes more complete. Consequently the progress of medicine and surgery depends through all time upon the extent of our knowledge of general morphology, or organized forms upon the earth." On the other hand, it must be said that experience by no means confirms these claims. Medicine is an art as well as a science. At the beginning of this century we knew nothing of the physiology of the nervous system, and still know very little of it. Yet all physicians of the past were not fools. *Vixerunt fortes ante Agamemnona multi*, and excellent practitioners who never heard of amœboid motion.

This is somewhat of a digression which we have allowed ourselves in order to give evidence of the empire that theories have gained over our author's mind.

Let us return from it to the main question, namely: what effect will his theories have on a museum arranged in accordance with them. The answer to this depends not on the arrangement alone, but chiefly if not wholly, on the descriptive labels and charts. Thus in the list of apes taken from Haeckel we find the Pithecanthropus (alalus) the ape-like or speechless man. When this interesting specimen is found, we would have it put in its proper place, but we protest against being called upon to accept him as a certainty in the meantime. Such a course inevitably involves a warping of the facts to suit the theories. A museum should "hold the mirror up to nature." We see in nature series of organisms in ascending and diverging lines, which moreover show curious cross relations that are not to be expressed by the ordinary family-tree diagram. It is hard, however, in a museum to improve on it, and we feel sure that a collection arranged according to Dr. Shufeldt's ideas would be a most admirable one were he only willing to stop at what we know. Most instructive are series of homologous parts and series of organs having the same function, be they homologous or not.

As Dr. Shufeldt fully realizes the imperfection of our knowledge, he should agree with us that the best plan is the one that will most easily admit of modification. This will be the one that keeps closest to nature. There we see successive grades and complicated affinities; why not represent them as well as possible and leave theory to take care of itself?

Professor Burt Wilder discussed what is practically the same question in an address before the Section of Biology at the meeting of the American Association for the advancement of Science held at Ann Arbor last summer. Though full of enthusiasm for Darwin, he thinks that the candid teacher should place among series one that should show what he guardedly calls the so-called difficulties of Darwinism. Professor Wilder speaks as one who from long experience knows well the needs of the student. We have devoted so much space to Dr. Shufeldt that we regret we cannot do justice to Professor Wilder, but we suspect that, except in the matter of labels and catalogues, they would agree wonderfully well in the arrangement of a museum, and we will add, that if the rule we have already indicated be observed, there is no room for serious disagreement among good anatomists. The only one of Professor Wilder's rules that we can refer to is that a museum should exhibit not only facts but ideas. To this we heartily subscribe, and in so doing by no means contradict what we have written. It is illustrating an idea to place, so that they may be compared, the separate bones of each part of the fore and hind limb of the same animal; or to put in a series, as Dr. Shufeldt proposes, bones and models of the pectoral limb of the bat, archœopterix, bird and pterodactyl. But let it be remembered, an idea is not a theory. Indeed, in a sense an idea is a fact. No one, for instance, dreams of denying the homology between these structures. A museum without ideas would be dry indeed.

URETHAN — ANOTHER NEW HYPNOTIC.

Urethan is the carbonate of ethyl, or the ethylic ether of carbonic acid ($NH^2 CO^2 C^2 H^2$). It presents itself in the form of colorless, rhomboidal crystals, which are very soluble in water, ether, and alcohol; its taste is somewhat pungent, but not especially disagreeable.

The hypnotic properties of urethan were discovered last year, by Schmiedeberg, of Strasburg; it was studied, almost at the same time, in its action on animals, and on man, by Jolly, Von Jacksch, Riegel, and Stricker. In the dose of eight to fifteen grains, it has been found capable of speedily producing a tranquil sleep, which is not followed by the headache and hebitude which so often succeeds the use of opium preparations.

Eloy has performed numerous experiments on hares and guinea pigs by hypodermic injections of urethan. It was found that large doses are not toxic, or but slightly so, while producing a fall in the temperature, diminution of sensibility and motility, torpor, and profound sleep; the latter, after a large injection of three grammes, has sometimes lasted all day. Nine grammes administered subcutaneously to a hare, did not cause the death of the animal. Like chloral, urethan is a violent local irritant, and subcutaneous injections are followed by vesication.

Huchard, physician to the Hospital Bichât, has published in the *Bulletin Général de Thérapeutique* for February 28th, the results of his clinical experimentation with this new hypnotic. He has given urethan to fourteen patients, all suffering from insomnia in different degrees, and affected with divers maladies (Hodgkin's disease, with angina pectoris; Basedow's disease, with aortic insufficiency and pulmonary tuberculosis; parenchymatous and interstitial nephritis; chronic pulmonary tuberculosis, etc.). All these persons, except two phthisical patients with pronounced dyspnœa and incessant cough, he reports as having obtained from rather large doses of urethan (forty-five to sixty grains), calm and quiet sleep, which was free from dreams and nightmare, and was not followed by digestive or cephalic troubles. Sleep came on in from ten minutes to an hour after the administration of the medicine, and lasted from five to ten hours. It was, in one instance, observed that after taking one dose of urethan, the patient slept better than usual for several successive nights.

Huchard has given urethan in grain doses, every two hours, to young infants, kept awake by acute disease, and with the happiest results. In the patient affected with Hodgkin's disease, with outbursts of acute aortitis, causing severe dyspnœa and rebellious insomnia, he succeeded in procuring relatively quiet and easy nights by three-gramme doses of urethan; in this case, hypnone and morphine had failed. A child that was constantly harassed by the teasing cough of quick consumption, and an aged female suffering from bronchial catarrh, were given comfortable nights by doses of urethan, varying from two to four grammes.

Huchard adds that the insomnia of alcoholic, phthisical, and cardiac patients, was effectively relieved by urethan. He has never seen any ill effects from this medicament on the part of the stomach, heart, or nervous system. In insomnia caused by pain, it has no more efficacy than chloral or paraldehyde. He concludes, from thirty-two administrations or this medicament to the fourteen patients aforesaid, that urethan is destined to a permanent place in the therapeutics of the future, having feeble toxic power, being very soluble in water, of not unpleasant taste, and being unattended by bad after-effects, and that it will be especially serviceable to cardiac and phthisical patients.

In this country, urethan has been tested to some extent, and it is fair to say that it has sometimes proved disappointing. Its inefficacy, in some instances, may, of course, have been due to the quality of the article.

A DAY'S WORK AT A METROPOLITAN HOSPITAL.

FEW persons who have not had personal experience in the matter, can have much idea of the work that may be crowded into a single day in one of our large hospitals. To be always ready to receive and care for, without friction, any number that may be in need of medical or surgical aid, requires constant forethought. A list of the admissions for a single day at the Boston City Hospital, illustrates very well the wide range of cases its physicians and surgeons are called upon to treat, and the extent of Boston's charities.

On Tuesday, March 23d, the following cases were admitted to that institution: Facial erysipelas, two cases; pneumonia, three cases; measles, rheumatism, diphtheria, pleurisy with effusion, pelvic cellulitis, retroversion of uterus, vertigo (cause undetermined), one each; fracture of shaft of femur, two cases; abscess, with disease of shoulder-joint, two cases; fracture of neck of femur, fracture of both bones of the leg, stricture of urethra, axillary and sub-pectoral abscess, subcutaneous abscess, ischio-rectal abscess, sprain of ankle with fracture of rib, compound fracture of toe, compound fracture of skull, with trephining, burn of penis from sulphuric acid; burns of thighs and buttocks, incised wound opening joint of toe, ulcers of leg, drowning, malignant tumor of bladder, one case of each.

Of these, only one case of facial erysipelas died, (although five others were reported dangerously ill) and one was discharged as incurable. The number discharged on the same day was fourteen.

Of course, this list is not always equalled. The daily average of admissions from April 9th to May 10th (exclusive of Sundays), was 17.5.

VANILLA POISONING.

IN connection with about twenty cases which have occurred lately where persons have been suddenly siezed with severe attacks of vomiting and purging shortly after having partaken of vanilla cream pies and cakes made by a certain baker in Boston; any possible explanation of the cause is of interest.

In these, as in the numerous other cases reported in the *London Pharmaceutical Journal*, of April 1874, the presence of irritant metallic poisons and of ptomaines has been searched for in vain. In the Berlin cases only certain individual foods had proved to be poisonous. In a number of the *Repertoire de Pharmacie* for 1880 M. Jaillet in an article upon the cultivation and preparation of vanilla says, that in the Island of Bourbon the Jatropha curcas, or physic-nut tree, is by preference grown as a support for the vanilla vine to run upon, because of its easy, rapid growth, and abundant milky juice well adapted to the nutrition of the vine.

It had been thought by some that this fact might explain the poisonous effect of some vanilla, supposing that the acrid sap of the jatropha had been absorbed by the vanilla vine. Under what circumstances, however, this absorption takes place is not explained, nor why it is of but exceptional occurrence.

There is this curious circumstance concerning all hitherto reported cases of vanilla poisoning, that it has resulted only with articles of food which were not consumed while hot, but were either of the natural temperature or else unnaturally cooled. On the other hand, vanilla is extensively used in the preparation of chocolate and teas as well as sauces and other articles which are taken while hot; but when thus used it has never been followed by symptoms of poisoning so far as reported. Hence that manner of use, at least, would seem to be always safe, and the fact would rather support the idea that the trouble results from some product of decomposition.

MEDICAL NOTES.

— A number of cases of Asiatic cholera with several deaths have occurred very recently in various Italian cities. The disease appeared first in Brindisi, and shortly afterwards in Venice, and other towns of Northern Italy.

— Hon. Robert T. Davis, M.D., of Massachusetts, delivered, in the House of Representatives, April 29, 1886, an eloquent speech in support of the action recommended in the majority report of the Committee on Commerce, favoring the sending off of an expert commission to Mexico, and, if necessary, to Central and South America, to investigate the method of Drs. Freire and Carmona for the prevention of yellow fever by inoculation.

— The anarchists who pillaged a drug store in Chicago last week, met a swift and terrible retribution. They partook freely of Vinum colchici, under the impression that it was sherry, and eight or more were killed. It is supposed that many more suffered from the poisoning than were reported through the press.

—" Mere corroborative detail, intended to give artistic verisimilitude to a bald and unconvincing narrative," is what, to use a Gilbertian phrase, appears to be the purpose of a highly spiced picture in the *Police Gazette*, to which our attention has been called, illustrating (?) the female invasion of the operating room at the Boston City Hospital. The bald and possibly unconvincing narrative has already been laid before our readers. The "corroborative detail" shows the figure of a young man naked to the waist, and modestly draped below in a sheet, lying upon a table which reaches about to the height of the surgeon's knees. A handsaw rests upon the table in suggestive juxtaposition to the patient's neck and what seems to be a set of ordinary carving utensils hang in a rack upon the wall. The surgeon, with forbidding gesture, wards off the ladies from their prey.

— A recent writer in the *Lancet*, speaking of insidious cases of pneumonia, says that the "number of instances in London alone, where people are found in the streets dead or dying of pneumonia in an advanced stage, yet which has never been suspected, is not small. Hospital practice, though it gets a share of these cases, does not adequately represent their frequency. For that, we must go to Poor-Law infirmaries and coroners' inquests. And not only is this true of what is absurdly called 'latent pneumonia,' it is true of the acute disease as well, as the following example shows. A workingman of middle age, well proportioned and developed as to his frame and muscles, who had been feeling out of sorts for some days, was yet able to take active part in a meeting for political discussion, ending with whiskey and water. On his way home, he met with a fatal accident, falling headlong down some stone steps and fracturing his skull. *Post-mortem*, part of his right lung was found to be solid, and on section and microscopic examination, it proved to be a specimen of typical malevolent pneumonia, probably in course of resolution."

BOSTON.

— At a meeting of the Bostonian Society held last week, there was presented a prescription of Dr. Joseph Warren, which was issued by him in the year 1775, the same year of his martyrdom at Bunker Hill, to James Pitts, a member of the Council of Governor Hutchinson, the last of the Provincial governors. The prescription recommends him to "take a volatile tincture of granicum in the most convenient vehicle." Mr. Pitts was a zealous laborer in the cause of independence with his sons, one of whom was a member of the famous "tea party." The tincture of granicum apparently did not effect a radical cure of Mr. Pitts's malady, for he died about six months after his physician.

— A short time since some eight horses were killed at the stables of the Cambridge Horse Railroad by order of the cattle commissioners, as having glanders. Considerable complaint having been made by the friends of the road that this action was an unnecessary interference with their property, and that the horses had not the disease, some of the suspected organs were sent to Professor Lyman of the Harvard veterinary school, who has written a letter to Dr. Very, in which he states that, from the examination of certain tissues said to have been taken from horses belonging to the Cambridge Railroad, which were recently killed, he was "unable to say that they did or did not have the disease known as glanders. The specimens sent to him were in a badly decayed state, so as to be of no value in a pathological sense."

— At the annual meeting of the Norfolk District Medical Society, held May 11, the following officers were elected: President, Dr. Wm. P. Bolles; Vice-President, Dr. G. D. Townshend; Secretary, Librarian, and Reporter, Dr. S. Allen Potter; Treasurer, Dr. Edward G. Morse; Commissioner of Trials, Dr. Joseph Stedman; Nominating Councillor, Dr. Edward T. Williams; Censors, Drs. Harold C. Ernst, Eugene F. Dunbar, H. W. White, Henry W. Broughton, Sarah M. Crawford; Councillors, Drs. George E. Mecuen; Orville F. Rogers, Joseph G. S. Hitchcock, Henry H. T. Mansfield, John H. Richardson, Edward T. Williams, Isaac H. Hazelton, George W. Clement, John W. Chase, Edwin L. Farr, George K. Sabine, George D. Townshend, Charles A. Bemis, Charles F. Withington, George O. Allen.

NEW YORK.

— The New York State Dental Society, in session at Albany, on May 13, elected Dr. Norman W. Kingsley, of New York, President; Dr. B. Rathburn, of Dunkirk, Vice-President; and Dr. J. E. Line, of Rochester, Secretary.

— Typhus fever has broken out among the inmates of the Deborah Nursery, a Jewish charitable institution in East Broadway, and quite a number of children affected with it have been transferred to the hospital for contagious diseases on North Brother Island. The cases, as a rule, are not serious, and all are said to be doing well.

— Mr. Bartley Campbell, the dramatic author, who is presumably suffering from progressive paresis, has been committed to Bellevue Hospital for an examination of his mental condition. In the court-room he incidentally remarked that he had had a visit from Shakespeare, and that he had seen the spirit of the late John McCullough.

— A fatal case of hydrophobia has just occurred in Brooklyn. The patient, who was a prosperous builder, was a native of Germany, and was forty-seven years of age. He was bitten on March 6, by a Newfoundland dog belonging to a neighbor, but which was the constant playmate of his children. The dog was noticed to snap at persons passing along the street, and when he attempted to lead it home by the collar, it turned and bit him on the hand. The wound was promptly cauterized, and the dog was killed two days later.

— The Annual Commencement of the College of Physicians and Surgeons took place in Steinway Hall, on the evening of May 13; when the degree of M.D., was conferred by the President, Dr. John C. Dalton, on ninety-seven graduates. The usual prizes were announced, and the Alumni Association of $500, for an essay showing original research, was awarded to Dr. William G. Thompson, for his essay "The Application of Instantaneous Photography to the Study of Physiology and Therapeutics." The Joseph Mather Smith prize, of $100, open to all Alumni, was also awarded to the same physician. The address to the graduates, as previously announced, was delivered by Gen. Horace Porter; and in commencing it he stated that he had in his youth determined to be a doctor, but had been turned aside from his resolve and became a soldier. He did not know, he went on to say, in which capacity he would have been most destructive to the human race.

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Miscellany.

TABLE OF TYPHOID MORTALITY IN BALTIMORE.

The following comparative table shows the number of deaths annually during a period of eleven years, 1875–1885 inclusive, from typhoid fever, native and foreign, males and females, in the City of Baltimore; this table is compiled from 88,577 certificates of death from all causes, as received by the Health Department during said period.

Year.	U. S.		U. S.		Foreign.		Totals.		Grand Totals.
	White Males.	White Females.	Colored Males.	Colored Females.	White Males.	White Females.	Males.	Females.	
1875	65	45	18	17	18	16	101	78	179
1876	53	56	10	12	26	21	89	89	178
1877	64	65	19	22	23	17	106	104	210
1878	59	58	13	21	10	15	82	94	176
1879	52	51	16	15	16	16	84	82	166
1880	48	70	20	19	22	17	90	106	196
1881	58	54	17	29	23	16	98	99	197
1882	53	54	16	15	15	17	84	86	170
1883	37	34	9	10	25	11	71	55	126
1884	55	31	9	18	25	13	89	62	151
1885	70	35	8	11	20	11	98	57	155
Totals,	614	553	155	189	223	170	991	612	1,904
Yearly Average.	55 9-11	50 3-11	14 1-11	17 2-11	20 3-11	15 5-11	90 2 11	82 10-11	173 1-11

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DIPHTHERIA TREATED BY THE GALVANO-CAUTERY.

In a recent editorial discussion of this question, the *Therapeutic Gazette* formulates the following conclusions: —

1. The galvano cauterizations of the diphtheritic membrane produces no pain, or only a minimal one.
2. The thoroughly cauterized part is rendered absolutely sterile, and forbids the development of microbic life.
3. Fever appears soon after the cauterization.
4. No inflammatory secondary effects set in.
5. Every physician is able to execute the cauterization, even without an assistant.
6. No constitutional medicinal treatment is needed in addition to the cauterization.
7. Though the statistics of diphtheria cases thus treated are of course yet very limited, the thousands of ulcers of the cornea treated and cured in the same manner allow of very favorable prospects regarding the treatment of diphtheria with the galvanic cautery.

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Correspondence.

THE MARINE PARK, SOUTH BOSTON, AS A BREATHING-PLACE.

597 Broadway, South Boston, May 4th, 1886.

Mr. Editor,— As the hot season will soon have us in its grasp, I wish to call the attention of the members of the profession in Boston, who may have patients among the poor, to that part of the Park System known as the Marine Park at South Boston. The especial feature of this Park is the pier which runs out into the harbor a thousand feet and is thirty feet wide and has a bench on either side through its entire length. The outer three hundred feet will be shaded by a light wooden canopy. At the shore end is a building surrounded by a veranda and containing a lunch room and two sets of retiring rooms.

On this pier it will, at all states of the tide, be possible to give sick children the sea air, and at the same time within easy access of home at the expense of horse-car fare. Respectfully yours, W. B. Bancroft, M.D.

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THE EXPERIENCES OF A SLEEPLESS CLERGYMAN.

New York, May 13, 1886.

Mr. Editor,— When a clergyman strays from the field of theological literature, and enters that of medicine, he makes a departure which is not always a happy or successful one, especially when he draws upon that fund of knowledge of symptoms (?) which as a rule are minutely described in the almanac or popular *vade mecum.* This individual generally sneers at, or firmly disbelieves in the efficacy of all medicine, and consistently proclaims the merits of some electrical amulet, vulcanized cereal, or quack agent which is puffed in the columns of the religious periodical to which he contributes. In a recent number of the Journal, I find editorial comments upon an article written by the Rev. Dr. Ormiston of this city, who describes "the disease known as Insomnia" (*sic*), his attempt at cure; and the futile efforts of several physicians here, of whom I was one, to aid him, and of Dr. Milner Fothergill and Sir Andrew Clark, of London.

Dr. Ormiston, like the well-known Mr. Silas Wegg, drops into verse, and proclaims his deliverance through horseback exercise, and the consequent stimulation of his clerical liver, which had resisted the blue mass and colocynth of two continents. It would have been more just and exact had the reverend sufferer stated in his narrative that nearly all his doctors had advised this or some other form of exercise, which he finally adopted, but this would have spoiled the beauty of his romance.

The daily prints and religious journals are too full of the dicta of hypochondriacal clergymen; and had not a journal of the standing of your own noticed the pseudo-scientific utterances of the writer of the articles in question, I should have remained silent.

Allan Mc Lane Hamilton, M.D.

The letter of Dr. Hamilton must have been written very hastily, for it seems disingenuous. Dr. Ormiston's narrative was remarkable in that that gentleman did not proclaim the merits of some electrical amulet or other quack agent. The religious journal in which it was published offers a most notable example for other journals, in its advertising columns, in which no medical advertisements of any sort have a place, judging from the three numbers which contain the story in question. Dr. Ormiston did not mention our correspondent's name in connection with his case, but leaves him undistinguished among the "best physicians" whom he consulted, where we think it would have been quite as legitimate and suitable for him to remain.

Dr. Ormiston expressly says "my physician urged exercise and exposure for hours in the open air," but nowhere does he mention either his clerical, or any other liver.

In spite of the facts that the personal element had not been eliminated from the narrative and that the poetical quotations were too numerous to seem in good taste in a medical essay, the reverend doctor's account of himself seemed worthy of note because it was an interesting autobiography of a man who had disobeyed all the laws of health and had suffered the natural result, had attempted to atone for his misdeeds and been partially restored; because, in spite of the fact that medicine had not been able to counteract the abuses of a life-time the patient did not publicly advocate quackery; and because some of the experiences, as the supposed "normal" amount of sleep and the continued doses of chloral, were worthy of notice.

The JOURNAL did not attempt to draw any great lesson from the story, any more than to criticise its English, nor to point out to its readers exactly how much credit they might give to the narrative, nor where they must withhold credence altogether. It is their everyday occupation to sift patient's accounts of themselves; they know very well that no patient can represent exactly the doctor's relations to the case or exercise a perfectly unbiased judgment on the details of his personal experience, any more than a physician can be perfectly unprejudiced in matters that intimately concern himself, but they do not on that account necessarily reject the whole story as a romance. [ED.]

REPORTED MORTALITY FOR THE WEEK ENDING MAY 8, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	659	218	17.02	16.20	1.29	5.29	.76
Philadelphia	971,363	447	137	8.58	16.72	.44	2.64	1.54
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	183	45	7.70	18.70	2.75	.55	1.65
St. Louis	417,220	154	62	14.95	17.55	1.95	.65	—
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	103	26	6.79	11.64	2.91	.97	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	82	22	6.10	20.74	—	—	—
Pittsburgh	190,000	68	29	14.70	10.29	4.41	1.47	4.41
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	32	7	12.52	21.91	6.26	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	26	8	17.25	15.40.	7.70	—	—
Worcester	68,383	17	6	17.64	16.66	5.88	10.35	—
Lowell	64,051	30	7	3.33	16.66	3.33	—	—
Cambridge	59,660	29	9	10.35	10.35	—	—	—
Fall River	56,863	16	6	—	6.25	—	—	—
Lynn	45,861	9	3	—	18.18	—	—	—
Lawrence	38,825	14	1	7.14	14.28	—	—	—
Springfield	37,577	11	4	27.27	27.27	—	—	18.18
New Bedford	33,393	14	7	21.42	21.42	—	—	14.28
Somerville	29,992	—	—	—	—		—	—
Salem	28,084	14	—	7.14	14.28	—	—	—
Holyoke	27,894	10	2	—	10.00	—	—	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	7	3	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	2	20.00	40.00	—	—	—
Malden	16,407	9	3	22.22	33.33	—	22.22	—
Fitchburg	15,375	7	1	—	14.28	—	—	—
Waltham	14,609	7	2	—	—	—	—	—
Newburyport	13,716	7	1	28.56	28.56	—	14 28	—
Northampton	12,896	2	1	—	—	—	—	—
91 Massachusetts Towns	—	42	11	4.76	28.94	—	2.38	2.38

Deaths reported 1,997: under five years of age 625: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 237, diphtheria and croup 75, diarrhœal diseases 31, scarlet fever 26, whooping-cough 25, typhoid fever 25, measles 15, cerebro-spinal meningitis 11, erysipelas seven, small-pox (New York) one. From whooping-cough, New York 16, Baltimore, Providence and Charlestown two each, Philadelphia, Boston and Springfield one each. From typhoid fever, Philadelphia 14, District of Columbia three, New York, Baltimore and Pittsburgh two each, Boston and Lawrence one each. From measles, Baltimore 12, New York three. From cerebro-spinal meningitis, New York five, Worcester two, Philadelphia, Boston, Baltimore and Newton one each. From erysipelas, Philadelphia and Boston two each, New York, New Bedford and Newburyport one each.

Cases reported in Boston: scarlet fever 32, diphtheria 15, measles 14, and typhoid fever three.

In 108 cities and towns of Massachusetts, with a population of 1,259,168 (population of the State 1,941,465), the total death-rate for the week was 17.14 against 15.47 and 18.02 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,897, for the week ending April 24th the death-rate was 19.8. Deaths reported 3,456: infants under one year of age 849; acute diseases of the respiratory organs (London) 319; whooping-cough 155, measles 114, diarrhœa 33, diphtheria 30, scarlet fever 23, fever 23, small-pox (London and Birkenhead one each) two.

The death-rates ranged from 12.3 in Hull to 30.7 in Plymouth: Birkenhead 15.8; Birmingham 24.1; Blackburn 27.8; Bradford 19.7; Leeds 19.2; Leicester 13.8; Liverpool 21.8; London 19.4; Manchester 26.3; Newcastle-on-Tyne 23.9; Nottingham 22.8; Portsmouth 26.0; Sheffield 18.8; Sunderland 16.8.

In Edinburgh 17.0; Glasgow 25.1; Dublin 27.3.

For the week ending April 24th in the Swiss towns, there were 42 deaths from consumption, lung diseases 34, diarrhœal diseases nine, diphtheria and croup nine, small-pox, measles and whooping-cough each five, typhoid fever four, puerperal fever three, erysipelas one.

The death-rates were: at Zurich 9.5; Geneva 17.2; Basle 17.8; Berne 17.1.

The meteorological record for week ending May 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, May 8, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 2	29.973	41.4	48.5	41.3	60.0	73.0	82.0	71.7	N.E.	E.	N.	15	25	12	C.	C.	C.	—	—
Monday,.. 3	30.036	52.0	62.1	38.1	64.0	64.0	66.0	64.7	N.E.	S.E.	W.	5	12	20	C.	C.	C.	—	—
Tuesday,.. 4	29.933	61.0	82.1	43.1	53.0	26.0	69.0	49.3	W.	W.	S.W.	13	14	16	O.	F.	R.	—	—
Wednes.,. 5	29.790	64.1	78.7	50.2	75.0	36.0	87.0	66.0	S.W.	W.	W.	12	22	14	O.	O.	F.	—	—
Thursday, 6	29.899	59.2	69.7	49.7	69.0	40.0	63.0	57.3	W.	N.	W.	9	9	6	O.	C.	C.	—	—
Friday, ... 7	29.960	58.4	71.1	50.2	60.0	60.0	67.0	62.3	W.	S.E.	S.W.	4	14	4	C.	F.	O.	—	—
Saturday,. 8	29.748	48.2	58.6	48.0	100.0	100.0	96.0	98.7	E.	N.E.	N.	14	14	16	R.	R.	R.	.30	1.55
Mean, the Week.	29.906	55.7	67.3	45.8				69.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 8, 1886, TO MAY 14, 1886.

Huntington, David L., major and surgeon. Ordered to proceed from this city to David's Island, New York Harbor, on public business connected with the reconstruction of the present hospital building at that depot, or the erection of a new one. On completion of this duty to rejoin his station. S. O. 109, A. G. O., May 10, 1886.

Tilton, Henry R., major and surgeon. From Department East to Department of California.

Brooke, John, major and surgeon. From Department of California to Department East.

Comegys, Edward T., captain and assistant surgeon. From Department of Missouri to Department East.

Appel, Aaron H., captain and assistant surgeon. From Department East to Department of Missouri. S. O. 106, A. G. O., May 6, 1886.

Finley, James A., captain and assistant surgeon. Ordered for duty at Fort Buford, D. T. S. O. 39, Department of Dakota, May 5, 1886.

Benham, R. B., captain and assistant surgeon. Ordered to Department of the Platte. S. O. 109, A. G. O., May 10, 1886.

Cherbounier, captain and medical store-keeper. Granted leave of absence for four months, with permission to apply for four months extension. S. O. 109, A. G. O., May 10, 1886.

OBITUARY. A. M. SHEW, M.D.

Dr. A. M. Shew, Superintendent of the Connecticut Hospital for the Insane at Middletown, died suddenly of apoplexy on April 12th, at the age of forty-five. His health had not been good for several years, and much of the time he had been absent from his duties. He was born in Jefferson County, N. Y. In 1862 he was made Assistant Physician in the New York Asylum for Insane Convicts, at Auburn, after which he went to Philadelphia and graduated at the Jefferson Medical College. In the war he served as Assistant Surgeon of United States Volunteers. In the spring of 1866 he was appointed Assistant Physician of the New Jersey State Lunatic Asylum at Trenton, and remained there until the following September, when he was appointed to superintend the construction and organization of the Middletown Hospital.

DEATHS.

Died in Roxbury, May 12, 1886, Horatio Gilead Morse, M.D., M.M.S.S., aged sixty-nine years.

Died in Westminister, Mass., February 7, 1886, William Henry Haston Shepard, M.D., M.M.S.S., aged forty-four years.

In Leominister, May 1, 1886, George Washington Pierce, M.D., M.M.S.S., aged sixty-four years.

SOCIETY NOTICE.

Massachusetts Medical Society. One Hundred and Fifth Anniversary.— The Annual Meeting will be held at 9 o'clock A.M., Wednesday, June 9, 1886, in Huntington Hall, at the Institute of Technology, Boylston Street (between Berkeley and Clarendon), Boston. The usual arrangements have been made for the preceding day, Tuesday, June 8.

By order of the President, Francis W. Goss,
Recording Secretary.
Roxbury, May 10, 1886.

Tuesday, June 8, 1886. 10 o'clock A.M.— The Fellows of the Society are invited to visit the Massachusetts General Hospital, on Blossom Street; the Boston City Hospital, on Harrison Avenue; and the Children's Hospital, on Huntington Avenue.

2 o'clock, P.M.— Meeting in Huntington Hall. Papers will be read as follows: "Abuse of Medical Charity: a Remedy applied in 3000 Cases of Out-Door Patients: Results," by Frederick F. Doggett, M.D., of Boston. "Does the Law recently enacted by the Legislature prevent the Spread of Scarlet Fever?" by John L. Hildreth, M.D., of Cambridge. "The Present Status of Bacterial Pathology, and its Relation to Therapeutics," by Albert N. Blodgett, M.D., of Boston. "The Management of Cases of Rigidity of the Os Uteri in Labor," by William E. Boardman, M.D., of Boston. "A not well-recognized Source of Domestic Poisoning, with Cases," by Charles Harrington, M.D., of Boston. "Abdominal Cellulitis," by Julian A. Mead, M.D., of Watertown.

Exhibits.— On Tuesday and Wednesday, at the Harvard Medical School, Dr. Ernst will exhibit apparatus for Bacteriological research, with cultivations and microscopic preparations. At the Institute of Technology, during Tuesday and Wednesday, there will be an exhibition of Drugs.

Wednesday, June 9, 1886. 9 o'clock, A.M.— The One Hundred and Fifth Annual Meeting.— I. Secretary's Record and Report. II. Treasurer's Report. III. Medical Papers and Communications: "An Epidemic of Malaria in Eastern Massachusetts in 1885," by Zabdiel B. Adams, M.D., of Framingham. "The Causation and Treatment of Lateral Curvature," by Edward H. Bradford, M.D., of Boston. "Some of the Results of Fractures," by Joseph E. Garland, M.D., of Gloucester. "The Ætiology and Treatment of Summer Diarrhœa of Infants," by Henry C. Haven, M.D., of Boston. Communications from the Reporters of the District Societies. IV. Introduction of Delegates. (Intermission of fifteen minutes.)

12 o'clock, M.—The Annual Discourse, by Richard M. Hodges, M.D., of Boston. The hall doors will remained closed during the delivery of this discourse.

1 o'clock, P.M.— The Annual Dinner will be served in the Skating Rink, on Clarendon Street, near Boylston, to which place the Fellows, called in order of seniority, will walk in procession. Notice will be given ten minutes before the formation of the procession; in the interval Fellows are requested to assemble in Huntington Hall. No person will be admitted to the dinner without a ticket. The dinner ticket (not transferable) may be obtained on Tuesday and Wednesday, during the sessions of the Society, at the Institute of Technology, by those who have paid their dues for the current year. To enable the Committee of Arrangements to make suitable provisions for the dinner, it is earnestly requested that Fellows procure tickets before noon on Wednesday.

COUNCILLOR'S MEETINGS

Will be held during the ensuing year at the Medical Library, No. 19 Boylston Place, Boston, as follows: I. The Annual Meeting, at 7 o'clock P.M., Tuesday, June 8. II. A Stated Meeting, at 11 o'clock, A.M., Wednesday, October 6. III. A Stated Meeting, at 11 o'clock, A.M., Wednesday, February 2, 1887.

THE ANNUAL CONFERENCE OF CENSORS

Will be held at 2.30 P.M., Tuesday, June 8, 1886, at the Medical Library, No. 19 Boylston Place, Boston.

CENSORS' MEETINGS.

The Censors for Suffolk District, officiating also for the State Society, will meet in Boston, for the examination of candidates, on Thursday, June 3, 1886, and on the first Thursday of September and of December. But they cannot examine any candidate who is already a resident, or in practice, in any District other than Suffolk. Their meetings will be duly advertised in the *Boston Medical and Surgical Journal.* In the other Medical Districts the Censors will hold their meetings for the examination of candidates residing in their respective Districts, and none other, at the same place and on the same day as the stated meetings of the District Societies themselves.

Original Articles.

RESULTS OF THE INTRA-VENOUS INJECTION OF SALT SOLUTIONS.[1]

BY F. B. HARRINGTON, M.D.

A TABULATION OF CASES AND SOME REMARKS ON THE VALUE OF THE OPERATION.

The effort to prevent death, which threatened as a result of the loss of blood, led at an early period in the history of medicine to transfusion.

The use of the blood of animals and of blood which has not been defibrinated has been abandoned as dangerous. The blood of distinct species seem to possess toxic influences, and undefibrinated blood of the same species is dangerous, because of the occurrence of clots.

Excellent results have been obtained by the use of defibrinated blood, but it is always difficult and sometimes impossible to obtain sufficient human blood for transfusion.

This has led to the use of various substitutes for blood such as milk, egg albumen, peptones and the like. These although of value possess some elements of danger. The intra-venous injection of salt solutions was extensively practised in the cholera epidemic of 1832–33. It was again used in later epidemics. It produced marked temporary improvement, but did not effect the final result.

Within late years it has been found by experiments on animals, that those dying from loss of blood could be resuscitated by the injection of solutions of common salt. Salt solution is an indifferent fluid, and the beneficial effect is supposed to be due to the increase in volume given to the blood remaining in the system after bleeding. In progressive anæmia life may continue although the red corpuscles are reduced to less than one-tenth of the normal number; a reduction greater than would ever occur from hæmorrhage. When the red corpuscles remaining after severe bleeding are brought into circulation by a harmless medium the danger of death is diminished. Moreover the increased volume of the current gives the heart something to contract upon and its action becomes slower and stronger.

Ott,[2] as the result of recent experiments, claims that the beneficial action of blood transfusion in acute anæmia may be explained only by the introduction of a certain amount of fluid into the circulation. The theory of the "transplantation" of blood by means of transfusion he believes is untenable, being disproved by experiments.

Maydl,[3] on the other hand, in his experiments on dogs was able to save more animals by defibrinated blood than by salt solution.

He says we must recognize two forms of death from hæmorrhage. In one there is anæmia of the nerve centres, although blood enough to sustain life still remains in the body. In these cases stimulation, position, and auto-transfusion are usually sufficient to prevent death. In rare cases the injection of salt solution may be necessary.

Death in the second form is due, he believes, to such a loss of blood that there are not enough of the normal constituents of the blood left to sustain life.

In this case the transfusion of blood becomes necessary; or salt infusion may be immediately performed, to be followed in a short time by the transfusion of defibrinated blood.

Ott and Maydl thus differ in their estimation of the value of blood transfusion, yet both agree as to the value and the lack of danger in the careful use of salt solution.

The difficulty of obtaining a proper quantity of defibrinated blood at short notice, and the ease with which saline solutions can be made, certainly predispose in favor of the latter.

In 1883, Dr. Bull[4] collected and tabulated nineteen cases in which salt solution had been used as a substitute for transfusion. This table is presented with ten new cases which I have collected.

Schwarz's solution is a saline solution made slightly alkaline by sodic hydrate.

[See Table on next page.]

To sum up, we have one case (3) of iodoform poisoning, three cases (14, 15, 16,) of poisoning from illuminating gas. These four cases recovered. There were four cases of collapse. Two (21, 29) from peritonitis, one (28) from septicæmia, one (23) from shock. These cases showed temporary improvement, but all died. One case (2) of incomplete removal of uterine carcinoma after temporary improvement, died: one case (5) died on the following day from amyloid degeneration of the remaining kidney, the other having been removed: one case (6) recovered from the hæmorrhage, but death followed in six days from septicæmia: one case (7) recovered, but died in three weeks from peritonitis, one case (10) died in three hours, the result of a second hæmorrhage from a gastric ulcer: one case (17) of nephrectomy after temporary improvement died in twelve hours: one case (24) recovered from the hæmorrhage and died in five days of peritonitis. Of the above-mentioned fifteen cases, four recovered. The others died from some cause other than the hæmorrhage. There remain fourteen cases of which thirteen made complete recovery. One case (25) died immediately. If correctly reported the injection of over sixty-six ounces in fifteen minutes must be looked upon as a dangerous proceeding. It is the only case favorable for the operation, in which there was no improvement.

Experience has shown us that the system will bear the loss of very large amounts of blood.

Maydl (*loc. cit.*) found that dogs would sometimes bear the loss of two-thirds of the blood volume and recover without transfusion or intra-venous injection being performed.

To determine when intra-venous injection is demanded is a question of judgment of the patient's peril, and not a question merely of the amount of blood lost. All ordinary means should first be tried. If these fail the salt-solution may be necessary. The best form of solution is made as follows:

Sodic Chloride	6 = ℥ iss
Sodic Bicarbonate	1 = gr. xv
Aqua Distillata	1000 = oii+

Care should be taken that the solution be perfectly free from débris. Water that has been boiled and filtered or pure water that has been filtered will answer the purpose.

The solution should be warmed and kept at a temperature between 100° and 104° F.

A reservoir with a rubber tubing and a canula of

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[1] Read before Boston Society for Medical Observation, April 5, 1886.

[2] St. Petersburg Inaugural Dissertation, 1884. London Medical Record, February 15, 1886.

[3] Medizin. Jahrbüch, 1884.

[4] New York Medical Record, January 5, 1884.

No.	Operator.	Condition for which the Injection was made.	Quantity of Solution; Temperature; Apparatus; Duration of Operation.	Vessels.	Results.	Reference.
1	Bischoff.	Anæmia following separation of placenta.	Forty ounces of Schwarz's solution in one hour: funnel and tubing.	Peripheral end of radial artery.	Recovery.	Centralbl'tt für Gyn., 1881, No. 23.
2	Küstner.	Anæmia after incomplete extirpation of uterine carcinoma.	Thirty-two oz. Schwarz's sol. (temp., 100½° F.) in one hour by means of irrigation.	Peripheral end of radial artery.	Death; temporary improvement.	Centralbl'tt für Gyn., 1882, No. 10.
3	Kocher.	Collapse from iodoform poisoning.	Sixteen ounces with syringe.	Peripheral end radial artery.	Recovery.	Cen. für Chir., 1882, No. 15.
4	Kümmel.	Collapse from loss of blood during nephrectomy.	Thirty-two oz., (temp. 104°), in half an hour, with funnel and tubing.	Peripheral end of radial artery.	Death on following day from amyloid disease of other kidney.	Cen. für Chir., 1882, No. 19.
5	Kümmel.	Anæmia from secondary hæmorrhage (excision of knee joint.)	Sixteen oz. Schwarz's sol., with glass syringe.	Peripheral end radial artery.	Recovery: gangrene of hand.	Cen. für Chir., 1882, No. 19.
6	Schwarz.	Anæmia following bleeding from cancer of cervix, and after operation.	Sixteen ounces.	Median vein at elbow.	Death in six days; septicæmia; complete recovery from collapse.	Berlin Klin. Woch., 1882, No. 35.
7	Küstner.	Anæmia from puerperal hæmorrhage.	Forty ounces Schwarz's sol., (temp. 104 F.), in fifteen minutes by means of irrigator.	Median vein at elbow.	Death in three weeks from peritonitis; complete recov'y temporarily.	Deutche Med. Woch., 1883, No. 35.
8	Szumann.	Multiple injuries: resection of head of humerus. Forty-eight hours later, cerebral anæmia on sitting up for change of dressing.	Twenty-four ounces of Schwarz's sol., in fifteen to twenty minutes, with irrigator.	Median vein at elbow.	Recovery.	Berlin Klin. Woch., 1883, No. 21.
9	Heyder.	Anæmia from extraction of placenta,	12 oz. Schwarz's sol., (temp. 104° F.), in 10 min. by irrigator.	Median vein at elbow.	Recovery.	Cen. für Gyn., 1883, No. 25.
10	v. Hecker.	Anæmia and collapse after bleeding from gastric ulcer.	40 oz. Schwarz's sol., (temp. 102 F.), in fifteen minutes.	Median basilic vein.	Death in 3 h. from fresh bleeding; tem. improvement.	Wien. Medical Woch., 1883, No. 37.
11	Jennings.	Anæmia from traumatism before labor.	Sixteen oz. alcoholized saline sol., syringe.	Vein at bend of elbow.	Recovery and safe delivery.	Lancet, 1882, ii. 436.
12	Coates.	Anæmia from post-partum hæmorrhage.	Alcoholized saline fluid by means of Jenning's siphon.	Vein at bend of elbow.	Recovery.	Lancet, 1882, ii. 1110.
13	Bull	Anæmia following extirpation of angioma at elbow. Bleeding stopped by ligature of brochial. Patient cold, unconscious. No radial pulse: carotid, 140.	Twelve ounces of a warm salt solution (two per cent in distilled water) in ten minutes with Collins apparatus.	Median basilic vein.	Recovery fifteen minutes after injection; warm, conscious, radial pulse 120, of good volume.	New York Hospital, Aug. 23, 1883. Med. Rec. N. Y., Jan. 5, 1884.
14	Jersey.	Collapse from illuminating-gas poisoning of twenty hours duration. Venesection to eight oz.	Eleven ounces in ten minutes irrigating bottle.	Median basilic vein.	Recovery.	Chambers St., Hospital, Sept. 11, 1883.
15	Wilkie.	Collapse from illuminating-gas poisoning. Venesection to thirteen ounces.	Eleven ounces in fifteen minutes, invigorating bottle.	Median ceph'ic vein.	Recovery; septic lymphangitis from wound.	Chambers St. Hospital, Nov. 22, 1883.
16	Wilkie.	Collapse from illuminating-gas poisoning. Venesection to six oz.	Nine ounces in ten minutes, irrigating bottles.	Median ceph'ic vein.	Recovery complete in twenty-four hours.	Cham. St. Hos. Nov. 22, 1883.
17	Bull.	Anæmia from bleeding in nephrectomy. Bleeding arrested by sponge pressure.	About 10 ounces of Schwarz's sol., in fifteen minutes, irrigating bottles.	Median basilic vein.	Death after twelve hours; temporary improvement marked.	Dr. Weirs' service. N. York Hospital.
18	Halsted.	Collapse twelve hours after compound fracture, with severe bleeding. Patient unconscious, cold; pulse barely perceptible.	Six and a half ounces of salt sol., (℥i to oi), injected in fifteen minutes.	Central end of radial artery.	Recovery; after operation warm; conscious; pulse, 135, good volume.	Dr. Weirs' service, N. York Hospital.
19	Jersey.	Anæmia from incised wounds. Very severe bleeding for three hours. No radial pulse.	Twelve ounces of Schwarz's sol. in ten or fifteen minutes with irrigating bottle.	Median cephalic vein.	Recovery.	Dr. Weirs' service, N. York Hospital.
20	Mikulicz.	Anæmia from a wound of the brachial artery. Pulse 130, and thready. Breathing labored.	Twenty oz. salt (0.6%), sol., in fifteen minutes, (temp. 104°, F.), funnel and tubing.	Cephalic vein.	Recovery.	Wien. Klin. vii. Heft., July '84.
21	Mikulicz.	Collapse in a patient who was developing acute peritonitis. Pulse threadlike.	Twenty-six ounces of salt, (0.6%) solution.	Cephalic vein.	Death; temporary improvement of pulse.	Wien. Klin. vii. Heft. July, '84.
22	Stroynowski.	Placenta prævia. Unconscious, no radial pulse.	Twenty to twenty-four oz. of Schwarz's sol., in twelve min.	Median ceph'ic vein.	Recovery.	Wien. Klin. vii, Heft. July, '84
23	Bradford.	Collapse. Secondary hæmorrhage following amputation of middle thigh.	Salt sol., (5%) eight ounces, Aveling's needle and syringe.	Median vein.	Death; no benefit; patient moribund at the time of the infusion.	City Hosp. Bos. Surg. Records, vol. 126, p. 213.
24	Zemachi.	Uterine hæmorrhage of three days' duration. [Post-mortem showed tubal pregnancy, with ruptured Fallopian tubes.] Unconscious.	Thirty-three ounces of salt sol., (0.6%), temp. 140°, F.		Recovery; death in five days from peritonitis.	Vratch. '85, No. 33. Lond. Med. Rec., Feb. 15,'86
25	Ott.	Placenta prævia, version. Profound anæmia.	Sixty-six and two-thirds oz., in fifteen minutes, (0.6% salt solution.	Median vein.	Death in 15 min.; aut'sy showed acute cerebral anæmia, the abdominal organs choked with blood.	Vratch. No. 2, '85. Lond. Med. Rec. Feb. 15,'86
26	Ott.	After labor, very profuse hæmorrhage, from probably varicose uterine veins. The genital and femoral veins showed large varicose dilatations. Collapse and vomiting.	Eighty-three ounces of salt solution, temp. 100.3° F.	Median vein.	Recovery after passing through puerperal septic endometritis.	Vratch. No. 2, '85. Lond. Med. Rec. Feb. 15, '86
27	Harrington.	Ante-partum and post-partum hæmorrhage. Collapse. Absence of radial pulse. Cardiac pulsation 160. Unconscious.	66 oz. of salt, (0.6%) sol., injected at two sittings, one hour and and three-quarters apart. The second for a second hæmorrhage. Temp. 100°, F., funnel and tube.	Right and left Median Ceph'ic vein.	Recovery; red corpuscles sixty hours after hæmorrhage, 1,838,000 per c. m. m., nine days later, 1,180,000.	Boston Medical and Surgical Journal, Mar. 4, 1886.
28	Elliot.	Pulseless condition for twelve hours, the result of septicæmia.	41 oz. of salt, (0.6%) sol. in thirty minutes, with fountain syringe and a glass canula.	Median basilic vein.	Death in five hours; immediate improvement in color, respir'on and pulse.	Free Hospital for Women.
29	Homans.	Collapse after operation for ovariotomy and extra-uterine pregnancy of seven years' duration.	Thirty-nine ounces of salt, (0.6%) sal., temp. 100 F.	Median Cephalic.	Death in four hours; improvement at first.	Rep'ted before Boston Obst. Society, March, 1886.

small size make the best injection apparatus. No air should be allowed to enter the current. The solution should enter the circulation at a low pressure and its effect on the heart should be carefully watched. Gravity pressure is safer than a syringe. An elevation of one and one-half to three feet is sufficient. The amount used must depend upon the effect upon the circulation, but may be from one to four pints. If a vein can be found in the arm it may be used. This can usually be accomplished if a ligature is placed about the arm above the elbow and the blood in the forearm is pushed toward the elbow, by the hand or by bandaging. If the vein cannot be found, the artery may be used. The salt-solution should not be allowed to enter the circulation too rapidly, lest the heart be overpowered.

The simplicity of the operation, its great efficacy in cases of simple acute anæmia and the lack of danger in its careful use makes it the duty of every practitioner to be prepared to make trial of this means of saving life when the necessity arises.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

ON THE PATHOLOGICAL ANATOMY OF THE NUCLEUS.[1]

With the improvements in the methods of differential staining the attention of observers has been directed to structural details which it was impossible before to bring out with certainty. One of these, to which the anatomists have turned their attention of late, is the exact manner in which the nucleus divides in the multiplication of cells. The various steps of the process have been carefully followed and figured, and for them the term of karyokinesis has been adopted and has already become familiar. The pathologists have also endeavored to go a step further and see if it was of any value in determining the nature of the charges in which they were particularly interested.

Pfitzner has brought together the work done and to this has added observations of his own, and points out the limitations which are imposed by the imperfections of the methods now at our command.

As a brief summary from the histological work it can be stated: that new cells are formed only from pre-existing ones by their division. The steps are first, a division of the nucleus and then of the cell body. The latter is either by fissure or by the formation of a partition. The former is accompanied by an extremely complicated change of its structural elements. (Karyokinesis.) If we could always find these "figures of nuclear division," we should have won a great point for the diagnosis of physiological and pathological processes, and we could use the numerical relation of such nuclei to those at rest in determining the intensity of cell increase. But unfortunately so much is dependent upon the technical skill of the investigator, and accidents of illumination that uniformity of observation has not been reached. Where this has been attained care must be taken not to be deceived in that the division varies greatly in different parts of the same piece of tissue and at different times. But the greatest difficulty which lies in the way comes from the rapidity with which the process is completed in the warm blooded animals. Even the short time required for removal and fixing the specimens by chemical reagents is enough to completely change its character. This shows the hopelessness of expecting to determine much about the malignancy of a new growth from nuclear appearances. Further, it was hoped that the axis of division would show the direction of the growth; but this has to be regarded with suspicion, as observation upon living protozoa revealed the daughter cells lying more or less at an angle to each other.

But the chief value of these investigations for future physiological and pathological research lies in the fact that we have learned to recognize the separate constituents of the nucleus and can differentitate them more easily. The cellular pathology has long been regarded as the groundwork of scientific pathology, but we are really but little beyond a pathological anatomy of the organs and tissues. Our knowledge of the anatomical changes in disease is confined to that of those of the cell bodies. This is very incomplete and without sequence, and above all is entirely wanting in regard to the manner in which the morphological constituents behave. As to the nucleus, it has been left out of the question entirely. The author hopes to show that this is not less important, and often more so than the cell body.

Five different substances have been found to be present in it. (1) The ground substance, called achromatin, which is homogeneous and probably of gelatinous consistency. (2) The parachromatin, of which little is yet known; this is found during the period of rest as a fine network, and goes to form the so-called spindle fibres during division. (3) The true nucleoli, closely related to the former but yet to be distinguished from the following, in spite of its remarkable relation to coloring matters. (4) Chromatin characterized by its containing nuclein. (5) Accidental formations, as crystals, starch granules, structureless accumulations of albuminous materials, etc.

Of these the chromatin is the most important, and we find that all changes in the life of a cell are expressed in a qualitative or quantitative variation in its amount or form. And this is so constant that it can be used to determine the prevailing conditions. From the investigations of different observers it appears that its development keeps pace with that of the cell. If the nuclei of the same kind of tissue are examined in young and in old animals, those of the former are found very much poorer in this substance than those of the latter. And if we go back to the embryonic stage, these relations are still more clearly expressed. It can therefore be stated that the poverty of the nucleus in chromatin is a sign of the embryonic condition of the cell. Before impregnation the ovum is remarkable in this respect. From a pure histological standpoint that action can be regarded as an enriching of the nuclear chromatin of the egg. The ova of Neritina fluvatilis which are not impregnated, it is true, go through the changes up to segmentation, but after that the further divisions become irregular, the products degenerate and are finally destroyed.

What are the conditions that are found when the height of its development has been passed, when senile atrophy comes on? This is perhaps best studied in tissues which quickly arrive there, as, for example, the crystalline lens. Here all changes are to be found from the cells capable of division to the mature fibres with lifeless nuclei. Stratified epithelium is another example of this sort, where the basal cells are still capable of multiplication, while the other layers gradually atrophy from loss of nutrition.

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[1] Pfitzner. Virchow's Archiv. Vol. 103, p. 275.

In the vegetable kingdom the condition of the nucleus in the different annual rings of a tree up to a hundred years has been investigated. In these it was found that the chromatin varied in two ways. In one, its meshwork became duller the contour irregular, and finally the nucleus separated into fragments. In the other, it became homogeneous, but its refraction and capability of taking coloring matter could still be made out for a long time, especially when the wood is saturated with rosin.

In the lens fibres above mentioned, the nuclei at rest have a fine network of chromatin. As they are transformed into fibres this becomes plumper, and firmer particles appear. The contour of the nucleus becomes irregular, as if gnawed into; holes appear on edges and in the interior, and finally, all that can be made out is a clear minute spot.

In the formation of the epidermis of a frog, the changes can be easily followed. The nucleus becomes homogeneous, with a decided increase in volume, the chromatin is pressed closely together, obscuring the nucleolus, still, the whole takes color surprisingly well. Among the mammals, there is a diminution of the volume and flattening, the internal structure disappears, the refraction is destroyed, as well as the coloring properties, while the contour remains generally sharp and regular. These gradually increase until there is only a hole in the interior of the cell. This finally goes and it remains doubtful whether the nucleus has entirely disappeared or whether the denser part obscures its remnant. Further investigations showed that there were two ways here also. In the one the substance of the chromatin is destroyed, in that it becomes less refractive and less easily colored. In the other the form is changed, in that its fine, complicated network run together in thicker and more massive divisions, which finally break up into clumps. These two forms, however, run into each other.

Actively secreting cells present another example of degeneration. When the body is filled with secretion, the nucleus looks shrunken, its chromatin is pressed together and gives to it a glancing homogeneous appearance. The so-called goblet cells are closely related to these. In the fully formed ones the peripheral parts of which are bulged out and contain a clear glassy contents, the nucleus which lies in the base presents the same look as that of the secreting cells: Besides these, there are found very narrow, poorly differentiated cells with a staff-shaped nucleus, which show the marks of advanced destruction. These may be regarded as collapsed cells which have been pressed upon by their neighbors and are gradually undergoing reabsorption.

One of the most disputed points in histology is the method of increase of the red blood corpuscles and the loss of their nuclei. The author thinks his investigations tend to elucidate this.

In the embryoes of the salamander the blood cells in the entire vascular system, in the narrowest capillaries as well as that in the middle of the heart show evidence of karyokinesis. In the adult there is never found in the circulating blood the signs of any such process. As observation has shown the increase of the blood cells is restricted to special parts, which are thus transformed in hæmatopoietic organs, the spleen, the bone, marrow, etc.

The nucleus of the blood cells of the amphibians is characterized by a glancing, compact structure, and the scheme of division is as follows: After it has begun to divide, it passes into the "star" and "coiled" forms, then finally into the "basket" shape, and then new nuclei are formed. In this condition the nucleus has the same appearance as the majority of tissue cells. With the continued reduction of volume of the nucleus, its framework of chromatin becomes narrower, fuller, the nucleoli present in numbers become large, but at the same time less distinct from increase of the chromatin. This is the condition of rest or homogeneous nucleus. But the process goes still further. The network becomes fuller, and the nuclear outline does not remain smooth but is cut in upon so that it looks like a mulberry. It loses its refraction and coloring, and finally disappears. Although this cannot be directly proved for the blood of mammals, still the analogy is very close and it is presumable that the absence of nuclei is to be referred to a gradual destruction, and the whole is similar to the results of ageing. The same probably holds good also for the leucocytes.

In the pathological processes proper, his observations were restricted to two classes: wounds and malignant growths.

In the first, his observations agree in showing that karyokinesis does not occur in the cells immediately surrounding the edge of the wound, but at some distance from it. Here they occupy a well-defined zone and in greater abundance than in the normal portion. Between this area of regeneration and the edge of the wound, the nuclei agree more or less with those found in senile atrophy. At times the chemical and at times the morphological deconstruction of the network of chromatin is in the foreground. Corresponding to this the nucleus becomes at times shiny, with irregular outline, mulberry-shaped, at times pale and homogeneous, vesicular.

It has been supposed by many authors, that in the production of epithelium to cover a loss of substance, the division of the nuclei was accomplished in the "direct" way and it was not until afterwards that the karyokenitic figures were found. But the true zone of activity had been overlooked and disregarded.

In the new growths, the epithelial pearls of the flat celled cancers were the only parts studied. The similarity of the nuclei to those of the sebaceous glands was very marked. Towards the centre of one of these nests the nuclei diminish markedly in size, become at first uniform, and then lose their refraction and power of staining more and more.

The difference between the normal and regenerating epithelium and its relation to inflammation and new formation consists on the one side in the number of figures of division, and on the other, in the relation of the numbers of the single parts of the nuclei.

As to the figures of division in wounds there is a special zone. In new growths, it can be seen that it is not the normal growing tissue of an adult. As the figures are found deep in the epithelium, as well as in that of the basal cells. A great difference is in the chromatin present, as readily suggests itself, the cell is probably of an embryonic character, and in fact it is very poor in chromatin, more so than similar cells for the normal part of the same organ and the figures are much smaller.

ON THE BLOOD IN LEUKÆMIA, TOGETHER WITH OBSERVATIONS RELATING TO THE ORIGIN OF THE FIBRIN FERMENT.[2]

According to the ideas of Alex. Schmidt, fibrin is formed in the coagulation of blood and serous fluids by the action of three substances. One of these exists formed in the fluid; it is regarded as the groundwork proper, and has been called fibrinogen. The other two, called respectively the fibrinoplastic substance and fibrin ferment are presumably derived from the white corpuscles, that are destroyed and are formed at the time of coagulation. In this destruction of the leucocytes there is supposed to be an interaction of the blood plasma and the protoplasm, in which the former takes from the last the constituents necessary to form the fibrin element.

In some cases of failure of the blood to clot, it has been regarded as due to an insufficient breaking up of the cells above mentioned. In other words, there is blood in which all the stuff necessary for the formation of the ferment is present; but in which this never is made, because the blood plasma has been so altered as to be deprived of its destructive agency.

One author thinks this to be the case in blood in leukæmia. From the standpoint of Dr. Schmidt this would not be expected, as from the large amount of white cells the action should be very energetic.

In order to prove which view was correct, blood was drawn from a leukæmia patient, in which were 2,000,000 red and 630,000 white corpuscles to a cubic millemeter. The venous blood did not coagulate particularly slowly, but the fibrin was poorly developed, soft, and did not contract firmly. On a further addition of leucocyles the time of clotting was prolonged. On the other hand, that of filtered plasma from the horse was greatly accelerated by the addition of one-seventh of its volume of leucæmic blood.

In the blood from the cadaver of this patient only traces of the free ferment could be detected with the proper reagents. If instead of the entire blood only the white corpuscles, which were deposited on standing, were alone added to the horse's plasma, the time of its coagulation was much retarded. From these experiments the author concludes that in reality the groundwork for the development of fibrin ferment was present in the leucæmic blood, but that its plasma could not form the true ferment out of this as in the normal plasma of the horse.

In the leucæmic blood the formative materials of the ferment are kept attached by the white corpuscles. But from the investigations of the author they were found in solution in fluids that are capable of coagulation. Examination of the filtered plasma before and after this showed that the amount of ferment was greatly increased during the process. Since the formed elements were wanting here, the fibrin must be formed entirely from substances in solution. The action of a fluid obtained from a hæmorrhagic cyst in the neck also strengthened this view. It contained but few cells and did not coagulate spontaneously. Nevertheless, filtered normal plasma separated considerable quantity of the ferment from this. The filtered fluid also acted on the horse's plasma not only in shortening the time of coagulation, but also by increasing the amount of fibrin formed.

The author finally turned his attention to a consideration of the nature of the substance which formed this substratum of the ferment, and he concludes that it comes from the retrograde metamorphosis of the albuminous bodies. He tried, therefore, if the addition of any of these would accelerate the process. The results obtained in this way were variable, but on the whole were in accordance with the theory. The experiments were more successful, however, when conducted in the following way. A solution of one per cent. of glycocholate or taurocholate of soda was added to the filtered plasma, which entirely deprived it of its spontaneous coagulability. If to this one of the above mentioned products be added, fibrin is formed in a few hours. Whether these are themselves the sources of it, or whether they simply increase the activity of that already in solution (by decreasing any resistance) is left undecided by the author.

ON EXPERIMENTAL MYO- AND ENDO-CARDITIS.[3]

Under Orth's guidance experiments were made by which an endocarditis was produced. For this purpose a thin sound was introduced through the carotid, the aortic valves injured, then after its withdrawal staphylococci and streptococci were injected. The bacteria thus introduced developed on the valvular surface, penetrating from there deeply into the tissues, and also on the surface of aorta which had come in contact with the sound. Ribbert has also succeeded, but without using violence.

The staphylococcus aureus form a "spontaneous" case of ulcerative endocarditis was grown on potatoe. If the colonies were removed together with a little of the potatoe, a thick fluid was obtained, containing small particles suitable to act as emboli.

A very small quantity of this emulsion was injected into a vein of the ear of a rabbit. The animals lived from sixty hours to five days; when they died later than this, endocarditis was rarely set up.

In those which died at the end of the second day the results were most marked. The heart was greatly dilated and the external surface was marked by numerous small, somewhat elongated foci. Sometimes they formed groups, which were often confluent; this was especially the case on the anterior aspect of the left ventricle near the apex. They were also found throughout the thickness of the muscle as well as beneath the endocardium. Their long diameter corresponded with the course of the fibres. The surrounding substance was slightly more opaque than normal and at their centre was to be seen a slight depression in the midst of which a minute, deeper colored spot or line was visible. If one of the younger foci was cut through there could be made out five different zones. (1) The yellow central spot; (2) a narrow gray ring; (3) a white zone. These three were well marked, then a very fine hyperæmic line which gradually passed over into a whitish one, finally losing itself in the surrounding tissue with a jagged outline. With advancing age the yellow color gradually spreads over the entire spot. The largest rarely exceed the size of a pin's head.

The microscopic examination of the earliest stage revealed small accumulation of micrococci distributed throughout the muscular substance. These stand in close relation to the vessels as their elongated and often branching character indicates. The surroundings are unchanged at first. A little later the nuclei in their immediate neighborhood do not take color so clearly, the muscular fibres become opaque and lose their striations: then they break up into small irregular scales or granules, while further off the fibres have a marked longitudinal striation and contain fat granules. In the white zone at the periphery there is found a deposition of lime salts. The further stages of inflammation follow quickly upon this. In the hyperæmic part leucocytes begin to accumulate, which soon absorb the included fibres until finally only a zone of white corpuscles is seen. The infiltration gradually fades out and the lime salts are again taken up in the later stage.

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[2] J. v. S. Himmelstjerna. Fortschritte der Medicine, 1885, p. 669.

[3] Fortschritte der Medicin. Vol. iv, p. 1.

In the beginning, the necrotic portion is sharply set off from that which contains the nuclei. Soon, however, the latter wander in and destroy the greater part, while here and there, a fibre can be seen encapsulated. This is the condition at the end of the fifth day; what the further history of the colonies is, could not be determined, on account of the death of the animals.

More important than these myocarditic processes, were those found on the valves. In animals which died in from twenty to twenty-four hours, there were regularly found white spots on the tricuspid and mitral, while the aortic and pulmonary were free. On the right side, these spots were single, while on the left, they were numerous. The size varied from the smallest speck, to points one to two millimeters in diameter. Microscopic examination showed them to be composed of accumulations of micrococci, which, on cultivation, developed as the staphylococcus aureus. The most frequent seat was on the free edge, near the insertion of the chordæ tendineæ, and on both surfaces. The part near the base was, as a rule, unaffected.

At first, the endothelium beneath the cocci is unaffected. Then the regular succession of the nuclei is lost, the endothelium is quickly penetrated, and soon becomes indistinct. The colonies also send projections downwards, having irregular branches. Beyond this the parasites do not seem to go, as the reactive inflammation, which is thus set up, puts a limit to them, while between, lies a narrow zone of cells without nuclei. On the free surface of the colony, is formed a thrombus layer, which consists of finely-coagulated fibrin, and includes numerous nuclei of leucocytes. It is usually sharply set off from the micrococci, and contains only a few scattered ones. All these appearances are in close connection with what is known of the early stages of human endocarditis.

Those who are of the opinion that in man, the inflammation is set up by the deposition of the parasite on the valves, will be supported in this view by the above experiments. In the same way, larger embolic masses can be driven against the valves, and a part of their fungi adhere to them. But it is doubtful if this explanation is sufficient for the most frequent and typical cases, in which the warty and cock's-comb-like excresences are arranged exactly in the course of the line of closure. In these experiments, there seemed to be no preference for this place, and least of all, for a linear arrangement. As further difference, must the failure to attack these aortic and pulmonary valves be distinctly remembered.

ON ATROPHY AND HYPERTROPHY OF THE MUSCULAR FIBRES OF THE HEART.[4]

The question whether the increase in size of the heart, which so frequently occurs, is due to an enlargement of the existing fibres, or to a numerical increase, is one that has interested pathologists for many years, and each side of which has found many adherents.

Goldenburg has taken up the question again, and from careful microscopic measurements and comparisons made on the muscles from nine hypertrophied, nine atrophied, and nine normal hearts, has come to the following results.

It is certain that brown atrophy of the heart is associated with a reduction in the medium breadth of the muscular fibres, and that in compensatory hypertrophy, the reverse is found. From the form of the section of separate muscular fibres, it is probable that a separation of new muscle-cells occurs in places within the large, hypertrophic fibres. This is manifested by the presence of deep, longitudinal furrows on the outer surface, and by fine dividing lines, which penetrate its thickness.

Thus far, the hypertrophy of the myocardium rests on that of its single fibres. But at the same time, one is justified, as far as can be shown histologically, in affirming the existence of a true hyperplasia, which, however, is very limited. This pathological condition agrees, in the main, with physiological growth; for observation has here shown, that the increase in volume in single fibres, is to be considered the essential factor in the development of the heart, while the setting off of new cells falls far behind this. When, however, at the same time, an increase of the connective tissue can be shown, an important place must be conceded to this in enlarging the volume of the heart, although it is associated with the disappearance of a few fibres.

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Hospital Practice and Clinical Memoranda.

CASES OF TUMOR IN HERNIA REGIONS.

SERVICE OF DR. ABNER POST, BOSTON CITY HOSPITAL.

REPORTED BY GEORGE WM. PERKINS, *House Surgeon.*

FATTY TUMOR OF LABIUM MAJUS.

Case I. A. M., single; twenty-six years old. Entered Boston City Hospital, November 4, 1885.

Ten years ago, she first noticed a small, hard lump, about the size of her finger-tip, on the inner side of left labium majus. This did not grow noticeably larger for the next six or eight years, but during the past two years, it has gradually increased in size, till it is now as large as a "turkey's egg." It has always been painless, and never caused any inconvenience in walking, micturition, or menstruation, which begun at eighteen, and has been regular and normal since.

November 9th. Examination under ether showed left labium greatly enlarged, overhanging and concealing the right, the skin covering it smooth and tense. The swelling was perfectly translucent, flat on percussion, and gave a distinct wave of fluctuation. Both external and internal (vaginal) examination failed to show any connection with the abdominal cavity. No ring could be felt, and no impulse on cough, or variation in size with change in position, was obtained. The tumor most perfectly resembled a hydrocele, and the rarity of that disease was the only reason for hesitation in making a positive diagnosis. Several punctures with aspirating needle brought only a single drop of blood.

An incision about one and a half inches long, and careful dissection, disclosed what was evidently a fatty tumor, which shelled out easily, with only slight bleeding; about size and shape of a normal kidney. Drainage-tube, sutures, iodoform antiseptic dressing, firm, elastic pressure by sponges, and a spica bandage were applied.

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[4] Virchow's Archiv., Vol. 103, page 88.

November 10th. No pain, or discomfort even. Temperature, 100.5°; pulse, 85; both the highest at any time. November 24th. Swelling nearly gone. Discharged.

TUMOR OF SPERMATIC CORD.

Case II. M. P., twenty-five; single; born in Italy; barber. Entered hospital November 2, 1885. Three years ago, a small, hard swelling, size of finger-tip, was first noticed in scrotum, above the right testis. It has gradually increased in size, till it is now as large as a hen's egg. Never painful, except during last two weeks. No history of injury; denies any venereal disease, and gives no history of secondary symptoms. The family state that the swelling has always existed. Swelling was aspirated two weeks ago, but no fluid obtained.

Examination: Puny, and subnormally developed. In right scrotum, is a fusiform swelling about one and a half by one inch, apparently continuous with spermatic cord, which is enlarged; it is smooth, hard, elastic, not fluctuating; not translucent. There is no heat, redness, tenderness, or pain, on handling. No impulse on cough.

Testis, with epididymis, in apparently normal condition can be distinctly felt below, separated a finger's breadth from, the growth. Small, inguinal hernia on the left side. Appears to have two pairs of testes, the two abnormal swellings lying above the normal glands. Lips of meatus everted and reddened; slight gleety discharge from urethra. No evidences of syphilis found. Glands in right groin not noticeably enlarged. Absolutely declined any interference, and left the house November 7th.

Re-entered November 18. Pain had increased, so that he could not sleep, and tumor had grown rapidly. Had no treatment outside, except six leeches to scrotum. Right side of scrotum œdematous and ecchymosed from leech bites. The swelling is, at least, a third larger than on discharge, extending to the external ring, which is filled by the cord, enlarged to a diameter of half an inch. Below, the testis is no longer separable as a distant mass, but is continuous with the tumor, and distinguishable only by its softer consistency. Tumor is as hard as cartilage. In right groin, are two or three enlarged and tender glands. Pain is felt on pressure over the course of the inguinal canal.

November 20th. Etherized, and tumor and testis removed together, the cord being cut high up. Tumor was firm, and hard as cartilage, solid, except a small cavity in centre, containing brownish fluid and cheesy matter. Testis was not involved in the growth. Counter-opening, drainage-tube, and continuous silk suture; antiseptic iodoform dressing.

Report from Dr. Gannett, the pathologist of the hospital, says cyst wall was made up of dense, connective tissue, infiltrated with round cells in places. "Hypertrophy, due to chronic inflammatory action. No neoplasm tissues."

December 2d. Healed, except small spot of granulations. Open dressing. Discharged December 23, with very small, superficial, granulating surface, and general condition much improved, with no indication of return of disease, or of extension to pelvis or abdomen.

CRYPTORCHITIS.

Case III. John F. K., twenty-seven, single; born in Boston, bootblack. Entered hospital July 30, 1885. Has undescended testis on right side. Has always been able to protrude testis from the abdomen through the canal, and beyond the external ring, at will, by straining. Says that about three hours before entrance he found a small bunch in right groin, and soon afterward a second swelling, just above and external to the first, was found. Both were painful and tender. About ten years ago he had a similar swelling, painful and tender, which disappeared with rest and poultices.

Examination:— Healthy man, below medium size. Slight purulent discharge from urethra. No testis in right half of scrotum. Just above external ring on right side, is an ovoid swelling about an inch long and half an inch wide, somewhat reddened, painful, and tender. Patient recognizes it positively as the testis. Just above and a little to the outer side, is a swelling, two inches in diameter, having the shape of a flattened dome, not red but tender, painful, and flat on percussion. External ring on right side admits readily the finger tip. Slight impulse on cough. Examination is exquisitely painful. About three hours after entrance both swellings suddenly disappeared, spontaneously, and every symptom vanished.

July 31st. Investigation demonstrated the truth of the patient's statement. He could voluntarily protrude the testis through the internal ring and into the canal, but not at that time through the external ring.

The gonorrhœal epididymitis which was suspected to be the cause of the great pain could not be demonstrated.

CYSTIC TUMOR ABDOMINAL WALL.

Case IV. John B., twenty-two, single; born in Ireland, hostler. Has always had good health; no history of venereal. Since five years old has had a lump of the size of a silver quarter in right groin, which has never caused him pain or inconvenience. Says that a Doctor "put it back" in childhood. A week before entrance first noticed that it was getting rapidly larger, and becoming red, tender, and painful. Entered hospital August 31st. Had had no treatment previously, and worked till day of entrance.

Examination:— Strong, healthy man. No constitutional symptoms. In right groin in the region of inguinal canal was a subhemispherical, smooth, red swelling, about four by two and one-half inches, extending to the left about one-half inch beyond median line. Not especially tender or painful. No impulse on cough. Well marked superficial fluctuation. No evidence of venereal disease. Testes normal.

September 3d. Etherized and incision made and thin yellowish clear fluid obtained. Tumor found to consist of a large cyst, surrounded by many small ones, with trabecular walls, all lying within the abdominal parietes, and not communicating with the cavity.

The mass was excised and wound packed with iodoform gauze and left to granulate.

11th. First dressing, healthy granulating area. Had no symptoms of any kind, and was discharged relieved with only small superficial granulating surface September 28th.

Reports of Societies.

NORTH ESSEX DISTRICT MEDICAL SOCIETY.

THE annual meeting of the North Essex District Medical Society was held at the Essex House, in Lawrence, May 5th, the President, Dr. J. A. Douglass, of Amesbury, in the Chair.

DR. GEORGE W. SNOW, of Newburyport, reported a case of unruptured and apparently imperforate hymen in a pregnant woman, discovered during parturition, and artificially ruptured, to allow the passage of the child.

DR. R. C. HUSE, of Georgetown, read a paper upon

OLD REMEDIES,

being one of two essays that obtained a prize offered by the Society last year. Dr. Huse began by calling attention to the general tendency towards simplicity in therapeutics, the potential elements of composite drugs being constantly sought for. The more pronounced the action of a drug in health, the more we turn to it, in the hope of utilizing that action in disease. The reader then rapidly reviewed the action of familiar remedies — iron, potassium iodide, mercury, hamamelis, black cohosh, tartar emetic, squill, ipecac, veratrum viride, ammonium muriate — as discovered in medical literature, and in his own experience, and closed with the following summary of the purport of his essay: "What I wish to convey in this paper is this: While we have a multitude of new remedies, which no man can number, we are losing sight of the value of old remedies of positive, and perhaps unknown value, simply because we do not investigate thoroughly their scope. Nor should we employ complicated and heterogeneous mixtures for prescriptions. Make the remedies simple, and watch the effect of one at a time. Don't cover up a less potent remedy with a dose of morphine, which obtunds all the sensibilities, and obscures the symptomatology." The essay was succeeded by a prolonged discussion.

Dr. Charles E. Durant and Dr. C. D. Jones, of Haverhill, were admitted to membership, the former from the Suffolk, and the latter from the Middlesex North Districts.

The list of officers elected for the ensuing year, has already been published.[1]

After the annual dinner, adjourned, to meet in Newburyport in October.

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BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

MEETING April 5, 1886. DR. H. R. STEDMAN, in the Chair.

DR. T. W. FISHER reported

TWO UNUSUAL CASES OF INSANITY, PROBABLY OF EPILEPTIC ORIGIN.

(Reserved for publication.)

DR. DENNY spoke of the importance of deciding the reality of symptoms pointing to an attack of petit mal, especially in certain medico-legal cases. One should differentially diagnosticate the vertigo of a petit mal from that due to Bright's disease, hysteria, anæmia, or hyperæmia of the brain.

He considered that epilepsy may manifest itself simply in the form of a petit mal; and thought that a sudden lapse of memory was a very important symptom. He cited two cases of patients that he had observed. The first was a young man, twenty-two years of age, of good family, who had forged his father's name, and was placed in jail. Dr. Denny, in examining him, noticed certain occasional losses of memory, slight transient attacks of aphasia and occasional alternate contractions and dilatations of the pupil, not due to light; after having noticed these symptoms several times he became convinced that the young man was a subject of attacks of petit mal.

The second case was of a young lady, twenty-seven years of age, who had attacks of grand mal, and absolutely knew nothing about them, never remembering them. He considered that it was therefore of great importance to inquire of the friends regarding attacks of unconsciousness in any given case.

Regarding the significance of the phenomenon of alternate contraction and relaxation of the pupil, without the effect of light, he said that the only other influence which he knew of that would produce this effect was pinching the neck in the neighborhood of the cervical ganglia.

DR. CHANNING considered that epilepsy and insanity not infrequently co-existed, and that they were not necessarily dependent upon one another.

DR. F. B. HARRINGTON then read a paper upon

RESULTS OF THE INTRAVENOUS INJECTION OF SALT SOLUTIONS.[1]

DR. R. H. FITZ asked how the temperature of the solution was kept up.

DR. HARRINGTON said that he filled the reservoir and kept the supply of warm solution in a jar of hot water; filling the reservoir from time to time.

DR. FITZ asked the reader for the indications that a sufficient quantity had been injected, and whether any dangerous symptoms had arisen from an excessive infusion.

DR. HARRINGTON considered that the quantity of fluid to be used in a given case was largely a matter of judgment, and this depended upon the general improvement of the condition as shown by the pulse, respiration, etc. He had never heard of any dangerous symptoms arising during infusion.

He said that the infusion should be conducted very slowly, but that there was a certain danger in this, as the blood might flow into the canula and form a clot.

DR. FITZ said that apparently the benefit in infusions was confined to cases of acute anæmia. He called attention to the results from hydræmia plethora as described by Cohnheim. Experiments on animals showed that enormous quantities of salt solutions, at least six times the volume of the animal's blood, might be injected without a fatal result. The only observable superficial œdema is in the vicinity of the salivary glands. The excess of fluid is rapidly eliminated through the structures of the body whose normal functions is to permit abundant transudation.

DR. E. O. OTIS inquired how great was the danger of entrance of air entering the vein, and what precaution was necessary, also if the accident had ever happened in any of the cases he had reported.

DR. HARRINGTON said that he perhaps should have spoken of the care to be used in carefully isolating the vein, then a ligature is placed beneath the vein, the canula is introduced, and then the ligature should be secured about the canula and vein.

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[1] Journal, May 13, page 453.

[1] See page 481.

One, of course, allowed the fluid to flow through the canula before introducing it and then by watching the glass reservoir one might be almost sure that no air was introduced. As far as the reader knew, the accident of air embolism had never occurred in the operation of infusion.

Dr. E. O. Otis also asked what vein or artery Dr. Harrington would take for the infusion in case, for any reason one could not get at the veins at the fold of the elbow or the radial artery.

Dr. Harrington thought the external jugular vein would be taken.

Dr. Otis exhibited an apparatus for salt infusion made after Dr. Bull's pattern, consisting of a large irrigating bottle graduated in cubic centimeters from above downwards so that one could tell at a glance the exact amount of the solution that had been injected. A rubber tube and canula were attached as in Dr. Harrington's apparatus. The bottle was graduated to two thousand cubic centimeters.

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AMERICAN CLIMATOLOGICAL SOCIETY.[1]

SECOND DAY, TUESDAY, MAY 11. — MORNING SESSION.

The first Vice-President, Dr. Frank Donaldson of Baltimore, in the absence of the President occupied the chair.

The report of the committee on the health resorts was received and ordered published in the transactions.

The first was by Roland G. Curtin, M.D., Philadelphia, on

ROCKY MOUNTAIN FEVER.

The speaker in the first place referred to a communication received from Dr. D. G. Dougan of Denver, Colorado, bearing upon this subject. The experience of Dr. Dougan had led him to regard all cases of mountain fever as belonging to one or another of the well known already classified varieties. The cases, however, present variations from the usual course of the fevers to which we should assign them. Some of the cases are ephemeral in character and difficult of classification. The fever especially designated by the name mountain fever presents many features of typhoid fever. Some of the reasons for believing these cases to be an irregular or mild type of typhoid fever are as follows:— Such cases are usually seen at the season of the year when typhoid fever is most prevalent. They occur most commonly under conditions favorable to the development of typhoid fever; not infrequently cases will present some characteristic feature of typhoid, leaving no doubt as to the diagnosis. In the high altitudes where mountain fever is said to occur, a large proportion of the cases of undoubted typhoid pursue a remarkably mild course. Dr. Dougan concluded with a protest against admitting mountain fever as a specific disease, until its right to such a position had been proven by clinical and pathological researches.

In 1868, Dr. Curtin had seen in Wyoming Territory four cases which had been diagnosticated as mountain fever. At some point in the disease, all these cases had diarrhœa and in one it was continuous. One of the patients died suddenly at the end of three weeks, but no autopsy was made. In one case, there was a doubtful eruption. One of the cases had epistaxis in the beginning of the illness. Tympanites was more or less marked in all cases. Dr. Curtin considered these cases to be typhoid or typho-malarial in character. Sometimes the cases belonged in all probability to the class termed simple continued fever. The diagnosis of mountain fever was doubtless in large part the result of incompetency on the part of the observers, and the use of the term is continued largely as a result of fashion.

The opinion of other investigators was cited, all of whom expressed views similar to those given above.

The paper was discussed by Dr. Schauffler and Dr. Bell.

HOW THE THERAPEUTIC VALUE OF OUR MINERAL WATERS MAY BE INCREASED

Was the title of a paper by Dr. C. C. Rice, of New York.

The following conclusions were advanced: —

1. Physicians should make a careful analysis of our mineral springs.
2. The medicinal values of the waters should be tested by clinical investigation, and the conclusions published for the benefit of the profession.
3. If the waters are found to present marked merit, the physician should interest himself in developing the springs, improving the bath-houses, etc.
4. Physicians in sending patients to the springs, should be more careful to select the proper water, and should send with the patient the diagnosis and history of the condition for the benefit of the physician at the baths.
5. The patient while at the baths, should be under a more rigid medical discipline.
6. The social life of our watering places should be reorganized.

The following papers describing the climate of various places were then read:

THE CLIMATE OF MEXICO, by Dr. Didama, Syracuse.

THE SOUTHERN ADIRONDACKS, by Dr. Edward T. Bruen, Philadelphia.

THE CLIMATE OF EL PASO, TEXAS, by Dr. E. W. Schauffler, Kansas City.

SOUTHERN PINE PARK, A NEW HEALTH RESORT IN NORTH CAROLINA, by Dr. A. N. Bell.

TUESDAY AFTERNOON. — BUSINESS MEETING.

The following officers were elected: *President*, Dr. Frank Donaldson, Baltimore; *First Vice-President*, Dr. V. Y. Bowditch, Boston; *Second Vice President*, Dr. Roland G. Curtin, Philadelphia; *Secretary and Treasurer*, Dr. J. B. Walker, Philadelphia; *Additional Member of Council*, Dr. F. C. Shattuck, Boston; *Elected to Membership*, Dr. F. Donaldson, Jr., Baltimore; Dr. G. R. Butler, Brooklyn; Dr. W. Matthews, U. S. A.; and Dr. J. H. Musser, Philadelphia.

A memorial was presented by Dr. J. Ewing Mears, Secretary of a Special Committee of the American Surgical Association, appointed to consider the proposition with reference to the establishment of a "Congress of American Physicians and Surgeons." The substance of this proposition has already been published and commented upon in our editorial columns.

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[1] Concluded from page 473.

The paper on the

CAUSATION OF PNEUMONIA,

By HENRY B. BAKER, M.D., Secretary of the Michigan State Board of Health, was accompanied by many tables, and by sets of thirty-one illustrative diagrams, which were distributed to those present. These diagrams were drawn accurately to scale, and represented immense numbers of cases and deaths from pneumonia, and meteorological observations at the same times and places. The magnitude, and hence the probability of their accurately representing average conditions, may be inferred from the fact, that the curve for temperature in Michigan was based on 154,500 observations; that the curve for sickness from pneumonia in Michigan, which followed so closely the curve for temperature, was based on 31,014 weekly reports of physicians, 5,473 deaths from pneumonia in Michigan are tabulated, and graphically shown; as also 114,119 deaths in London, England; also 11,596 deaths and 49,487 cases of pneumonia in the United States armies during the three years, 1862–64, about 10,000 cases of "respiratory disease" (not including phthisis), in the European and native troops in India, were also shown in diagrams, with a curve of the temperature at representative stations. The statistics of the other States and countries serve to re-inforce those of Michigan; and Dr. Baker says he has found no statistics which conflict with conclusions drawn from the Michigan statistics, although he considers the statistics of sickness in Michigan the most reliable of all. The following is an abstract of the paper:

Employing the data collected in the office of the Michigan State Board of Health, relative to the sickness of pneumonia, and the coincident meteorological conditions in Michigan, more especially during the eight years, 1877–84, I find that certain meteorological conditions are so uniformly associated with sickness from pneumonia, as to make it appear that they bear a causal relation to that disease. The atmospheric condition which is most closely associated with pneumonia, is the night ozone; but, although it is, perhaps, one factor, the manner in which it is associated does not indicate that it is always the controlling factor in the causation of pneumonia. Besides, the amount of ozone is, to a great extent, controlled by the temperature; therefore, I think ozone is not a primary cause. The velocity of the wind has rather close relations to the disease. Variations in atmospheric pressure appear to have influence in the causation of pneumonia. Relative humidity of the atmosphere has apparent relations to the disease in some months, but it also depends largely upon the atmospheric temperature. Absolute humidity of the air has very close relations to pneumonia, and in such manner as to indicate a causal relation. That condition of the air, however, is, so far as relates to outdoor air, almost wholly controlled by the temperature. Finally, the curves representing the average temperature uniformly bear a very close relation to sickness from pneumonia; and the curves representing sickness follow uniformly at such a period after the temperature curves, as to make it seem certain that the sickness is, directly or indirectly, caused by a comparatively low temperature.

So far, the result is only to prove, in a scientific manner, the truth of more or less widespread beliefs since the time of Hippocrates. But what follows, may render this contribution more acceptable. The difficulty in the way of accepting the hypothesis, has been to understand how it is possible for cold to cause pneumonia. Thus, Professor Rindfleisch has said: "Even when, based upon some unequivocal observations, we have proclaimed the taking cold as the common cause (of croupous pneumonia), there has yet, by this, no insight been obtained into the process of taking cold. For what has the partial refrigeration of the outer skin to do with the inflammation of an interior organ?" The key to this "insight," which Professor Rindfleisch has said is wanted, has seemed to me to be the fact that the "refrigeration" is not so much of the "outer skin" (which is usually covered with clothing), as it is of that inner skin — the mucous lining of the lungs and air-passages, and which we are liable to forget is so extensive — amounting, as it does, according to Professor Dalton, to about 1,400 square feet of surface, in an ordinary adult person. We are also liable to forget the quantity of vapor of water constantly being taken out of the body by way of the lungs; and my tables show that the quantity of vapor exhaled in excess of that inhaled, is much greater in January than it is in July, in Michigan, because the quantity which enters the lungs with the air inhaled differs greatly, according as the air is, or is not, saturated with vapor, and especially, according to the temperature at which the air is inhaled. The higher the temperature (within ordinary limits), the greater the amount of vapor of water it will contain; thus, according to Professor Guyot's tables, based upon experiments by Regnault, a cubic foot of air at the temperature of zero, Fah., if saturated with vapor of water, contains five Troy grains; at the freezing point, it contains two grains; at 70° F., it contains eight grains; at 98° F., it contains 18.69 grains. Thus the absolute humidity of the air is controlled, as to its maximum, by the temperature of the air. The air exhaled from the lungs has been in constant contact with moist surfaces throughout its passage into, and out from the lungs; it is therefore probably nearly saturated with vapor of water, and at a temperature not far from 98° F. Assuming this, each cubic foot of air exhaled contains 18.69 grains of water; assuming eighteen respirations per minute, of twenty cubic inches of air each, there will be exhaled daily, 11.68 Troy ounces of water.

This is not as much, by four or five ounces, as is stated by some physiologists, but it is convenient to have a standard arrived at by means the same as those with which we must deal in studying the influence of meteorological conditions, so I continue to employ this method and standard. The absolute grains of vapor in each cubic foot of the atmosphere at any given place and time, are ascertained by means of the wet-bulb and dry-bulb thermometers, and the use of tables. Knowing the "absolute humidity" of the atmosphere for every day in each year, as we now do in Michigan, it is easy to compute the quantity of vapor inhaled daily at each season of the year, assuming, as above, eighteen respirations per minute, of twenty cubic inches of air each. This, subtracted from the 11.68 ounces exhaled, gives the excess of moisture exhaled over that inhaled. Cold air is, as we have seen, always dry air, and whenever air is warmed, as it is in the lungs, its capacity to retain vapor of water is increased, and its demand for water is great. Thus when warm air saturated with water is inhaled, one effect is to lessen the passage of fluids from the blood into the air-cells and air-passages; when the air inhaled is cold and dry, an increased quantity of fluids must pass from the blood into the air-cells, in order to keep them in the normal moist condition.

The fluid, which constantly passes from the bloodvessels into the air-cells, contains some of the salts of the blood, and such as are volatile, will pass out with the vapor exhaled at every breath; but such salts as chloride of sodium will not readily pass off with the vapor, the usual mode of preparing salt from brine being by the evaporation of the water therefrom. For many years, it has been known that chloride of sodium, which is found in the urine of healthy persons, is absent during the onward progress of pneumonia, and reappears in the urine when the patient is convalescing. For several years, I tried to obtain such analyses of sputa and lungs of persons dead from undoubted pneumonia, and comparisons with sputa and with lungs of persons who did not have pneumonia, as would show whether it was as I supposed — that during the onward progress of pneumonia, the chloride of sodium passed from the blood into the air-cells, and accumulated there, because it did not so readily pass off as did the vapor of water. However, we are not left to conjecture or hypothesis as to the course which chloride of sodium takes, when, during the onward progress of pneumonia, it disappears from the urine. In Vol. XXXV. of the Transactions of the Royal Medical and Chirurgical Society of London, published in 1852, is a paper by Lionel Smith Beale, wherein he shows, by such analyses as those I have outlined, showing the chemical composition of the sputa and of the lungs, that the chlorides, which, during pneumonia, disappear from the urine, do appear in the sputa and in the air-cells of the lungs at such times.

The meteorological and other statistics which I have collected, show that at such times as pneumonia is most caused, there is an unusual demand upon the air-cells for fluids; their function, in this respect, is unusually taxed. Passing into the air-cells with the fluids, are certain salts which do not pass out with the vapor; this is shown by *a priori* evidence, and also by the analyses by Dr. Beale. The salt which accumulates is an irritant.

It has been held that the extraordinary stimulation of an ordinary function of an organ or part of the body, leads to the congestion, and even to inflammation, of that part.

If this be accepted, the causation of pneumonia is now, perhaps, sufficiently shown.

There are, however, certain facts concerning pneumonia which to my mind can now be more fully explained than is done by the foregoing. Prominent facts in the pathology of pneumonia are those which relate to the fibrinous exudate in the air-cells. Changes in the blood pressure do not seem to fully account for all of them. The curve for atmospheric pressure does not seem to have uniformly quantitative relations to pneumonia. One of my diagrams shows that the average daily *range* of the barometer has such relations as to indicate a possible causal relation. It may be noted, in passing, that in albuminuria there is, as in pneumonia an exudation of unformed material which is not subsequently organized. Speaking of the diseases most associated with pneumonia, Dr. Sturges says: "Thus it will be seen from the appendix that renal disease figures largely among the preëxisting morbid conditions of the individuals enumerated." He also says: "It appears upon calculation that pneumonia in kidney disease is most frequent in the so-called amyloid or waxy degeneration. According to Dr. Dickinson the marked tendency to inflammation which characterizes this change is seen most conspicuously in the lungs, and next, most often in the pleura."[2]

I have shown how, through the inhalation of cold, dry air, the exudation of fluids into the air-cells is increased; and how, by the unusual evaporation of that fluid an unusual quantity of the chloride of sodium accumulates in the air-cells. It remains to point out how, through the influence of that chloride of sodium in the air-cells, the exudation into them of the albuminous constituents of the blood serum is probably favored. Professor Dalton, in his Physiology says: "But a substance like albumen, which will not pass out by exosmosis toward pure water, may traverse a membrane which is in contact with a solution of salt. This has been shown to be the case with the shell-membrane of the fowl's egg, which if immersed in a watery solution containing from three to four per cent. of sodium chloride, will allow the escape of a small proportion of albumen. Furthermore, if a mixed solution of albumen and salt be placed in a dializing apparatus, the salt alone will at first pass outward leaving the albumen; but after the exterior liquid has become perceptibly saline, the albumen also begins to pass in appreciable quantity."

It seems significant that two organs in which an albuminous exudation occurs so marked as in the kidneys and the lungs should both be so constituted as that these facts relative to the exosmosis of albuminous substances should be applicable; because chloride of sodium is normally excreted by the kidneys, and as it passes by osmosis with extreme facility, the first beginnings of the urine would naturally contain it, so that when the blood is unusually saline the urine in the uriniferous tubules may be sufficiently saline to induce the exosmosis of albumen from the bloodvessels. But while this may occur in the kidney, one condition seems to make it more probable in the lungs, because in the lungs, through the constant evaporation of the fluids exuded, the salinity of the remaining portion may be constantly increased.

Whether the ultimate fibrinous character of the exudate in the lungs is due to the blood placques, or is a result of the oxidation of the albumen otherwise induced, before or after the oxidation, it may be well to notice that the diagrams that I present show close relations between the curves for atmospheric ozone and pneumonia. An albuminous or a fibrinous exudatæ is a favorable situation for the reproduction of micro-organisms. Whether in pneumonia there are or are not such low organisms as the "pneumo-coccus of Friedländer, the statistics which I present show that the causation of the disease is absolutely controlled by the meteorological conditions. The facts that one attack does not protect from another, and that persons who have had it are more likely to have it again, are against its being a specific disease, but not against the mode of causation which I have pointed out.

In statistics the variety of pneumonia is not usually stated. The data which I present seems to prove that in Michigan it is all, or nearly all, of one kind, causally, otherwise it would not have absolutely quantitative relations to the temperature as it is shown to have in the accompanying diagram. The reason why that diagram shows smoother curves than the others, is I think, because the details of the observations and reports were more accurately attended to. The meteorological observers were supplied with standard thermometers, the stations were representative of the area in which the sickness was, the reports of sickness were made weekly by leading physicians in active practice, and the compilation has been done with great care to learn the exact truth.

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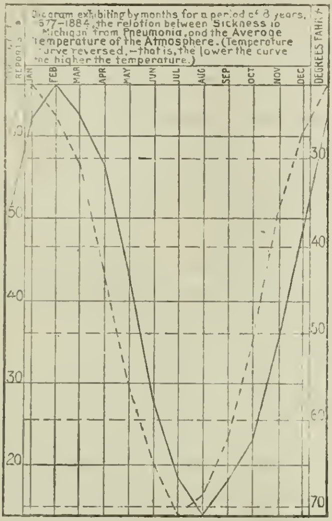
[2] Natural History of Pneumonia, Sturges, p. 82.



Sickness from Pneumonia ——— Average Temperature — — — —

* Of all reports received, the per cent. which stated the presence of pneumonia then under the observation of physicians reporting.

Whenever the views here presented shall have been accepted, numerous questions will arise,—as to the diet,—favorable to keeping the blood in the condition to best resist the tendency to pneumonia, as to methods of treatment, whether by warm, moist air, and especially as to how best to control the condition of the air breathed by persons generally as to lessen the danger of their contracting the disease. One lesson seems obvious, namely, the importance of moistening all air which requires to be warmed, in houses, offices, public buildings, and wherever such conditions of the air inhaled can be controlled.

SUGGESTIONS REGARDING THE PREVENTION OF PHTHISIS IN MILL-HANDS,

by **Dr. J. H. Musser**, of Philadelphia.

The speaker stated that it was rather to prevent that state of the system which often leads to phthisis, that he desired to make some suggestions. The suggestions more particularly referred to factory laborers. He showed that states of ill health were common in this class of artizans, and asserted that it was very largely due to an inadequate supply of food, which was improperly selected and prepared, and to carelessness in attention to digestion. This cause obtained more largely than bad hygienic surroundings, or than the occupation itself.

If this be true, the remedy proposed was to have the plan of the Willimantic Cotton Company used by all mill proprietors. That company has proved by experience and careful calculation that it pays them in quality and quantity of work done, to supply milk to their boys and bouillon to their women twice daily, and that the health of the operatives is promoted and their lives prolonged thereby. Dr. Musser trusted that the members of the society could influence proprietors to adopt this plan, and therefore close one of the avenues to disease and death.

A STATISTICAL INQUIRY REGARDING THE RELATION OF HIGH ALTITUDES TO NERVOUS DISEASES,

by **Dr. C. L. Dana**, of New York.

The speaker presented the results of inquiries made at his request, of twelve physicians living in Colorado Springs, regarding the effects of high climates on the nervous system in health and disease. The majority thought that chorea in children was most frequent there than in lower altitudes: That the climate was bad for nervous women. The high altitudes do not necessarily injure epileptics, and in anæmic cases might cause improvement. Insomnia dependent upon anæmia and mal-nutrition, was benefitted and generally cured. The climate had no specific influence for good upon diseases of the spinal cord, and if anything, the contrary. The speaker was of the opinion that high altitudes had a tendency to excite lithæmia and arthritism with consequent irritating effects upon the nerve centres. The best effects of the climate were seen in anæmic insomnia, neurasthænia and melancholia.

Dr. R. G. Butler, of Brooklyn, read a paper on

MITRAL STENOSIS

giving the histories of fourteen cases.

The president announced as the committee to confer with the committees of other special societies with reference to the establishment of a "Congress of American Physicians and Surgeons," Dr. A. L. Loomis, of New York, Dr. F. Donaldson, of Baltimore, Dr. F. C. Shattuck, of Boston, Dr. E. T. Bruen, of Philadelphia, and Dr. W. W. Johnson, of Washington.

It was resolved to appoint a committee of three, with Dr. C. C. Rice as chairman, to investigate the therapeutical properties of the different mineral springs.

After passing a vote of thanks to the College of Physicians for the use of their hall, the society adjourned *sine die*.

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NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, April 6, 1886. C. L. **Dana**, M.D., in the chair.

The following named gentlemen were elected to office for the ensuing year: for *President*, C. L. Dana, M.D.; for *First Vice-President*, M. A. Starr, M.D.; for *Second Vice-President*, B. Sachs, M.D.; for *Recording Secretary*, G. W. Jacoby, M.D.; for *Corresponding Secretary*, W. M. Leszynsky, M.D.; for *Treasurer*, E. C. Howard, M.D.; for *Councillors*, E. C. Harwood, M.D., L. Weber, M.D., E. C. Seguin, M.D., W. R. Birdsall, M.D., G. M. Hammond, M.D., and A. D. Rockwell, M.D.

A NEW THERMO-CAUTERY.

Dr. Græme M. Hammond presented the instrument, consisting of a Bunsen burner, which by the action of a spring and clamp throwing a platinum tip at right angles to the burner, could at once be converted into a thermo-cautery. It had the advantage over the ordinary Paquelin cautery of being always ready for use.

CASE OF MEDIAN NERVE SUTURING.

Dr. Fraser C. Fuller presented a man who two and a half years ago sustained a glass-cut wound of the lower forearm, resulting in complete division of the median nerve and a part of the sublimus flexor. The nerve was sutured with three small strands of catgut a few hours after the injury. The tendons were also united. The operation and dressing were absolutely antiseptic, and primary union took place.

At the time of the operation there was complete cutaneous anæsthesia of the region supplied by the nerve. After several months sensation slowly returned, and a year and a half after the operation it was perfect. Power in the small muscles of the affected hand had not entirely returned.

Dr. Fuller referred to another case in which spontaneous recovery took place, operation being refused. There occurred, however, deep necrosis of the finger tips, and to constant care and energetic electrical treatment only could the eventual recovery be attributed.

Dr. Dana thought that the case illustrated very well the result of the experiments of Johnson and Stockholm that divided nerves if sutured healed in about sixty days, but if let alone they heal in about ninety days.

Dr. B. Sachs then read a paper entitled,

PRELIMINARY REPORT ON A CASE (WITH AUTOPSY) OF TUBERCULAR DISEASE OF THE SPINAL CORD.

After a few introductory remarks the reader gave a full report of the case of which the following is a short abstract: The trouble which was supposed by the patient to be rheumatic began with pains in the left shoulder which radiated down into the arm, forearm and hand; by degrees the pain became more intense; for the first it was confined chiefly to the area of distribution of the ulnar nerve, but had gradually spread over the entire dorsal and volor surface of the left arm and hand; in addition to this hyperæsthesia (and hyperalgesia), to puffiness of the fingers and to a glossy appearance of the skin, there was a marked weakness of grasp in this left hand, with only slight loss of power in the left upper arm and forearm. The condition of the left upper extremity remained unchanged during the entire course of disease, a period of about two months. At the time of the first examination, five weeks after initial pains, there were no other symptoms discoverable but these; a slight paresis and some hyperæsthesia of the left leg, exaggerated knee jerks and ankle clonus on both sides. These symptoms, chiefly unilateral, continued so until the close of the seventh week; meanwhile the paresis of the left leg had developed into almost complete paralysis; in the course of another week this unilateral paralysis was transformed into a complete paraplegia of the lower extremities. The motor paralysis also affected the abdominal muscles, and to some extent the respiratory muscles of the thorax, and the right upper extremity. Incontinence of urine and trophic changes in the skin were superadded. The sensory symptoms amount to a general hyperæsthesia of the left half of the body below the level of the third rib; this hyperæsthesia was changed toward the end of the disease into an anæsthesia which spread from the left half and finally involved the right leg and to a lesser degree the right half of the trunk and the right upper extremity. A tumor pressing upon the left posterior root fibres of one of the lowest cervical segments was thought sufficient to explain the unilateral symptoms; the bilateral symptoms were attributed to a cervico-dorsal myelitis. But there was no clue during life to the nature of the tumor. The autopsy showed a solitary tubercle situated on the left side between the sixth and seventh cervical segments followed by a cervico-dorsal myelitis; there were *very slight* tubercular deposits in the lungs and intestines.

In his remarks on the case the author of the paper attempted to explain the eccentric characters of the sensory symptoms, (no anæsthesia on the side opposite the lesion) the exaggerated knee jerks and presence of ankle clonus on both sides, and then referred in detail to the behavior of the muscular sense, which was lost on the side of the lesion and not on the side opposite the lesion. This was in accord with Brown-Séquard's views and opposed to those of Ferrier. In conclusion the reader asked for discussion of the following points: 1, Differential diagnosis between tumor and other forms of spinal cord disease; 2, Frequency of tubercular affection of the spinal cord substance; 3, Unilateral symptoms from spinal cord disease with special reference to disturbances of sensibility and of the muscular sense in particular.

DISCUSSION.

Dr. M. A. Starr had, by invitation of Dr. Sachs, made an independent examination of the patient three weeks ago. That which caused them to hesitate in making a diagnosis was the difficulty of harmonizing the sensory disturbances with the assumption of an absolutely unilateral lesion in the cord. It had been said that Brown-Séquard had shown pretty conclusively that anæsthesia on one side, and hyperæsthesia on the other, were due to a unilateral lesion in the cord on the same side on which there was hyperæsthesia. The autopsy in this case showed pretty evidently that it did not fall in line with those of Brown-Séquard; that in the early stage, at least, of unilateral cord disease, anæsthesia of the opposite side of the body did not always exist. But it was impossible to draw any definite conclusions from a single case, and he had been unwilling to admit this one as being outside the usual line, because he had previously seen one at the Polyclinic, since reported by Dr. Taylor, as confirming, in all respects, the theory of Brown-Séquard. It was true no autopsy was obtained, but the symptoms seemed to be very definite. Dr. Starr thought the whole subject of sensory conduction in the spinal cord was in an unsatisfactory state. There seemed to be no doubt that the muscular sense tract lay in the column of Goll, and crossed in the medulla, not in the cord. That view was confirmed by Dr. Sachs's case The areas of analgesia and hyperalgesia in the later stages of this case, were rather irregularly distributed, thus rendering the study of the sensory tracts in the cord extremely difficult. He had been impressed with the great hyperalgesia in the arms of this patient, the slightest touch, even of the nails, causing great pain. If the sensory tracts crossed just after entering the cord, why was there not anæsthesia on the right side in this case? Three or four cases had been recorded, in which there was some reason to believe that the sensations were conveyed upward through lateral tracts in the cord, anterior to, and a little outside of, the pyramidal tract. Three or four cases had been reported in which there was ascending degeneration in this tract, and he had himself seen one, which was not yet reported. If sensations were carried upward in that portion of the cord, it would possibly explain some of the peculiarities in Dr. Sachs's case, in which that portion chiefly escaped.

Dr. L. Putzel said that if Dr. Sachs referred to miliary tuberculosis of the cord, he could say, from his own experience, that it was not of very infrequent occurrence.

Dr. Sachs said he referred to tuberculosis of the spinal cord substance, and not of the spinal meninges.

Dr. Putzel had seen only one case of that kind, in which the disease gave rise to a myelitis, with all the symptoms of myelitis. Tuberculosis of the cord had not been suspected. The case occurred in a phthisical woman. It seemed to him, that the lesion in Dr. Sachs's case was so diffuse, that very little could be learned from it regarding localization and transmission of sensory impressions. Concerning Dr. Starr's views as to the muscular sense being conducted by the columns of Goll, he had seen, some years ago, a case of meningomyelitis, in which there was considerable thickening of the membranes posteriorly, and such degeneration of the columns of Goll, that it could be seen distinctly through the pia mater, yet there was not the slightest evidence of affection of the muscular sense.

Dr. Leo had seen, in institutions, a number of cases of tuberculosis in patients suffering from locomotor ataxia, especially in old men.

Dr. E. C. Spitzka reviewed some of the points in the case, and said he thought the fact that tumors in other portions of the cord had not been excluded, deprived the case of much determining value as to the views entertained by Brown-Séquard, and referred to in the discussion. He had been somewhat surprised at some of the revelations made during the course of the discussion. He had not considered tuberculosis, either of the membranes, or of the substance of the cord, so common an occurrence in old age, that any single observer could have seen a large number of cases, and certainly, the suggestion made by Dr. Leo was worthy of following up. Regarding the muscular-sense tract, he thought that if a single case were to be accepted as disproving the supposed function of a given part of the cord, there was no part which could not be regarded as without function. He remembered that specimens had been presented before this Society, in which it was claimed that the columns of Goll had undergone slight degeneration, when it was found that there was only a slight thickening of the septum, from old age.

Dr. Putzel remarked that the case which he referred to, was also examined by Dr. Welch.

Dr. Græme M. Hammond said the question which interested him specially was whether exaggerated knee jerks and ankle clonis necessarily indicated an organic lesion. He had under treatment a gentleman in whom there was exaggerated tendon reflex and very marked ankle clonis in both the upper and lower extremities on the left side. There was no stiffness, pain, atrophy, or other symptoms of spinal disease. After a few doses of ergot, the ankle clonis and exaggerated tendon reflex disappeared, to return again after quitting the ergot, and disappearing with its renewal. Two or three years ago he exhibited before the American Neurological Association, a man cured of locomotor ataxia, and in whom there was entire absence of tendon reflex; yet under the influence of ergot the tendon reflex returned. We could hardly conclude that ergot cured true sclerosis or any organic disease. The question arose, were exaggerated reflexes and ankle clonis to be regarded as the effect of organic disease of the cord.

Dr. Putnam-Jacobi inquired as to the relation between increased patellar tendon reflex and functional disease, and referred to a marked case of hysteria in which, during a protracted attack she noticed very marked exaggeration of the patellar tendon reflex.

Dr. Spitzka said that only a few days ago a child which had polio-myelitis, the right lower extremity only being affected, received for several days in succession, double the dose of strychnine which he had intended to administer, which had the effect of producing marked exaggerated knee jerks and ankle clonis, which had previously been entirely absent. He could not understand why ergot should produce the opposite effect, although he did not doubt that it had done so in Dr. Hammond's case.

In taking up the various points raised in the discussion Dr. Sachs wished to insist again on the importance of differentiating in his case between the symptoms due to the tumor and those due to the subsequent myelitis; the unilateral symptoms alone, could be put to the account of the tumor. Addressing himself to Dr. Spitzka, Dr. Sachs said he did not think it was necessary to suppose several lesious in the cord in order to explain the symptoms at the beginning of the case; the symptoms which developed later in the disease were attributed to the myelitis. Of the initial symptoms, the only one opposed to Brown-Séquard's views was the absence of anæsthesia on the side of the body opposite the lesion, and the author explained *that* on the supposition that the fibres in the sensory tract were only pushed aside, and not destroyed by the tumor, retaining their conducting power. Explained in this way the case could be made to accord with Brown-Séquard's views. As to the exaggerated knee jerks and double ankle clonus, it was admitted by almost all that exaggerated knee jerk might be present in comparatively normal conditions. The existence of ankle clonus without some changes in the lateral columns was questioned by many, but it was shown by Prof. Pitres to exist as early as eight hours after an apoplectic attack, and that therefore in his (Dr. Sachs's) case, it would not be necessary on account of these symptoms alone, to assume multiple lesions.

Dr. Sachs agreed with Dr. Spitzka concerning the infrequency of tuberculosis of the spinal cord. The best authorities claimed that tuberculosis of the spinal cord substance was exceedingly rare.

Dr. Leo, in reply to a question, said he did not claim that the tabes dorsalis in the cases which he had seen in old people was due to tuberculosis of the cord: the existence of the two diseases may have been a mere coincidence.

Dr. G. H. Hammond thought that exaggerated tendon reflex or ankle clonus might be due to either a localized congestion or anæmia of the cord, and this would explain why in one case they were relieved by strychnine and in another by ergot.

— Dr. Reeves Jackson, of Chicago, says that statistics based on many thousand cases show that one marrage in every eight is childless.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting April 15, 1886.

MEMORIAL PAPERS.

Memoirs of deceased Fellows and Officers were read, as follows: Alfred C. Post, M.D., by Dr. Stephen Smith; S. Oakley Vander Poel, M.D., by Dr. A. Vander Veer, of Albany, ex-President of the Medical Society of the State of New York; Austin Flint, M.D. by the President, Dr. A. Jacobi.

DR. T. HERRING BURCHARD read a paper on

PELVIC ABSCESS IN THE MALE.

Pelvic abscess in the male, he said, had not attracted the same surgical attention as those occurring in the female; but the serious nature of the affection was quite as great in the one as in the other, and its occurrence he thought more frequent than the meagre literature of the subject would lead us to suppose.

Five cases have fallen under Dr. Burchard's immediate observation. By pelvic abscess he wished to be understood as meaning a phlegmonous inflammation, occurring in the superior portion of the pelvic cavity, below the cavity of the abdomen, from which it is separated by the pelvic reflections of the peritoneum, and above the muscular floor formed by the levator ani muscle. It must not be confounded with abscess of the abdomen — typhlitic, perityphlitic, etc. — nor with those originating below the levator ani, in the ischiorectal fossa. In the loose connective tissue which occupies this region, described by Richet as the pelvic-rectal space, abscesses occasionally form. From the peculiar anatomical construction of this space, with its bony lateral boundaries and its dense and almost impervious musculo-membranous floor, abscesses may originate here, producing most acute constitutional disturbance, and yet unaccompanied with any distinguishing symptoms that would call the surgeon's special attention to their existence.

Not only this, but following the general law of abscesses, to travel in the direction of least resistance, they will burrow internally to any distant parts without manifesting their presence by coming to the surface. Thus, they, will dissect their way through the foramina of the pelvis, and appear externally under the gluteal muscles; they have penetrated the acetabulum and destroyed the hip-joint; they have dissected up the aponeurosis of the iliac muscles, produced necrosis of the ilium, and appeared upon the external surface of that bone. Or, again, the abscess, having emerged from the pelvic cavity, may travel anteriorly, following the course of the femoral vessels beneath Poupart's ligament, and make its appearance on the anterior surface of the thigh. Or, again, it may penetrate the hollow viscera and evacuate itself into the bladder, the rectum, or the peritoneal cavity. In fact, having once escaped its bony confines, there is no direction in which it may not travel.

Mr. Henry Morris divides such iliac abscesses of pelvic origin into two groups: (1) the sub-peritoneal, and (2) the sub-aponeurotic; the former of which being prone to spread widely, in both upward and downward direction, and the latter more circumscribed, forming between the fascia iliaca and iliac muscle, and producing caries or necrosis of the bone. The clinical history and symptoms naturally vary according to the acuteness or latency of the attack. Should the attack be acute, both the constitutional and the local disturbance are proportionally greater. In such cases the phlegmon forms rapidly, with great pain and corresponding febrile phenomena; and such an attack might readily be mistaken for one of general or circumscribed peritonitis. With the pain we have more or less abdominal distension, tympanites, vomiting and flexion of the thighs; all of which are characteristic of that disease. Micturition is difficult, or altogether impossible. The tumefaction may project into the rectum, setting up proctitis and tenesmus. Should the inflammation spread upward, localized or general peritonitis may result. Abscesses that form thus acutely are more likely to evacuate themselves spontaneously in either the rectum or the bladder than those of a subacute or chronic character.

Having quoted the history of a case illustrative of the truth of this statement, published by Dr. Bowditch in the First Medical and Surgical Report of the Boston City Hospital, 1870, Dr. Burchard went on to remark that just how speedily the inflammation might terminate in suppuration in these acute cases, it would be difficult to say. The inference was logical, he thought, that suppuration, when it occurs, does so some considerable time before it makes itself manifest by external tumefaction. It seems that the delay in getting the evidences of abscesses is not due to absence of pus, but rather to the difficulty the pus experiences, on account of the depth of the suppurative process, in coming to the surface. During all this time, however, the constitutional evidences of internal suppuration are more or less pronounced, and a carefully conducted examination at this stage may forestall and prevent many months of tedious suppuration, with its attendant evils.

Still, chronicity, rather than acuteness, seems to be the rule with pelvic phlegmons in the male, except in cases having a traumatic origin. The affection most frequently occurs in the poorly nourished and cachectic, and in such subjects inflammatory processes are slow, and suppuration tardy. A widely-diffused induration may pervade the pelvic cellular tissue months before its final breaking down into pus. The diagnosis in such cases is often very baffling, owing partly to the inaccessibility of the parts affected, and partly to the perplexity of symptoms that arise from so many different tissues, organs, bloodvessels, and nerves being implicated in the inflammation. As bearing upon the clinical history, Dr. Burchard related five cases which have come under his personal observation. Of these, the last was of greatest interest, and was as follows:

Peter Murphy, aged twenty-three, married, a porter by occupation. Always temperate and robust and strong up to March, 1882, at which time he was suddenly seized, after some unusual exertion, with sharp pains in the right iliac fossa, which lasted thirty hours. This paroxysm terminated in a dull, heavy pain, which extended across the hypogastrium into the left iliac region, and which continued with greater or less severity up to the time of this operation. In June, 1884, he was admitted to St. Luke's Hospital, suffering from the same intense pain. Poultices were applied, but no suppuration occurred. In the following August, after several unsuccessful aspirations, an abscess of the right lumbar region, midway between the iliac crest and the ribs, was evacuated by the late Prof. James L. Little. The case was regarded by him as one of perityphlitic abscess. At this time the patient's condition was very bad; with severe steady pain deep in the pelvis and perineum, and darting pains extending through the rectum into the right testicle and down the sciatics. There were also priapisms, with involuntary nocturnal emissions. In December a second abscess formed, and was opened by Dr. Little.

Although suffering more or less constant pain, his health improved during the winter; but in March and July following other abscesses formed in the side and on the body of the ilium. These were also opened. In August and September he had the pain and constitutional disturbance of forming abscesses, but free incisions failed in giving vent to pus.

October 5. Patient's health evidently failing. All the old pains had returned. A careful examination under ether was made by Dr. Burchard, Drs. S. D. Powell and H. A. Mandeville assisting; but owing to the thickness of the abdominal walls from fat, this was very unsatisfactory. Rectal examination revealed nothing. A localized phlegmon over the ilium, two inches below and to the front of the posterior superior spinal process, was opened, and carious bone detected. This was removed by gouge and rongeur. The superficial caries led into a large abscess cavity in the ilium, and this in turn communicated, by a direct opening, with the iliac fossa. The finger, introduced through the bone, could detect nothing abnormal within the abdomen. The carious bone being thoroughly removed, a tent of bichloridized oakum was introduced through the ilium, and the wound partially closed.

October 29. After great pain, referred to the hypogastrium, right iliac region and right testicle, another abscess formed, and discharged through the opening in the bone. The source of this could not be detected, and both external and rectal examinations failed to throw light on the case. In the early part of December another abscess formed within the pelvis; but instead of discharging through the opening in the ilium, pointed over the crest, and was evacuated at this point. The patient's condition was now critical in the extreme. He was rapidly losing strength and flesh, and was being worn out with constant pain and suppuration, while albumen, with hyaline casts, appeared in the urine. It was felt that something effective ought to be done, and yet there was nothing tangible upon which to found a diagnosis, beyond the fact that at irregular intervals abscesses in the right iliac region would form and discharge. Repeated examinations were negative in their results.

Laparotomy was, accordingly, performed Feburary 1st, 1886, at St. Elizabeth's Hospital, by Dr. Burchard; Drs. H. Marion Sims, Mandeville, and C. W. Stinson assisting. An incision was made, commencing just above and posterior to the posterior superior spinous process, and following the bone downward for a distance of five inches. The dissection was carried through the abdominal muscles, and the peritoneum exposed. This he endeavored to detach from the fascia, but so firmly adherent was it, that in spite of very gentle manipulation, it tore. A flat sponge was introduced through the laceration, to hold back the intestines, while with the hand a through exploration was made. Almost immediately a mass of adhesions was found, that led to an old abscess cavity, which occupied the posterior half of the fossa, and extended, like a great sinus, directly from the ilium, over the line of the pelvis, and down into its cavity. No dead bone could be detected.

The sinus having been laid open, its walls, which were almost cartilaginous, were thoroughly revivified with a dull curette. The sinus through the bone was likewise curetted, and some carious bone removed. Two drainage-tubes of soft rubber, eight inches long, were carried directly to the bottom of the sinus, and the whole thoroughly irrigated with a solution of bichloride of mercury, 1 to 2,000. The abdominal wall was now closed with deep and superficial sutures. The incision leading through the bone was kept open, and drained from the bottom with iodoform and bichloridized oakum. A superficial dressing of borated cotton was applied over all.

The patient rallied well. On the third day, the temperature rose 102.2°, and the pulse to 120, and there was a very slight, circumscribed peritonitis. On the sixth day, the patient's temperature was practically normal, and the discharge from the tubes scarcely amounted to half a drachm. After this, the tubes were shortened gradually, and at the end of three weeks were entirely removed, from granulations having filled up the cavity of the sinus. The opening through the bone has likewise been filled in with new tissue, and is now closed.

Having presented the patient, who, he said, was in better health than he had enjoyed for years, to the Fellows of the Academy, Dr. Burchard went on to speak of the diagnosis and treatment of pelvic abscess in the male. Wherever cellular tissue exists in the body, there suppurative inflammation is liable to occur. The male pelvic cavity, as the grossest dissection will show, contains a large amount of cellular tissue, and, pathologically, it is no exception to the rule. Inflammation occurring here manifests itself, in addition to local distress or pain, which is generally severe in character, by the usual constitutional disturbances. After tumefaction has occurred, another set of symptoms arise, which are due to pressure on sensitive nerves and organs. Another feature peculiar to these abscesses is their tendency to burrow, and the very great dangers attending thereupon. Their natural destination should be the perineum, and such, doubtless, would be the case, were it not that the extremely dense fibres of the levator ani and prostatic muscles, which are largely composed of firm, fibrous tissue, present an almost impenetrable obstacle.

The next most natural route would seem to be the rectum, and here many of these abscesses are evacuated. Many, however, mount the pelvic cavity, and appear within the abdomen. After this, their course is erratic. Most of the abscesses appearing anterior to the bladder, in the so-called *cavum retzii*, the præ-vesicular abscesses of the French surgeons, are abscesses of pelvic origin.

Clinically, it is important to distinguish between an inflammatory condition, pure and simple — a cellulitis simplex — and the same condition after it has passed into the suppurative stage. The presence of pus cannot be recognized at too early a period. It is likewise necessary to distinguish between a pelvic cellulitis, and general or localized peritonitis; also between this and cystitis, proctitis, and prostatitis. Rheumatism and neuralgia, too, must be borne in mind.

Surgically, it is necessary to differentiate between abdominal abscesses, ilio-pelvic abscesses, pelvic abscesses, abscesses of the ischio-rectal fossa, and perineal abscesses. Exceptional possibilities must be carefully considered, such as hernia strangulated in the pelvic foramina, passage or impaction of renal calculi, acute inflammation of the psoas muscle, typhlitis and and perityphlitis, and lastly, scrofulous, malignant, tubercular, and syphilitic disease of the pelvic glands.

The treatment, externally, resolves itself into treatment of the cellulitis before suppuration, and treatment after suppuration has been established. In the former case, rest, morphia, quinine in free doses, local refrigeration, and, possibly, local depletion by leeches to the perineum. In employing cold in this, or any other inflammatory condition about the rectum, nothing equals in efficacy and comfort, in Dr. Burchard's experience, the continuous douche of cold water, which passes up, and immediately returns through a double-flow blind tube. The great mistake that is often made by the inexperienced in the application of either this or the ice-coil, is in applying it too cold at first. The water, at first, should be warm, and then gradually cooled until ice-water can be used, and with astonishing relief. During acute inflammation, frequent rectal explorations should be desisted from, as calculated to do more harm than good. After suppuration may reasonably be suspected, a careful examination under anæsthesia should be made, in order that the abscess may be evacuated into the rectum at the earliest moment. If evidence of internal suppuration persist, and there is reason to believe the pus to be burrowing upward, an exploratory abdominal incision is obviously demanded. If this can be made without opening the cavity of the peritoneum, it certainly should be done. The object to be attained, however, is the evacuation of the pus; but we cannot always be successful in this, as adhesions will form impassable barriers at times. The principle, though, is surgical and conservative.

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Recent Literature.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs, including Thoracic Aneurism. By R. C. M. Page, M.D. Revised edition. New York: J. H. Vail & Co., 21 Astor Place. 1886.

The first edition of this chart was noticed in the Journal of February 11, 1886, and the work was then condemned on the ground that it was calculated seriously to mislead students by dwelling on the diagnostic value of cardiac murmurs, while silence was maintained as to the light which cardiac enlargement throws upon the nature and significance of murmurs.

We are much pleased to see that in the revised edition this defect has been met and overcome. There are some minor points of detail, in regard to which we cannot quite agree with the author; but, in its present form, the chart is likely to prove very useful, summarizing briefly and clearly the important facts and principles of physical diagnosis, as applied to the common affections of the thoracic organs. F. C. S.

— A man known as "the Sussex giant" died suddenly at Appledore, Eng., recently. Although only thirty-six years of age, he weighed over 546 pounds. He was on an exhibition tour, and in one of the intervals between the performances he fell asleep in his chair, and when an attempt was made to arouse him he was found to be dead. The cause of death was heart disease.

Medical and Surgical Journal.

THURSDAY, MAY 27, 1886.

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CUPPLES, UPHAM & COMPANY,
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MEDICAL HEROISM.

The recent history of the rebel cruiser Alabama, in the Century War Series, contains a tribute to the assistant surgeon of that scourge of the seas that is very attractive. The son of an English clergyman, who had joined the ship, we can but believe, rather to exercise his profession than from sympathy with the cause, his devotion to the wounded in the famous fight between the Alabama and the Kearsage, showed him more mindful of the duties of his profession than of his personal safety.

In each of three separate articles, one of them by the surgeon of the Kearsarge, his conduct is highly commended.

"He was unremitting in attention to the wounded during battle, and after the surrender superintended their removal to the boats, refusing to leave the ship while one remained. This duty performed, being unable to swim, he attached two empty shell boxes to his waist, as a life preserver, and jumped overboard."

In the present renaissance of war literature this is one of the very few allusions to the services of the medical corps, though it is by no means the only instance, where medical officers on both sides of the great conflict lost their lives in the line of duty. It is an especial pleasure to meet this mention of the young Englishman because it gives an opportunity to recall the memory of other men who also labored hard over the wounded in their charge, who were under fire and lost their lives in the discharge of duty. The deaths in the medical corps from casualties alone, on the Union side, were greater than in any other staff corps. Thirty-two were killed in battle or by guerrillas or partizans and nine by accident. Eighty-three were wounded in action, of whom ten died. Large as this list of fatalities would seem to be to those who share the common error that the army surgeons were not exposed to the dangers of war, the corps illustrated in their deaths the well-known truth that disease is more fatal to armies than the sword. Four died in rebel prisons, seven of yellow fever, three of cholera, and two hundred and seventy-one of other diseases most of which were incidental to camp life or the results of exposure in the field, making a roll of honor embracing four hundred and nine names.

"My observation and experience," said Letterman, the Medical Director of the Army of the Potomac in a report to the surgeon general, "since I have been connected with this army, especially, has shown me that they (the medical officers) are almost as much exposed as officers of the line . . . and I am fully justified in saying that in no department has greater devotion or more courage been shown than by the medical officers in the battles which have been spoken of in this report."

The medical department of the volunteer army was as imperfect at the outbreak of the war as every other portion and was only gradually brought to a state of perfection. Surgeons were improperly appointed and the incompetent had to be weeded out. So little importance was attached to the position of regimental surgeon, or rather, so little was the value of an educated medical man appreciated in some quarters at the outbreak of the war, that all sorts of doctors, even advertising quacks and men who had never seen a surgical operation, were commissioned as medical officers. In spite of the remonstrance of the medical department the most incompetent men were pushed for regimental positions by regimental commanders and even governors of States. The stories of the errors of these incompetent surgeons are more commonly repeated than those of the brave performance of duty. One of the most anxious duties of the experienced surgeons in the early part of the war was the preservation from amputation of limbs unnecessarily condemned. Everybody has heard the story of the surgeon who amputated the sound leg, but few know of the surgeons who sacrificed their own lives to save their men. To read the history of the war from the reports of the medical officers is to gain a different view of affairs from that usually shown and one not calculated to foster a belief that the position of an army surgeon in the civil war, was one of ease.

At the first battle of Bull Run the Medical Director of the army under General McDowell accompanied the General in his visits to those places where the contest raged fiercest and in his report he says: "I found the medical officers, as a general rule, on the alert and many performing their duties coolly under the fire of the enemy." When the retreat commenced and it was found impossible to carry off the wounded, several surgeons volunteered to stay and did stay behind. The report of Dr. Gray, one of the surgeons who remained with the wounded at Sedley Church, sounds strangely at the present time and shows what it meant to stay behind with the wounded. "After our retreating column had passed this hospital, I went out to meet the advance of the rebels, to explain the nature of the duties on which my companions and I were engaged, and to ask permission to continue them unmolested, for shot were beginning to fly near the hospital. The officer to whom I surrendered, a lieutenant of Virginia Cavalry, was an unreasonable man and would neither permit me to return to our wounded nor promise any protection to our hospital. I was compelled to accompany his party to Manassas Junction." All the other surgeons at Sedley Church were also taken from their wounded and transferred to Manassas, and the wounded were left for some time without assistance. The status of the surgeons was not settled at that time and treatment of them was not uniform. General Beauregard, forwarded with some of them, sent prisioners to Richmond, a request for their immediate release as non-combatants.

At least two surgical officers walked back to Washington. Dr. Sternberg gave his parole not to escape for five days and was allowed to attend to his wounded. On the expiration of his parole he returned to Washington on foot. Dr. Luther Bell, on the retreat, saw a wounded officer lying by the roadside whom he placed upon his horse and made the journey himself on foot.

At Shiloh, Brigade-Surgeon Everett was instantly killed by a ball striking him in the forehead, and "other medical officers were severely injured," as stated in the report of Medical Director J. H. Brinton. Such a matter-of-fact statement is a greater proof of their exposure than even a detailed record would be.

At Antietam occurred the first death of a surgeon of the regular army, when two assistant surgeons of Massachusetts regiments also fell. The peninsular campaign, under McClellan, does not seem to have been very fatal to the medical staff, but Medical-Director Tripler credits the death of Dr. H. J. Milnor, of New York, to exhaustion consequent upon the labors incident to the change of base. He was one of the surgeons who stayed behind with the wounded.

At Chancellorsville when the left gave way the hospital of the second division of the fifth corps was exposed to the fire of the advancing enemy. Medical officers were detailed to be left behind while the operating staff went to the rear. One of the medical officers thus left was shot while in discharge of his duty; another medical officer also fell at the same battle.

Gettysburg was one of the most trying fields for the surgeons. Over 650 medical officers were reported as present for duty at that battle. Thirteen of them were wounded and one of them died on the 6th from the effect of wounds received on the 3d. The battle itself ended on the 3d, but the surgeons were engaged assiduously in attendance upon the wounded, night and day with little rest until the 6th, and in the second corps until the 7th of July. Some of them fainted from exhaustion induced by overexertion and others became ill from the same cause. Of eleven surgeons on duty at different periods with the Gettysburg hospital of the second division of the fifth corps, eight were taken ill or were absent on sick leave early after rejoining their commands.

The number of our own wounded was 14,193, and 6,802 Confederate wounded fell into our hands. The wounded of the first of July, with the battlefield of that day into the hands of the enemy and our own surgeons stayed behind to care for them, and came under the control of the stars and stripes again on the 4th.

When the army left the field 106 medical officers were left behind and when it had reached Boonesboro' the medical department was, in the opinion of the Medical Director, fully prepared to take care of the wounded of another battle of as great magnitude as that which had just transpired at Gettysburg.

Individual instances of devotion to duty, even to death, might be easily increased, some of them quite as striking as that which has served as a text for these remarks.

Surgeon Ariel Cummings of the 42d Massachusetts, taken prisoner at Galveston, Tex., lost his life from disease which prostrated him in the midst of arduous duties rendered to his comrades stricken down by the heat of a tropical summer. Dr. James M. Newell, of Massachusetts, was drowned in the endeavor to rescue some women and children from a transport ship, laden with convalescents, under his charge; and the further one looks the more such instances he finds.

In this short article no reference has been made to the surgeons of our own navy nor to the medical men of the Confederate forces; not because there was nothing to say, or any disposition to avoid saying it, but from lack of space simply.

It would be a labor of love to follow yet more closely the medical corps of the army and to add that of the navy, as the two played their part in all the grand movements of the war; but space would fail to record even the mere outline of their services. The war is often spoken of as a grand school for the surgeon and undoubtedly its opportunities for improvement were the means of educating many men of poor original education and of little experience, and the combined experience of its medical officers as shown in that grand Medical and Surgical History of the War perpetuates its lessons and extends them beyond the time and country of the participators.

As one result of our civil war the American people learned that in order to follow successfully the business of a soldier, preliminary education was necessary. Much was also accomplished in the enlightenment of the public as to the worth of medical education and the value of a properly educated medical man.

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A STATE BOARD OF HEALTH AGAIN IN MASSACHUSETTS.

Seventeen years ago (June 21, 1869), the Massachusetts Legislature passed an act establishing a State Board of Health, which was the first called into existence in the United States.

The members, seven in number, were appointed by the Executive July 31st of the same year; and, from the completion of the organization of the Board by the choice of Dr. H. I. Bowditch as Chairman, and Dr. George Derby as Secretary, at a meeting held September 22d, 1869, until June 30th, 1879—a period of ten years—the labors of the Board in behalf of preventive medicine, and the contents of the annual reports which it issued, amply justified its creation, and at the same time illustrated an example which other States were not slow to follow.

In 1879, for reasons which shall be nameless, the Board of Health as a distinct organization was abolished, and a new State Board of Health, Lunacy and Charity was created, which soon knew none of the old names—or for but a brief period—except that of Dr. Robert T. Davis. In regard to this body no more need now be said than that we hope we have written its long name for the last time. In March of this year, 1886, after a chequered existence of seven years, retributive justice—foreshadowed in the governor's message at the opening of the session—overtook that complex and unwieldy body; and an independent State Board of Health was again established. The act creating it differs but little in form and still less in substance from the old act.

His Excellency, Governor Robinson, on May 19th, presented seven names to his Council, which were promptly confirmed under a suspension of the rules, for appointment as members of this new Board. Among the names, a full list of which our readers will find under the head of appointments on the last page of the Journal, we welcome especially those of Dr. H. P. Walcott, of Cambridge, and of Dr. F. W. Draper, of Boston. The Board, there is every reason to believe, will prove a strong one, one to which the Legislature may safely refer the many problems, directly and indirectly connected with sanitation, demanding action, and from which a judicious and intelligent enforcement of legislative acts may be expected.

As this Journal has always taken an eager interest in the welfare and progress of State and Preventive Medicine in this country, and has given free expression to its dissatisfaction with the unnecessary impediments thrown in their way in Massachusetts, it heartily welcomes the return of more promising conditions.

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MEDICAL NOTES.

— The fourth of M. Pasteur's wolf-bitten Russian patients has died of hydrophobia.

— The health department of Chicago has, we learn from the daily papers, brought a suit against a dry-goods firm in that city for not providing seats for their women clerks. There is considerable interest in the case, as it is the first prosecution under an ordinance passed about two years ago.

— Louis Xavier Ollier, the famous French surgeon and medical author, died recently, at the age of sixty-one. He was for many years Professor of Chemical Surgery at the Faculty of Medicine and Pharmacy at Lyons, where he began his famous studies of the bone. He contributed articles to medical periodicals, some of which have been put into book-form. Ollier was an officer of the Legion of Honor.

BOSTON.

— The Massachusetts House of Representatives recently passed a bill to permit local boards of health to grant certificates to children who had not been vaccinated, permitting attendance upon public schools. In the Senate, Senator Harlow, of Middlesex, justly stigmatized the bill as an attack on the vaccination law, and it was promptly killed.

The Committee on Drainage, to which was referred the report of the commission appointed to consider a general system of drainage, has reported in part a bill giving the general oversight and care of all inland waters to the State Board of Health. The Committee on Public Health has reported a bill to restrict the use of arsenic in the manufacture of wall-papers, textile fabrics, etc.

PHILADELPHIA.

— Dr. William H. Pancoast has been elected to the chair of General Descriptive and Surgical Anatomy and Clinical Surgery, in the Medico-Chirurgical College. Dr. John V. Shoemaker has been elected Professor of Dermatology in the same school.

— The Philadelphia County Medical Society has unwillingly furnished several items recently to the daily press, and has contributed materially towards making things lively in professional circles. Apparently the dispute is with regard to the construction to be put upon the by-laws, which say that "Nominations for Officers and Delegates shall be made at the stated meeting in October; and no member shall be put in nomination who is in arrears for the annual contribution of the current year," Art. V., Sec. 2; and also that "At the stated meeting in June, a Committee of five members shall be constituted, two of whom shall be appointed by the President and the remaining three elected by ballot, which shall be called the Nominating Committee. At the stated meeting in October this committee shall present a ticket of candidates for election to the different delegations of the Society. Nominations for the different offices shall be made directly by the members of the Society," Art. XII., Sec. 4. From the action of the Society, it appears that two constructions are put upon the above laws, one claiming that they are mandatory and that the report of the Nominating Committee, presented in October, after its formal adoption, becomes in reality the action of the Society, and the subsequent balloting in January is a matter of mere form; while the other party holds the contrary opinion, that the Society is not bound by the report of the Nominating Committee even after adopting it, but that nominations can be made up in the moment of election. It appears from the records that the practice of the Society has been to accept the nominations of the Committee and to vote them unquestioned, but some elections have been conducted in rather a loose manner, and precedent can be had for departing from the rule. At all events, the election last January was made the field-day to test the question, and the supporters of the latter view presented and voted entirely new lists of delegates to the American Medical and State Associations. When, however, these delegates presented themselves with their certificates of election, at St. Louis, they were prevented from registering as such, by a protest which had been laid before the Judicial Council, on the ground that their certificates had not been legally obtained, and that the meeting had been packed and was disorderly. The Judicial Council after ten days' deliberation referred the matter to the County Society, and refused to accept the delegates. Upon their return to Philadelphia, they called a special meeting of the Society, presented a lengthy report, which was adopted and ordered to be printed and distributed. Dr. D. Hayes Agnew offered resolutions expressing surprise at the action of the American Medical Association, reaffirming the legality of the action, and declaring that in excluding the delegates from this Society "the Judicial Council violated the plain rules of evidence and of justice." These resolutions were adopted by a large majority. The same question, in all probability, will come before the State Society, which meets at Williamsport early next month, when the delegates from the County Society will be likely to meet with the same protest as that made at St. Louis. While it is on the surface a dispute over the by-laws, it is not entirely hidden from view that there are personal animosities, school jealousies, and the International Congress muddle, which have a large share in producing the prevailing state of affairs. It is hoped that when the International Congress is a thing of the past, that the medical societies will resume their *status quo* and will endeavor to make up for lost opportunity by devoting their entire time and strength to the elevation of the profession and the advancement of science.

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Correspondence.

PARIS LETTER.

PASTEUR AND HYDROPHOBIA.

Paris, May 6th, 1886.

Mr. Editor,— The daily inoculations of individuals bitten by dogs and wolves, are made gratuitously in all classes of patients at Pasteur's laboratory, in the old Chemical Institute, 45 Rue d'Ulm. Visitors may witness the process of the sterilization of bouillon at 9.30 A. M.; the inoculation of patients at 11 o'clock; and at 2 P. M., the inoculation of rabbits with virus from one just dead. Of the process of sterilization, I shall make no further mention than to say that it is complicated.

When I entered, scores were waiting their first, or a repetition of a previous inoculation. The rooms were crowded — French, Italians, English, Spaniards, Arabs, Portuguese, Russians, soldiers, peasants, laborers, women, children, high and low degree; it was a motley throng — a throng which repeats itself daily. In the large laboratory, into which the pressing crowd had drifted from the anterooms, a young operator re-dressed wounds on the hands, faces, or limbs of the patients, simply by laying on absorbent cotton wet in a solution of phenic acid, covering this with oiled silk, and binding with a gauze roller. Servants move about, keeping order, and searching for patients whose turn has come for inoculation.

Pasteur — a man of sixty-three, short and stout of stature; face rugged and wrinkled; pointed, iron-gray eye-brows, and thick, very short, and stiff moustache; abundant cropped, grayish hair; a stubby, closely-cut, full, but sparse beard, partly white, partly iron-gray; eyes small, gray-brown, and half hidden behind heavy lids, the lower ones baggy; strong nose, very firm mouth, sallow skin: an expression of *bonhommie* when he addresses a child; a scowl or a flashing glance, when engaged in hastening the patients or explaining to the slow-minded; a face of great energy, will, decision, pluck; showing the effect of many a sharp fight with opposing circumstance, an unconquerable look. Pasteur, wearing a dark suit, and the inevitable skull-cap, stands at the door of his private room, his left arm hanging nearly useless (he is hemiplegic), in his right hand a card bearing names of patients to be inoculated to-day, and whom he calls, six at a time. The Russian names have an odd sound, with their unexpected "itches." The Arabs and Portuguese are called as: "The Arabs," "The Two Portuguese." His voice is strong and deep, but breaks when forced in the call for an unresponsive patient.

The patients pass him as he stands in the door-way, and he scans each one sharply. To little children, he frequently offers comfort from a huge package of *bonbons*, which lies near him upon the mantel-shelf. Especially upon their return, do they seem to regard the sweets as more attractive than the Pravaz syringe, from the effect of which they are still sobbing.

In spite of his stern look and abrupt manner, Pasteur is warm-hearted, cordial, simple, kindly, and in the interval of waiting for the inoculation of the squad just ushered in, he turns from one disappearing visitor to another, and the quick change of topic does not seem to annoy him, even though he is so intent upon his work; or he chats with the women who confine themselves to his portion of the room, a half-preoccupied look penetrating the smile which appears. It is all very stirring, very interesting, and — very French. This apartment is fourteen feet square, and crowded by visitors, all of whom are attempting the impossible feat of watching each inoculation, observable, in the over-filled space, only to a few.

Professor Grancher, a man of charming presence, Pasteur's assistant and operator (Pasteur himself not being legally allowed to inoculate human beings), sits at a table on the side of the room, opposite the door. On a third side, is Pasteur's desk, heaped with telegrams, letters, and case-books. Upon Dr. Grancher's table, stand half a score of wine-glasses filled with the virulent bouillon, each closely wrapped in sterilized paper, through which the point of the syringe is plunged. The foot of each glass bears a dated ticket, showing when the virus, or portion of spinal cord contained in the glass, was removed from the rabbit, thus indicating the degree of virulence of its contained bouillon, and also, which glass is to be used in each of the ten series of patients, some of whom are to be inoculated with spinal matter fourteen days old, some with matter thirteen, twelve, eleven days old, and so on, up to cords of five days' drying. Patients are so classed, that those first called are inoculated with the weakest matter from a cord, namely, which has dried fourteen days. As the series of patients follow each other, every new series is inoculated with a more virulent bouillon, until those patients arrive who have already received nine inoculations. This is their tenth daily, and last visit. They receive a bouillon holding nervous matter only five days removed from the rabbit, and are now considered protected. If Pasteur inoculates with a still more virulent matter, as from a cord of the fourth or third day, it is in exceptional cases — those extensively bitten. In all others, he begins with the fourteenth, and ends with the fifth. Medical journals, I observe, almost uniformly state that the inoculation terminates only with the first cord. This error doubtless was derived from Pasteur's account of his first case, the Alsatian boy, Meister. Asking an explanation of Pasteur, he said, with a frank smile: "In that boy, I continued to inoculate until I had reached the first cord, because I was afraid to stop. I feared that I should not protect him. Since that case, I have considered protection achieved by the fifth cord, excepting when wounds were very severe. In those cases, I continue to ascend to the fourth, even to the third cord."

In the *Les Connaissances Medicales* of this week, Vignal, who re-publishes his paper in the *British Medical Journal*, still propagates the error I have mentioned. I called Pasteur's attention to Vignal's statement, namely, that the last inoculation is made with the first cord. Pasteur said it was a mistake, and simply verified what I have written.

In the inoculation of a first series of patients, it is necessary to use a feeble bouillon, because a virus more intense than that absorbed from the bite, might precipitate rabies; *but*, a man or dog being once rendered refractory to rabies, the most virulent injection may be made, in any quantity whatever. The only effect, says Pasteur, appears to be a consolidation of the refractory condition.

By the adopted arrangement, the same syringe may safely be used for all the patients of one forenoon. Whereas, to begin with those requiring an intense virus, namely, those who have already been several times inoculated, would render the syringe liable to communicate a too high degree of virus to newer comers. As it is, the needle of the instrument is plunged into boiling water after each injection, and at the close of the *séance*, is taken apart; its parts are thoroughly boiled, and the plunger is newly leathered. When not in use, the syringes are kept in a hot-air chamber.

Dr. Grancher makes the injections under the skin of the abdomen, alternating from right to left of umbilicus, and *vice-versa*, and on consecutive days, to avoid accidents of irritation, although not even a pimple has ever appeared; receiving the syringe full for an adult, half-full for a child, from his assistant, who fills and cleanses it. With each new series of patients called, Pasteur also calls an earlier date, and the glass of virulent bouillon just previously in use, is exchanged for one bearing the date called, and so on through the several series. Naturally, everything is done quickly, one hour only being given daily to inoculation of patients. My growing doubt as to the probability of obtaining a word with Pasteur in this turmoil, vanished when the entire assembly suddenly departed, and I found myself alone with him and Dr. Grancher.

In reply to my remark that the drift of opinion in America seemed to be that it is necessary to wait for proofs of protection in those already inoculated, he said with great energy: "Wait? I have no objection. *I* am waiting. But consider this: in October last I began systematically to inoculate human beings. Up to this moment (April 29) we have inoculated 907 persons. How many deaths? One. One only (for the Russians cannot justly be counted) and when this one (the Pelletier child) came to me it was too late. Before I began to inoculate human beings how many of those bitten by mad dogs in France died? Sixteen per cent. Since last October only one death in 907 cases! What more can you ask? Scientific men once doubted my having discovered a means of preventing cholera in chickens and charbon in sheep. When I announced my discovery at the International Medical Congress in London, Koch said, 'Pooh!' and Chauveau simply loaded me with sceptical objections. Do they do it now? Let the fact that 500,000 sheep are inoculated every year in France for peasants who fight to save a two sous piece and yet must pay four sous per head for inoculation every spring, be the answer. The Germans are angry, especially Koch, because France has the merit of this new discovery of protection against rabies. They think because they conquered our country in '70 that they can be our masters in this field, and therefore they spread broadcast their scepticism against me. They lack generosity. They are behaving like children. Think of what I have been through. Consider what my mind suffered day and night, think of my sleepless hours when I should have been resting, from fear that I was wrong, that I was perhaps killing instead of saving my patients. Imagine the tension of my mind during those early days and weeks in which I had to wait to see what would happen to the human being upon whom I was experimenting. When a letter came to me I hardly dared open it, so much did I fear fatal reports. 'What does this letter bring me,' was my first word. I was almost ill from fear, anxiety and suspense. What is the result? That!" and he pointed out a half-dozen large boxes. "They are packed with letters of gratitude. Out of my 907 cases only one has died. The dog which bit the Newark children was not mad — do they say in America? I fail to comprehend the position. Four children bitten. Seven thousand dollars raised to send them and their physician to me. They come and have gone home well. All this and the dog not mad. It is incomprehensible. It does not follow because the dogs bitten by this dog are not mad that the original dog was not. All people and animals bitten by rabid dogs do not have rabies. But let that pass. Is it possible that in my 907 cases *none* of those who have come to me bitten on hands, face, scalp and extremities, sadly mangled, some of them were not bitten by mad dogs? Wait if you will and as long as you will, my own answer to all doubt is: 907 cases since October — six months' experience — only one death and for that I am not responsible. I have no new ideas. Everything is going on as I reported to the Academy. New cases are coming. Old ones going away protected."

I repeat Pasteur's conversation because it reveals the extremely interesting spirit and attitude of the man. He spoke vigorously but in the spite of the ex-form of many of his allusions, he was manly and simple in their utterance and manifested no trace whatever of self laudation or pettiness. What he said to me is moreover of great value in the argumentative sense, because assertions made by Pasteur during serious personal conversation carry great weight and consequently should convince, to a greater or less degree, the sceptical, who, even though they visited Pasteur, witnessed his procedures and examined his animals, could not verify every, probably not any disputed point. In order to accomplish this, one must do all Pasteur has done, and of course begin where and as he began.

Calling his attention to a letter in No. 16 of *La Semaine Medicale*, in which a Vienna correspondent gives *von Frisch's* report, before the Medical Society of Vienna, of his experience at Pasteur's laboratory — Pasteur turns at once to the summing up in which *von Frisch* says:— "As to the value of this preventive treatment it is not yet possible to pronounce with certainty, because the duration of incubation of rabies in man is very long." Pasteur had not before seen the letter, but quickly said: "*C'est mal raisonné, ça!* Of course, its incubation in *some* human beings is very long, months, one year, two years, perhaps. The incubation in some human beings is very brief, eighteen to twenty-five days. Both these series are to be excluded. They are outside the question: they are exceptions. In the majority the duration of incubation is forty to sixty days. It is false reasoning then to say that we have not yet sufficient experience to pronounce with certainty, simply because incubation in *some* individuals — only in *some*, you understand — is very long. If, out of the 907 cases already inoculated we have lost only one, the girl who came too late, — that certainly has an important bearing in the majority in whom the period of incubation is forty to sixty days. *They*, at least, are protected. But wait till November, or until 1887: proof will then be strong enough. As to the five Russians who died. In the first place, the bite of a wolf is so virulent that so soon as one Russian knows that another has received a wolf-bite on an exposed portion of the body, he regards him as dead. Documents in my possession show that very often the death-rates in wolf-bites is 100 per cent. Again these dead Russians had absorbed an immense quantity of virus for their wounds were very extensive," and he handed me photographs which exhibited the terribly mangled condition of these unfortunates. "The duration of incubation in rabies depends not upon the virulence of the virus but upon the quantity absorbed. A long incubation indicates absorption of a small quantity of virus. Finally the Russians came to me very late and since the duration of incubation of rabies in man from the bites of mad wolves is very short (sometimes thirteen to fifteen, often only eighteen to twenty, even as low as nine days) — much shorter than in rabies produced by dog-bites, I consider the Russians out of the reckoning. Hereafter in similar cases I propose to increase frequency and quantity of inoculation.

"Do the inoculated rabbits surely have rabies? Certainly. The seizure of each systematically upon the seventh and more recently frequently upon the sixth day (which shows an increase in the intensity of my virus[1]) proves this; and the absence of every symptom of disturbance such as abscess, erysipelas, and all septic accidents, and moreover, the perfectly natural and lively condition of the rabbits on the day following the inoculation, indicates that the operation of trephining has no part in the matter.

"In regard to the condition of the patients, we formerly never accepted one without a certificate from a veterinary surgeon or a physician showing that the dog in question was mad. At present we are sometimes obliged to receive them uncertified. Humanity obliges me to do this. At the same time I insist upon having subsequently a history of the dog. But I never receive a patient who is not bitten on face, hands or an exposed portion of the body, unless the teeth of the dog have torn the clothing and thus have reached the skin. As to why the virus from the fiftieth rabbit of a series is more virulent than that from the first rabbit, I can say only that it is a fact, the result of experiment. The why I cannot give you.

"As to the effect of inoculating dogs with fresh rabbit-virus it has been done hundreds of times and in consequence the dogs acquire both the furious and paralytic form of rabies. If physiologists and others, who have never lifted a hand to verify this are not satisfied with my simple words, what is that to me? Their doubts and fancies have no value.

"Simple non-virulent bouillon has very frequently been experimentally injected under the dura mater of rabbits. This test showed that when the bouillon was impure the rabbit died from sepsis within twenty-four or thirty-six hours, the fatal attack not occurring systematically on the seventh (or sixth) day as it does when we inoculate a rabbit. On the contrary, if the bouillon be pure and sterilized, its injection within the skull of a rabbit *creates absolutely no effect.*

"If it has been shown that the rabbit virus of rabies becomes inert in passing through monkeys, why not in man? Then out of our nine hundred and odd inoculated cases *none* have been bitten by mad dogs, because many of them have long since passed the stage of incubation. Otherwise, if they have not been made refractory to rabies by my inoculation, some of them before this time would have exhibited rabic symptoms. Moreover, we do not inoculate from man to man, but, each patient receives ten inoculations of rabbit virus of regular increase in daily viric force and there the treatment ends.

"If my critics suppose that human beings may not be susceptible to rabbit virus which is fatal to lower animals, I offer the unfailing reply: then none of my 907 patients have been bitten by mad dogs, for not one of them have died."

This is the eternal answer to questions bearing upon a doubt of the preventive value of inoculation for rabies, and there is much logic in it. Pasteur immediately added: "During the year preceding the beginning of inoculation, there were (officially reported) nineteen deaths from rabies *in Paris* alone. Since I began my method (excluding the Pelletier child), there has been only *one* death from rabies in this city, and the man, an Italian model, slightly bitten on one finger, did not consider the matter of any consequence, and *was not* inoculated. In this remarkable fact, is there *no* element in my favor?"

To the doubt as to whether inoculation caused the death of the Pelletier child, the reply was: "Why, then, have none of my hundreds of other patients died?" And further: "To the question as to whether it has been proved that persons rendered refractory to rabies are really refractory when the virus is introduced into the system in the ordinary way, I can merely answer, that since none of my protected patients have been newly bitten, there has been no opportunity of judging. When I inoculate monkeys with the intense rabbit virus, they go mad, being seized with either the furious or paralytic form.

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[1] This recent increase in the power of his virus Pasteur explains by supposing that its long-continued passage from rabbit to rabbit (now four years) is beginning to effect an added reinforcement and consequently a lessened duration of incubation in newly inoculated rabbits. He therefore hopes in time to find that the virus will cause rabies in a rabbit in five days. Pasteur also said with emphasis that he had *never* inoculated a rabbit which later failed to be seized with rabies.

"Dogs *are* protected by inoculation. This has been proved by allowing inoculated dogs to be bitten by rabid dogs, and not one of those thus bitten has ever shown madness. As to the duration of this protection, sufficient time has not elapsed to enable me to judge, and moreover, I re-inoculate every twelve months. The question requires time, and I am feeling my way. By increasing the length of the intervals between re-inoculations, I can gradually appreciate how long one inoculation will protect. Inoculation for small-pox is said to protect an individual seven years. Perhaps we may attain that duration in dogs. But it must not be forgotten that inoculation does not always protect against small-pox. I knew a lady who was inoculated effectually three times. Within three months, she died of confluent small-pox.

"Our inoculated rabbits never exhibit any febrile symptoms on days following the operation of trephining. They appear well, and eat naturally until the system begins to be overpowered by the poison, up to the fifth or sixth day, and on the seventh (or sixth), they are regularly seized. Rabies, in rabbits, takes the paralytic form. They rarely have furious rabies. Whereas, dogs inoculated with rabbit virus may, and do, acquire furious hydrophobia, though more frequently, it is the paralytic form."

(*To be continued.*)

REPORTED MORTALITY FOR THE WEEK ENDING MAY 15, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	623	201	14.72	18.88	2.08	5.76	1.28
Philadelphia	971,363	323	105	14.26	—	1.24	6.82	1 55
Brooklyn	690,000	267	106	13.60	14.28	1.02	5.44	4.08
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	163	44	8.54	21.35	1.83	3.05	3.05
St. Louis	417,220	—	—	—	—	—	—	—
Baltimore	400,000	145	55	9.66	17.25	1.35	4.83	1.38
Cincinnati	325,000	92	30	6.54	16.44	5.45	7.63	2.18
New Orleans	238,000	96	31	4.16	20.80	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	85	26	8.26	18.84	1.18	2.36	1.18
Pittsburgh	190,000	67	30	22.68	8.88	—	5.92	8.88
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	39	10	12.80	23.04	2.56	7.68	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	18	4	5.55	22.22	—	—	—
Charleston	60,145	14	22	71.42	7.14	35.70	—	—
Worcester	68,383	17	11	11.76	29.40	—	—	—
Lowell	64,051	30	11	16.66	6.66	—	3.33	—
Cambridge	59,660	18	5	12.52	49.08	—	5.26	—
Fall River	56,863	11	3	9.09	36.36	9.09	—	—
Lynn	45,861	9	3	—	22.22	—	—	—
Lawrence	38,825	9	3	—	22.22	—	—	—
Springfield	37,577	10	3	—	—	—	—	—
New Bedford	33,393	15	2	20.00	20.00	13.33	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	11	5	27.27	9.09	9.09	9.09	—
Chelsea	25,709	7	2	14.28	—	—	14.28	—
Taunton	23,674	5	2	40.00	40.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	0	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	3	2	—	—	—	—	—
Malden	16,407	5	0	—	40.00	—	—	—
Fitchburg	15,375	7	2	52.14	53.14	—	14.28	—
Waltham	14,609	7	1	14.28	14.28	—	14.28	—
Newburyport	13,716	4	1	—	—	—	—	—
Northampton	12,896	3	1	33.33	—	—	—	—
Massachusetts Towns	—	51	14	1.96	7.84	—	1.96	—

Deaths reported 2,061: under five years of age 736: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 277, diphtheria and croup 103, diarrhœal diseases 41, scarlet fever 39, whooping-cough 23, erysipelas 18, malarial fever 18, typhoid fever 15, cerebro-spinal meningitis 10, puerperal fever six, measles two, small-pox (New York) two. From whooping-cough, New York nine, Brooklyn four, Philadelphia, and Charleston three each, Pittsburgh two, Baltimore and Taunton one each. From erysipelas, New York seven, Philadelphia four, Brooklyn and Lowell two each, Pittsburgh, Cambridge and New Bedford one each. From malarial fever, New York eight, New Orleans four, Brooklyn three, Baltimore two, Charleston one. From typhoid fever, Philadelphia six, New York two, Boston, District of Columbia, Pittsburgh, Providence, Nashville, Charleston and Lowell one each. From cerebro-spinal meningitis, New York five, Philadelphia two, Worcester, Lowell and Northampton one each. From puerperal fever, District of Columbia and Pittsburgh two each, New York and Taunton one each. From measles, New York and Worcester one each.

In 109 cities and towns of Massachusetts, with a population of 1,292,823 (population of the State 1,941,465), the total death-rate for the week was 15.76 against 17.14 and 15.47 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 1st the death-rate was 20.2. Deaths reported 3,518: infants under one year of age 893: acute diseases of the respiratory organs (London) 296; whooping-cough 138, measles 104, diarrhœa 39, scarlet fever 29, diphtheria 28, fever 23, small-pox (Bristol two, Liverpool one) three.

The death-rates ranged from 16.1 in Brighton to 29.2 in Manchester; Birmingham 22 7; Blackburn 26.8; Bradford 17.1; Hull 16.3; Leeds 19.2; Leicester 19.1; Liverpool 20.0; London 18.5; Newcastle-on-Tyne 25.9; Nottingham 19.7; Sheffield 19.6; Sunderland 17.6.

In Edinburgh 22.5; Glasgow 25.5; Dublin 24.4.

For the week ending May 1st, in the Swiss towns, there were 48 deaths from lung diseases, consumption 47, whooping-cough 18, measles 12, diarrhœal diseases 10, diphtheria and croup seven, typhoid fever four, small-pox two, erysipelas one.

The death-rates were: at Zurich 19.1; Geneva 28.3; Basle 25.9; Berne 26.7.

The meteorological record for week ending May 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 15, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 9	29.778	58.5	68.6	47.0	70.0	39.0	55.0	54.7	N.	N.	N.W.	16	23	10	F.	C.	C.	—	—
Monday,... 10	30.053	53.9	60.2	49.7	59.0	71.0	96.0	75.3	S.E.	S.E.	S.E.	4	12	8	C	O.	R.	—	—
Tuesday,..11	30.056	45.4	51.1	43.7	84.0	100.0	93.0	92.3	E.	E.	N.E.	22	23	12	O.	R.	O.	—	—
Wednes., 12	30.010	45.3	49.4	43.3	91.0	79.0	100.0	92.0	N.E.	S.E.	S.E.	10	9	6	O.	O.	G.	—	—
Thursday, 13	29.976	44.0	47.0	39.5	100.0	96.0	94.0	96.7	E.	E.	E.	4	17	12	G.	O.	O.	—	—
Friday, ...14	30.056	47.5	52.3	38.5	84.0	87.0	97.0	89.3	N.E.	E.	S.E.	9	14	8	F.	C.	O.	—	—
Saturday, .15	29.954	48.6	55.5	42.7	95.0	85.0	100.0	93.3	S.E.	S.E.	S.	12	16	12	O.	C.	R.	.17	0.32
Mean, the Week.	29.982	49.0	54.7	43.5				84.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 15, 1886, TO MAY 21, 1886.

ELBREY, F. W., captain and assistant surgeon. Sick leave of absence still further extended one year on surgeon's certificate of disability. S. O. 115, A. G. O., May 17, 1886.

CARTER, WM. F., captain and assistant surgeon. Granted leave of absence for one month, to take effect about June 1st, with permission to apply for an extension of one month. S. O. 55, Department of Texas, May 11, 1886.

BANISTER, JOHN M., captain and assistant surgeon. Assigned to duty as Post Surgeon, Fort Canby, W. T. S. O. 75, Department of Colorado, May 8, 1886.

EWING, C. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Leavenworth, Kan., and ordered for duty as Post Surgeon, Fort Supply, Ind. T. S. O. 48. Department of Missouri, May 13, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING MAY 22, 1886.

LAW, H. L., surgeon. Ordered to the United States Revenue Steamship "Wabash."

HAWKE, J. A., surgeon. Detached from United States Revenue Steamship "Wabash," and await orders to sea.

OGDEN, F. N., assistant surgeon. Detached from United States Steamship "New Hampshire" and wait orders

BAKER, J. W., assistant surgeon. Ordered for examination, preliminary to promotion.

WOODRUFF, CHARLES E., commissioned assistant surgeon in the navy, May 17.

HENRY, CHARLES P., commissioned assistant surgeon in the navy, May 18.

BRANSFORD, J. F., surgeon. Invalided home from Pacific Station.

WINSLOW, GEO. F., surgeon. Ordered June 1st, proximo, to the United States Steamship "Atlanta."

HEFFINGER, A. C., passed assistant surgeon. Detached from the Navy Yard, Portsmouth, N. H., and ordered to United States Steamship "Atlanta," June 1st.

APPOINTMENTS.

The following gentlemen have been appointed members of the new Massachusetts Board of Health: Henry P. Walcott, M.D., of Cambridge, President American Public Health Association, seven years; Elijah U. Jones, M.D., of Taunton, Homœopathist and Chairman of Taunton Board of Health, six years; Julius H. Appleton, of Springfield, manufacturer, five years; Thornton K. Lathrop, of Beverly, lawyer, four years; Frank W. Draper, M D., of Boston, Medical Examiner, etc , three years; Hiram F. Mills, of Lawrence, civil engineer, two years; James White, of Boston, retired merchant, formerly member of Legislature, one year.

RESIGNATION.

Dr. R. T. Edes has resigned the Jackson Professorship of Clinical Medicine in the Harvard Medical School.

CIRCULAR. — PREVENTION OF THE INTRODUCTION OF CONTAGIOUS DISEASES.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D.C., APRIL 29, 1886.

In order to assist local authorities in the maintenance of quarantine against the introduction of infectious diseases, as provided in Section 4792, Revised Statutes, the act of April 29, 1878, and appropriation acts authorizing the President to maintain quarantine at points of danger, the President has determined to establish, by means of the vessels of the Revenue Marine, a national patrol of the coast of the United States, so far as it may be practicable under existing law and consistent with the performance of the other duties confided to that service.

You are accordingly directed to cruise, actively, with the Revenue-Steamer ——— under your command, upon the outer lines of your cruising-grounds, and to exercise especial vigilance in speaking all vessels arriving from foreign ports, or from southern ports of the United States, directing your inquiries, first, as to the port from which the vessel sailed, and, secondly, as to the health of those on board at the time of departure, during passage, and at the time of hailing; and should the information gained indicate a condition of contagion or infection in the vessel or crew, or that the vessel has left a port at which contagious of infectious diseases were prevailing, her master will be directed to proceed for examination to the outer quarantine station provided for her port of destination.

The following regulations will be observed relative to the inspection of vessels:

If a vessel be found with sickness on board, or in a foul condition, she will be directed to proceed to the quarantine station hereinbefore indicated, and the revenue-marine officer will immediately notify the proper quarantine officer. In such case no person will be permitted to board the vessel until the medical officers in charge of the quarantine shall have given the usual permit.

Should the pilot or master of a vessel, when hailed, report cases of recent or present sickness on board, the revenue officer will not board, but will send her immediately to quarantine.

Quarantine officers will be recognized as follows, viz.:

Medical officers or acting assistant surgeons of the Marine-Hospital Service in charge of Gulf, South Atlantic, Cape Charles, or Delaware Breakwater quarantine, or any officer of said Service on duty at any port on the interior rivers, the Great Lakes, or Pacific coast, and all quarantine officers acting under proper State or local authority.

Special regulations to aid local quarantine authorities will be promulgated hereafter should occasion require.

C. S. FAIRCHILD, *Acting Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

The Report of the Massachusetts Drainage Commission. By Geo. E. Waring, Jr., M. Inst. C. E. (Reprint from American Architect, March 20 and 27, 1886., Newport, R. I.)

The Disposal of Sewage and the Protection of Streams used as Sources of Water-Supply. By Geo. E. Waring, Jr., Newport, R. I. (Extracted from the Transactions of the College of Physicians of Philadelphia, January 6, 1886.)

Lectures on Dietetics and Dyspepsia, delivered at the Owens College School of Medicine in February and March, 1885, by Sir Wm. Roberts, M.D., F.R.S., F.R.C.P., London. London: Smith, Elder & Co. 1886.

Original Articles.

SEVEN CASES OF CONGENITAL AND ONE OF TRAUMATIC STENOSIS OR ATRESIA OF THE FEMALE GENITAL CANAL.[1]

BY JAMES R. CHADWICK, M.D., BOSTON.

Before entering upon the relation of my cases, I would briefly remind you that along the outer border of each Wolffian body appears, between the fifth and sixth weeks of embryonic life in the female, a band, at first solid, but later hollow, which is known as the duct of Müller. This duct descends on each side to open into the cloaca, in which likewise terminate the rectum posteriorly and the bladder anteriorly. The two ducts of Müller, as they descend, are opposed to each other longitudinally like a double-barreled gun; the contiguous walls are absorbed so that a single canal results, from which are later differentiated the vagina and uterus. The upper segments of the original ducts become ultimately the Fallopian tubes. The cloaca is subsequently divided by two septa, so that it consists of three distinct cavities corresponding to the bladder, vagina and rectum. Meanwhile the external genital organs have been developing independently with depressions corresponding to the divisions of the cloaca within. The septa intervening between the external depressions and the internal cloaca are absorbed and the bladder, vagina and rectum thus acquire their external openings. A premature arrest of this absorptive process is manifest in two of the most common forms of imperforation, atresia ani, and an imperforate hymen.

In fixing our attention upon the genital tract exclusively, we at once perceive that an arrest of the developmental process may show itself in two markedly different ways: (*a*) by a failure of absorption in the contiguous walls of the two Müller's ducts so that a septum persists in adult life throughout a greater or less extent of the utero-vaginal canal; (*b*) by an arrest of growth in the ducts which may affect the ultimate size of the entire genital canal or be confined to one segment where it may be manifested by a more or less complete stenosis. As I reported five cases of duplicity of the genital tract some years ago, I shall confine myself to a presentation of cases illustrating some of the varieties of stenosis, and atresia.

My first and second cases may be regarded as of imperforate hymen, although in the first there was a minute opening through which the menstrual blood could slowly trickle; such cases of course rarely come under observation until after marriage and then only when the hymen is unnaturally resistent. In the second case the hymen was absolutely imperforate and gave rise to the familiar retention of the menstrual blood; it is remarkable for the enormous amount (seven quarts) of the retained blood, which I have not found equalled in the literature of the subject. Dr. Emmet says that the average amount of accumulation is six ounces.

ALMOST IMPERFORATE HYMEN.

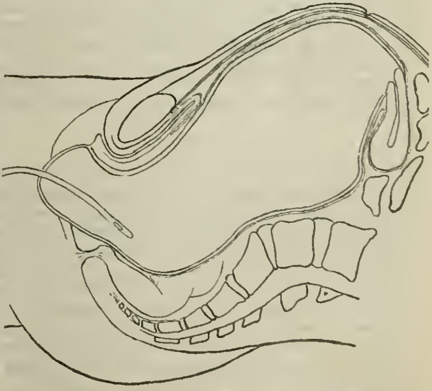
Case I. Mrs. A. D., aged twenty-four years, who had been seven months married, applied to me on December 8, 1879, because her husband had been unable to effect coitus. She reported that the catamenia began at the age of seventeen years, after the hymen had been incised to allow the escape of the menstrual flow which had been retained for three months; from that time the flow had recurred regularly every month without pain.

On examination, no opening or cicatrix could be found in the hymen. She returned in accordance with directions, on December 20th, when menstruation had been established; the blood was then seen to be trickling from a minute perforation in the centre of the hymen which was readily dilated by forceps. On December 30th, she reported that her husband was still unable to effect an entrance, the attempt having rendered her extremely sore. Without examination she was admitted to my private hospital where she was to have had the hymen excised. Upon investigation, an irregular venereal ulcer was discovered at the fourchette. In consequence of this complication, lateral incisions and dilation of the hymen was performed and the use of iodoform ointment prescribed. On January 3d, the ulcer was beginning to heal but the surfaces of the incision were extensively ulcerated. There was a swollen gland in the right groin, which, despite the use of tincture of iodine, suppurated and had to be opened two weeks later. The lesions all healed soon after and coitus became free and frequent. No secondary symptoms developed. She gave birth to a child for the first time in 1885.

IMPERFORATE HYMEN. RETENTION OF MENSTRUAL FLOW.

Case II. Miss G. B., aged sixteen years, came to my private hospital on May 24, 1881, from St. Andrews, N. B., with an enlargement of the abdomen.

She had been suffering from pain in the abdomen for two years; for nearly a year the abdomen had been increasing in size and there had been a marked access of pain for three days every month. There was a fluctuating tumor rising from the pelvis to the umbilicus simulating the pregnant uterus at the fifth or sixth month. On exposing the vulva a tumor as large as a hen's egg was seen protruding from between the labia readily recognizable as an imperforate, greatly distended, and hypertrophied hymen. The diagnosis of retained menstrual fluid was unequivocal.



Case II. Showing the vagina distended with menstrual fluid.

On the following day she was etherized, a large-size.

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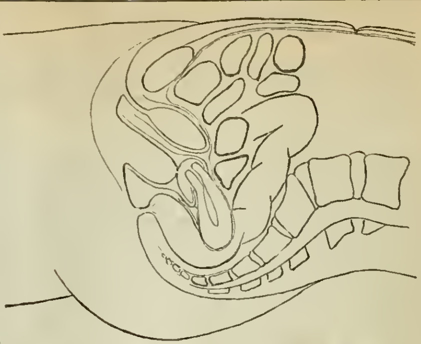
[1] Read at the Annual Meeting of the Suffolk District Medical Society, April 24th, 1886.

trocar thrust through the hymen, and immediately withdrawn, while a gelatinous chocolate-colored fluid was oozing through the opening thus made; an elastic catheter, of slightly larger calibre, lengthened by rubber tubing having a snap-catch to close it, was pushed through whereby the fluid was slowly squeezed out of the cavity; the end of the tube was kept beneath the surface of the escaping fluid in the vessel, by which means the entrance of air was completely prevented. *Seven quarts* of fluid were thus slowly forced out. The cavity was then thoroughly filled and emptied several times with a solution of permanganate of potash. Finally the cavity was distended with the disinfectant solution; so much allowed to escape as the natural contractility of its walls and the tension of the abdomen expelled; the tube clamped and the catheter left in place. Every day for a week the cavity was washed out until the discharge became a healthy pus and the catheter began to become loose. It was then withdrawn under ether and the hymen freely incised. Examination then disclosed an enormously capacious vagina with walls that felt as thick and almost as dense as a cowhide. The uterus could be felt of normal size and shape; it had not apparently been disturbed by the fluid. There was no pain or fever following the operation, though the temperature and pulse were slightly above normal for the first few days. Menstruation took place naturally ten days after the final operation. She returned to her home on June 13th, and has since, I learn, regained perfect health.

The evacuation of the accumulated blood is the prime indication in the way of treatment in this class of cases. This would seem to be a simple matter, but its practice has been attended with so great mortality that many methods have been devised to avoid the resulting septic infection. The method most in vogue until recently, has been to allow the retained fluid to trickle slowly through a canula passed through the hymen and secured in place. The mortality was very great. Emmet improved upon this by making a free incision through the hymen and washing out the cavity with warm water. His four cases were cured, but the same treatment has proved fatal in other hands. Familiarity with these facts impelled me to cast about for a means of absolutely insuring against any development of septic organisms in the cavity and the consequent infection of the system. The method described would seem to have perfectly fulfiled its purpose.

VAGINAL STENOSIS.

Case III. Mrs. S. M. L., aged twenty-one years, nine months, married; applied at my dispensary on June 7, 1880, complaining of indigestion, backache and dyspareunia. She began to menstruate at the age of seventeen years, had always been regular, had had considerable flow for four or five days with but little pain. Examination at this time only revealed a short vagina and the absence of any vaginal portion of the uterus: an opening, supposed to be the external os, in the dome of the vagina admitted a fine wire, three-fourths of an inch. Per rectum the wire was found to have passed to the left side of what was evidently the neck of the womb, which organ lay in retro-sinistro-version.



Case III. Showing the Stenosis of the vagina before operation.

On July 1st she entered my private hospital, when I opened a free passage from the neck of the vagina into the upper occluded segment by cutting and tearing the septum transversely. Not having foreseen the need of a vaginal plug I was unprovided, but improvised a very efficient substitute by paring a potato and cutting it down to the required size and shape. By this means the vagina was kept evenly distended for several days until a glass plug was procured. This she wore for two weeks, and was then discharged with the torn surfaces healed without notable constriction by the cicatrix. She visited my dispensary a few times subsequently with symptoms referable to the displacement of the womb. The organ could not, however, be raised from retro-sinistro-version, which fact with other considerations, led me to suspect that I had a case of uterus unicornis sinistra. She was then lost sight of.

NORMAL VAGINA ENDING IN BLIND POUCH.

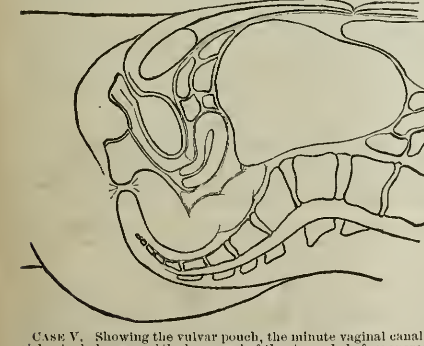
Case IV. On March 6, 1883, I was called to see a woman in consultation with Dr. W. H. Wescott, of Field's Corner. She was thirty-seven years of age, but had never menstruated, though she had had pelvic pains and headache every month with the utmost regularity. She had been married twelve years and the husband had made no complaint of his wife's inability to fulfil her marital duties. The external genitals were normal; the vagina was of normal calibre and length but terminated in a blind pouch, beyond which could be felt an irregular-shaped body, nearly as large as a fist, with a projection toward the vagina simulating the cervix uteri. She sought relief from the regularly recurring pains; as these were not severe and she was otherwise in perfect health, and thirty-seven years of age; as there was manifestly no retention of menstrual blood, I advised against operative interference, owing to the possible danger of opening the peritoneal cavity and the small chance of relieving her pains which were probably of ovarian not uterine origin. My advice was followed, and she has since been in her usual health.

VAGINA A MINUTE CANAL. UTERUS NORMAL. PERMANENT ESTABLISHMENT OF VAGINA. TAPPING OF ABDOMINAL ABSCESS FROM ARTIFICIAL VAGINA WITH ACCIDENTAL PUNCTURE OF A DILATED STOMACH. GASTRO-VAGINAL FISTULA. CURE.

Case V. Mrs. L. L. began to menstruate at the age of twelve years, and continued to do so with regularity until the age of fourteen, when she had an attack of inflammation of the bowels which confined her to the bed for the greater part of seven months. I was summoned toward the end of that period in consultation and confirmed the diagnosis of the attendant, Dr. W. A. Dunn. At this time we discovered that the vagina terminated three-fourths of an inch behind the hymen, and gave a special caution to the mother against allowing her daughter to entertain any thought of marriage until the anomalous condition of the vagina was further elucidated. The patient's health was fully restored and she passed from observation until her marriage, two years later, at the age of sixteen years and eight months. Two months later her catamenia ceased and she gradually lost strength and color; her appetite degenerating into an insatiable craving for pickles, jellies, and acids of all kinds. She was successively examined by Drs. J. G. Blake, W. A. Dunn, D. H. Storer, and R. D. Joyce, all of whom recognized the genital abnormality and the fact that she was not pregnant.

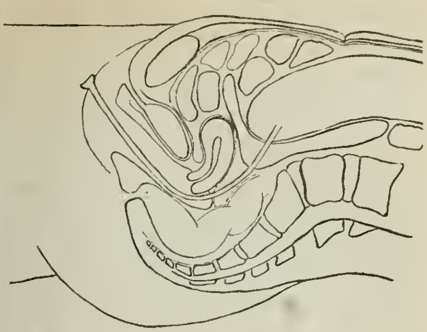
On Dec. 1, 1880, ten months later, I was summoned at the instance of Dr. W. A. Dunn, and found her excessively pale, with an elevated pulse and temperature, and a soft tumor extending from half way between the umbilicus and pubes nearly to the ribs on the right side. She was having several evacuations from the bowels daily of two or three quarts of pus mixed with liquid fæces. I learned that her parents had taken her home from her husband a month before because of ill-treatment, owing to exasperation on his part because he was unable to effect coitus. I declined to treat her unless she would enter my private hospital, which she did on December 6th.

On December 7th, with the assistance of Dr. J. W. Farlow and J. W. Elliot, I operated with the patient under ether. The vagina was found to be an apparently blind pouch just deep enough to hold the ball of the thumb.



Case V. Showing the vulvar pouch, the minute vaginal canal, the abdominal abscess and the lower end of the stomach, before operation.

As menstruation was known to have occurred regularly from the age of twelve to that of fourteen years and as uterus of normal size could be felt by rectro abdominal palpation, further minute search was instituted for some communication between the vagina and uterus, which resulted in the discovery of a minute opening in the vagina through which a wire could be made to pass three and one-fourth inches toward the uterus. This tract was gradually dilated to the size of a quill and seemed to be lined with an extremely thin mucous membrane. With forceps the canal was ruptured into the cellular tissue where persistent dissection with the fingers finally opened up a canal, over an inch in diameter to, and even round the cervix uteri. The os uteri was normal in appearance; the sound passed two and a half inches into the uterine cavity. A glass plug was inserted and secured permanently in place. This was worn for several weeks until the canal in the cellular tissue was completely lined with mucous membrane which shot out round the plug from the strip of membrane left on the anterior and posterior walls of the dissected canal by rupture of the original duct. The artificial vagina thus successfully established was of ordinary calibre until it neared the cervix, when it contracted somewhat to end at the cervix uteri continuous with the cervical canal. After the fifth week the plug was removed but passed twice a day to prevent contraction, until the patient returned home to her husband on March 5th, 1881. The husband expressed himself subsequently as perfectly satisfied with the result of my workmanship.



Case V. Showing the artificial vagina, the collapsed abscess and tube in the stomach.

During the month of January, while the result of this treatment was inconclusive, the husband instituted a suit for divorce on the ground that his wife was not so developed as to qualify her to fulfil the functions of a wife. In conferring with her lawyer, who proposed to contest the suit, I had to admit that the husband's allegation was true up to the time of her leaving his bed, but that I expected ultimately to provide her with the organs lacking to enable her to perform her share of the marital act. This circumstance would have raised a new point in jurisprudence, but unfortunately the suit was withdrawn by the husband. Another interesting legal point would have arisen from the fact that her husband was the half brother of her mother, a relationship which is not provided for by the statutes which specify that a marriage with an uncle is null and void.

I have, in the above recital of facts, somewhat anticipated the course of events in order to present the medical history of the case in its most comprehensible form. The most remarkable features remains to be told. It must be remembered that when the patient entered my hospital she had a large abscess extending from half way between the pubes and umbilicus nearly to the ribs on the right side of the abdomen and discharging constantly into the intestinal canal high up.

During the months of December and January, the patient was having several enormous evacuations from the bowels daily, of pus, serum, and liquid fæces, and consuming incredible amounts of solid and liquid nourishment and beer. When the artificial vagina was completed, I turned my attention to the abscess, and on January 22d, plunged an aspirator into the abscess through the abdominal wall, and evacuated much pus; I did not venture to put in a permanent drainage-tube, because I half suspected that I had transfixed a coil of intestine lying between the abscess and the abdominal wall. The abscess speedily re-filled, so that, on January 27th, I introduced a trocar into the abscess, through the top of my artificial vagina behind the uterus, though I was doubtful of the presence of fluctuation at that point. Withdrawing the trocar, I left its canula *in situ*, to maintain permanent drainage, and enable me to wash out the cavity with a solution of permanganate of potash; this acted efficiently, and the opening into the intestines closed, as was made evident by the disappearance of pus from the stools. The stiff silver canula incommoded her, however, and, after a week, slipped out; the abscess speedily became distended, so that on February 5th, she was again etherized, and the trocar thrust into the abscess again, behind the uterus. The canula was withdrawn with the trocar, and many vain attempts made to insert an elastic catheter through the opening thus made, through which much pus leaked. In desperation at my failures to pass the elastic catheter, I again seized the trocar, pressed down, with my hand on the abdomen, what felt like the half-evacuated abscess, plunged in the trocar, withdrew it, leaving its canula, plugged the latter with a cork, and secured it with a perineal strap.

The next day, in the presence of Dr. Farlow, I drew out the cork, and was startled by the strange appearance of the fluid which escaped. It was a thin, watery fluid, full of black specks, entirely free from pus, but its odor was its most striking quality, being unmistakably that of gastric juice. Dr. Farlow found, under the microscope, that the black specks were meat-fibre, and pronounced the fluid to be the contents of the stomach. Here was a startling result. I had manifestly plunged the trocar through both walls of the collapsed abscess into a distended stomach, thus establishing, probably for the first time in the history of medicine, a *gastro-vaginal fistula*. The canula was at once withdrawn. For several days after, the varying contents of the stomach were recognized, mixed with the pus that escaped from the vagina, with the odor characteristic of gastric juice. Three days after, these abnormal ingredients had disappeared.

February 13th. A silver male catheter was inserted into the cavity of the abscess, through the still pervious opening into the vagina, and an attempt made to promote its healing, by moderate, forcible distension of the cavity with a solution of permanganate of potash. In fifteen minutes, the patient had a sudden, intense, gastric colic, followed, two hours later, by the evacuation from the bowels of many large blood-clots, amounting to two quarts (?), by the estimate of a reliable nurse. Tympanites set in for a few hours, and gastric juice again imparted its fragrance to the pus that escaped through the catheter during the subsequent six days. Her whole left leg now swelled to double its size, without phlebitis, or other assignable cause, and never fully subsided afterwards. The examination of the urine at this time, and previously, showed a perfectly healthy condition of the kidneys. During these three months, the pulse had ranged persistently between 100 and 120, but the temperature had been normal; at no time was there any febrile reaction.

On March 3d, only pus came from the tube, and on March 5th she went home, wearing the tube, but otherwise in good condition, being able to walk about freely without pain.

Three days later, she let the tube slip out, which was followed by slight feverishness, but no subsequent appearance of pus. On March 10th, general anasarca suddenly set in, and the urine was found to contain albumen, pus, and numerous hyaline and granular casts. She lingered through the summer in fair health, fulfiling the functions of a wife to her husband's perfect satisfaction, and died of Bright's disease in October. Neither persuasion nor bribe could induce the husband to permit an autopsy.

These three cases manifest deformities confined to the vagina, with the possibility that in Case III, the uterus was one-horned. In Case IV, the condition of the uterus could not be made out, owing to odd, inflammatory deposits around it. Case V presents the rarest form of stenosis, three-quarters of the vagina being represented by a very slender tube, dilated slightly at the end, inserted into the cervix uteri.

Kussmaul [2] states that "the Heidelberg Anatomical Museum contains a preparation of a congenital atresia of the vagina, in which that organ consists of a fibrous band one and a half inches long and three lines thick, with only a trace of canal in its upper part. The uterus, measuring three inches in length, and one and a half in breadth, nevertheless exists. The ovaries are in a state of rudimentary development."

The accidental puncture of the dilated stomach arose from my mistaking its lowest pouch, filled with fluid, which was plainly to be felt, for the partially-evacuated abscess, and pressing it down with my left hand, while with the right I pushed the trocar forward. The patient's enormous consumption of food fully explained the dilatation of the stomach, although no significance was attached to it before the accident. Whether the development of the fatal disease in the kidneys should be regarded as due to the propinquity of the abscess to the right kidney, or as a result of septic infection, can never be known.

Cases VI and VII present instances of universally arrested development, in which the vagina is entirely wanting, and the uterus indicated, if at all, by a mere solid bunch. The patulous state of the urethra, noted in Case VII, is alluded to by Emmet as not infrequent in these malformations, and undoubtedly explains the fact that has been often observed, that coitus has regularly taken place through the urethra.

Dr. Emmet [3] says that "if the vagina is absent, it is proper to open a canal at an early age, even if no retention exists, if a vestige of the uterus can be detected," basing this opinion upon a remarkable case, in which the uterus developed to normal size, after the establishment of a vagina, although no vestige of it could be found before the operation; and also upon the fact, likewise noticed by Barnes, that the health of the patients will often be established, as a result of the operation, although no development of the uterus takes place. This advice I did not follow in Case VII, nor can I endorse it, under ordinary circumstances, in view of the risks to life and health attendant upon the operation, and the very meagre chance of so brilliant a success as crowned Dr. Emmet's efforts in the one case.

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[2] Von dem Mangel, Verkümmerung, und Verdopplung der Gebärmutter. Würzburg, 1859, p. 45.

[3] Principles and Practice of Gynæcology. Third edition, Philadelphia, 1884, p. 189.

ABSENCE OF VAGINA, UTERUS, AND PRESUMABLY OF THE OVARIES.

Case VI. Mrs. K. C., twenty-two years of age, a well-nourished American girl, of Irish parentage, applied at the out-patient department of the City Hospital on August 12, 1878, to learn why she had never menstruated. From the age of fourteen years she had occasionally had backache, headache, abdominal pains, and general malaise, yet none of these were periodical in their recurrence.

She was married three and a half years ago, the marital functions having since been regularly exercised with partial satisfaction to the husband, but without the natural sensations to the wife.

On examination the mons veneris and labia majora were normal in appearance and well covered with hair; the clitoris, its prepuce and the labia minors were well developed. What appeared to be the vaginal entrance just below the urethra was peculiar from the entire absence of carunculæ myrtiformes or other trace of the hymen. On inserting the finger, the pseudo-vagina was found to end in a blind pouch about one inch from the entrance; its walls were notably thin and entirely free from the characteristic rugæ. On stretching the labia widely apart I found that this pouch was completely obliterated, its walls becoming directly continuous, with the mucous membrane of the labia. These phenomena suggested that the pouch was in reality to be regarded either as an imperforated hymen or an imperforated perineum, which had been so persistently assaulted by the male organ that a pouch had ultimately been formed.

By recto-abdominal palpation the finger could be brought in contact throughout the greater portion of the pelvic cavity without detecting any vestige of the vagina uterus or ovaries. In fact the explorations could be made so thorough as to exclude the possibility of the presence of these organs except possibly in a very rudimentary condition. A sound in the bladder could be felt through the recto-vertical septum without the interposition of a vagina.

The vulvar cleft was lubricated by the secretions of the vulvo-vaginal glands, the meatus of which were visible, one gland was felt as large as a pea. The breasts were flat, the mammary glands, nipples, and areolæ small.

ABSENCE OF VAGINA, AND PRESUMABLY OF THE OVARIES; A BARE TRACE OF THE UTERUS.

Case VII. On February 28, 1886, Miss F. H., of American parentage, aged twenty-eight years, was brought to me for examination by Dr. A. P. Perry, of Jamaica Plain. She reported never having menstruated or even had the menstrual molimena. Her health was good except for nervousness during the past month. The other functions were all well performed. The breasts were under size, the nipples and areolar normal, but no papillæ visible. The external genitals were fully developed, the orifices of the vulvo-vaginal glands perceptible; the clitoris and its prepuce prominent. There was no trace of the vaginal orifice. The urethra was so patulous that the little finger passed easily into the bladder, though there had been no incontinence of urine. With the little finger in the bladder and the forefinger of the other hand in the rectum, the entire absence of the vagina could be established. The only trace of a uterus was a small nodule, no larger than a bean, suspended in the middle of the pelvis by the broad and round ligaments which swung across the middle of the pelvis like a hammock. I advised against any attempt of the establishment of a vagina or the development of the uterus.

My last case is of an entirely different character, the characteristics being the result of injuries sustained in an instrumental delivery. The substitution of cicatricial for normal tissues in such cases almost always entails failure in the attempt to keep the canal patulous after enlargement owing to its contractility. Persistent efforts should, however, be made, unless the patient as in my case, refuses to submit to successive operations.

URETHRO-VESICO-VAGINAL FISTULA. CICATRICIAL CONTRACTION OF VAGINA.

Case VIII. Mrs. G., of French parentage, consulted me in the spring of 1882 on account of complete incontinence of urine, which dated from an instrumental delivery of a dead child five years before. She was twenty-eight years of age, a woman of large frame and full flesh. On examination the finger passed directly into the bladder through a rent nearly an inch long, beginning at the upper third of the urethra and running backwards along the base of the bladder. Where the fistula ended the calibre of the vagina was narrowed to the size of a quill by dense, unyielding cicatricial tissue. Coitus, which had been frequent, though always with pain to the woman, had evidently taken place into the bladder. She was admitted to my private hospital and the fistula closed by seven silk sutures with firm union. At a subsequent operation an attempt was made by forcible dilatation and the knife to re-establish the vaginal canal. A glass plug was worn for several weeks, in spite of which the cicatricial tissue contracted down to its former dimensions and the woman went home content with the relief afforded by the closure of the vesical fistula. The husband has never been satisfied with the result.

ALLEGED ORGANIC DISEASE OF THE BRAIN FOLLOWING MODERATE CONCUSSION.

CASE OF LOUISA V. RUSSELL VS. BOSTON & LOWELL R. R. CO.

BY ARTHUR H. NICHOLS, M.D.

This case, which has recently come before the Superior Court, possesses features of interest on account of the novel combination of symptoms manifested by the plaintiff, and the consequent difficulty encountered by the physicians in their attempt to construct any satisfactory theory consistent with admitted facts to account for her condition. This difficulty was further augmented by her deafness, and the fact that she has not been kept under continuous observation during the interval between the reception of the injury and the trial, which gave opportunity for a wide divergence of opinion as to her condition at any given time.

The defendant corporation labored under especial embarrassment, for, when a few days before the trial the privilege of an examination was ultimately accorded, it was to one physician only; whereas, in her own behalf, several physicians had had the advantage of frequent examinations with details as to previous history and record of illness.

The essential facts in the accident leading to this litigation are as follows: On the 7th of October, 1884, a freight-train, proceeding at a not unreasonable rate of speed on a down grade, got beyond the control of those in charge. As the train passed Arlington, held somewhat in check by the brakes and reversed engine, an ineffectual attempt was made by the switch-tender to divert it to a side-track. Now it happened, that while the forward box-cars were empty, the rear-cars were heavily laden with gravel, and thus the momentum of that end of the train caused a doubling and piling-up of the cars at a point directly opposite a frame dwelling-house situated about twenty feet from the nearest rail. One box-car was thus projected over the wreck, and tumbling over brought up against this house, knocking a hole in the side-wall of the kitchen where the plaintiff was at the time engaged in her ordinary housework, detaching some of the side-plastering and possibly some of the laths, but not separating any fragments of posts or studding. At the time of the crash she was stooping over the oven with her right side toward the wall of the house thus broken in, and avers that she received a blow on the side of her head, after which she was more or less dazed and can give no intelligent account of what occurred, except that she was very much frightened. A daughter, who was up stairs when the crash occurred, came down a few moments after, and found her mother coming out into the hall perfectly conscious, with hand to her head and covered with fragments of plastering and a few splinters of laths. There was certainly no outward evidence of local injury (bruise or swelling): and the fact that she was not thrown down, rendered unconscious, or even nauseated would at least indicate that the blow received was not of great severity: and her appearance subsequent to the accident, as testified by her daughter, husband, and neighbors who soon afterward entered the house, would suggest extreme fright rather than injury. It must, however, be admitted, that this fright did not then, or at any subsequent time, assume the form of nervousness or hysteria, the patient being of a phlegmatic temperament. It will be seen, therefore, that there was no satisfactory evidence to show whether she was in reality struck on the head, as alleged. Certainly her appearance, and the condition of the room after the accident, would lead to the presumption that if struck by any object propelled from the broken wall, it was by a loose fragment of plastering: or that possibly in her hurried escape she struck her head against the door or door-jamb.

For the period of about a fortnight after the accident she appears to have been dressed and about the house each day. Though doing no house-work she was able to attend to the adjustment of the award for damage to the house, making one visit to Boston in connection with this business, and meeting at various times the agents of the corporation, but making to them no allusion to personal injury. It will thus be understood, that when at a subsequent date, having in the meantime felt aggrieved at the small sum awarded by referees on account of damage to the house, she preferred a claim for personal injury, it was not unnatural that her allegation should be viewed by the corporation with suspicion and held to be an after-thought.

Now assuming for the moment the correctness of the idea, that for some time after the accident no purpose was entertained of claiming damage for personal injury, then additional weight is imparted to the statement made by the attending physician, Dr. F. A. Harris, who was called in two days after the accident. This gentleman testified, that the prominent symptom subsequently complained of, namely, fixed, circumscribed pain in the head, was the chief symptom at the very outset; and that she unequivocally attributed this pain to the blow which she said she had received at the time of the accident. Her pulse was then high (104), and has always since continued at about the same rapid rate. At the expiration of about a fortnight she became worse, suffered from insomnia and appears to have had occasional illusions or transient aberrations of intellect; and either lay abed, or on the lounge, doing no work whatsoever. Up to the last of July she had received sixty-five visits from Dr. Harris, who regarded her condition as serious. In the autumn and winter (1885–6) she improved, and was able to dress herself and sit about the house, lending a hand occasionally in the less onerous work of the household, though suffering occasional relapses, during which her character and disposition seemed materially changed. At times she was permitted to hang out a part of the wash even in extremely cold weather, thus exciting the belief on the part of some of those who saw her, that she was substantially restored to health. Now, the simple exposure of such an invalid to a winter air may have been unobjectionable, inasmuch as the general effect of a low outside temperature upon the organism is not unlike the effect produced by a cold head-douche. But the exercise involved in hanging out clothes must be pronounced at least injudicious, if there existed, as is assumed, any lesion of the brain. To interpret, however, this indiscretion as evidence of fraud or exaggeration, would indicate an imperfect knowledge of the eccentricities of the patient, or the intelligence of those about her. Indeed, there appears to have been no time when she did not express her ability and willingness to go anywhere or do whatever was required.

The plaintiff was first seen and examined by me four days before the trial. I found a rather stout woman, aged fifty-six, whose great deafness added to a condition of stupor or lethargy made it no easy matter to sustain communication with her, and at the end of forty minutes I had made so little headway, and the patient was so fatigued, that it seemed prudent to withdraw until the next day. After three protracted interviews the following opinion was formed as to the nature and extent of the injury: That the symptoms were mainly of a subjective character and afforded a presumption that as the result of external violence, there had been sustained a concussion of the brain with slight hæmorrhage. That in consequence of the subsequent activity of the patient, when absolute rest was essential to facilitate absorption of the hæmorrhagic deposit, there had supervened an inflammatory process which was likely to be of long duration.

The symptoms upon which this opinion was based, were: 1st, the moderate but persistent, circumscribed pain in head complained of from the day of the accident; 2d, the uniformly accelerated pulse; 3d, the impairment of mental faculties as indicated by very great loss of memory, alteration of character, irritability, etc.; 4th, local congestion of conjunctiva and capillaries of face.

When her mind was forced to fix itself upon any one subject she could talk intelligently; but left to herself she appeared to have lost all volitional control of the sequence of thought, so that her mind acted automatically. Upon matters connected with the accident she could at all times answer without much hesitation, but about every-day subjects she had shown no interest and seemed totally ignorant, was moreover unequal to the simplest arithmetical calculation. Appeared in fair bodily health with physicial functions all well performed. Averred that she was perfectly well except as to headache. There was a slight numbness of the right arm and a hyperæsthesia of the area of the neck supplied by the *occipitalis major* nerve, with constant jerking of the right arm. Pulse varied from 104 to 110. Once placed upon her feet she walked about like one with vertigo, slowly but without assistance. The control of the limbs was unimpaired; no rigidity of back; head and neck held with care as if somewhat sensitive to jar. The arm and neck symptoms were of somewhat doubtly origin, but might be attributable to strain communicated to the cervical and brachial plexus of the spinal nerves, a not unnatural effect of a blow received on the side of the head when stooping. In place of the multiplicity of symptoms, many of a trivial character, forming the typical picture of neurasthenia or hysteria, there is here presented the reverse condition of a woman calm and as a rule uncomplaining, but manifesting two persistent symptoms ordinarily regarded as indications of grave lesion of the brain; and when following a blow upon the head as possible precursors of insanity. To be sure, there were absent that unequivocal paralysis of head and extremities, which would have reduced this presumption to a certainty.

It would be impossible to assume this to be a case of malingering, a theory inconsistent with the observations of the attending physician or the appearance and previous character for trustworthiness of the plaintiff and her family. The simulation of organic brain trouble is not admitted as within the range of possibility by any treatise on malingering; while there exists no means of artificially maintaining the pulse at the high rate of 104–110. Not the least puzzling incident in this affair was the appearance of this woman during the first day of the trial, when she was brought into the court in a condition too prostrate to admit of her giving any evidence whatsoever; whereas upon the second day, conciliated by the insidious and skilful attentions of the lawyer, her mind was stimulated under the ordeal of a cross-examination to such unnatural activity that her general deportment compared favorably with that of the other witnesses produced, and undoubtedly impressed observers with the conviction that her condition was after all less grave than had been represented. Had she been questioned at this time on any matter not connected with the accident, she would in all probability have become speedily incoherent.

To recapitulate: —

In accordance with the theory advanced in behalf of the plaintiff, there was sustained at the time of the accident a slight concussion of the brain, not attended, however, by the usual immediate after-effects (stunning, nausea, continued prostration, delirium). In the absence of these ordinary symptoms, the real nature of the trouble was for a time not suspected, and consequently absolute rest, the essential element in the treatment of such lesions, was not enjoined, and the trouble was therefore aggravated by imprudent acts. It was held, furthermore, that the persistence of the significant phenomena (fixed, local pain in head, fever, etc.), was only explicable upon the theory of organic, structual lesion. Assuming this view to be correct, and no more plausible theory was constructed to account satisfactorily for the array of facts presented, then the inevitable and logical conclusion was, that no great improvement could be predicted.

In behalf of the defendant it was urged, that the subjective character of the symptoms, the mildness of the local pain, and above all the absence of decided paralysis of the face or extremities, pointed rather to functional disturbance, the *sequelæ* of fright or worry rather than of injury; and that the prognosis was, therefore, favorable. The latter view appears to have found favor with the jury, who awarded the plaintiff the moderate sum of one thousand dollars.

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RECENT PROGRESS IN DENTISTRY.

BY WILLIAM HERBERT ROLLINS.

A.

ALTERED SALIVARY SECRETION.[1]

From each parotid duct there exuded a thick purulent fluid, which, to the naked eye, as well as to microscopic examination, presented all the characters of "laudable" pus; the mouth was somewhat dry, and the whole mucous membrane had a curious reticulated look; the pus about the orifices of the ducts was free from odor and did not contain organisms, but the breath was unpleasant. The pus was strongly alkaline. The secretion began after an attack of typhoid fever and had existed for twenty years. The other oral secretions were normal. The patient's health was excellent, her digestion apparently perfect. The case is of great interest as showing that health can be maintained without the parotid secretion, and while daily swallowing large amounts of pus.

EPIPHORA AND SLIGHT ECTROPION CURED BY THE EXTRACTION OF A TOOTH.[2]

There was a fistulous opening about half an inch before the inner canthus of the right eye, and well marked epiphora, as well as slight ectropion on that side. On an examination no canine could be found. An incision into the jaw over the position usually occupied by this tooth revealed the presence of a buried canine root. When this was extracted all the symptoms disappeared gradually.

CALCIFICATION OF THE TOOTH PULPS CAUSED BY NEURALGIA OF THE TRIGEMINAL NERVE.[3]

The patient had suffered with violent toothache for five months. Seven teeth had been extracted during this time without any relief. The extracted teeth were only slightly carious and had been filled. As the woman was only twenty, he did not consider that the new formations of dentine which was found in all the extracted teeth could have been physiological, as they might have been in an old person. Nor did the disease seem one originating in the teeth, for it extended to so many. In seeking for a cause elsewhere it was found that the trigeminal nerve was affected. The frontal, the supra, and infraorbital, and the zygomatic points were all very tender to pressure. The diagnosis was neuralgia of the second and third branches of the trigeminal nerve. The patient was anæmic, and of a family subject to nervous diseases. The treatment, which was successful, consisted of Fowler's solution, bromide of potash, and sulphate of iron. This case is interesting as these pulp ossifications are undoubtedly on the increase, and there is a tendency to consider them local in origin.

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[1] Tomes in Journ. Brit. Dent. Assn., p. 465.

[2] J. M. Ackland, in Journ. Brit. Dent. Assn., p. 467.

[3] Spoffella in Brit. Journ. of Dent. Science, October, 1885.

NECROSIS OF ALVEOLAR RIDGE AFTER MEASLES.[4]

Three cases are reported, but the details are not given.

CROWDED ARCHES THE CAUSE OF RIGGS' DISEASE.[5]

This writer considers that lateral compression is the predisposing cause of the wasting of the alveolar processes. The jaws are not large enough to allow the teeth to assume proper positions. He thinks that fungi are the immediate cause of the inflammatory process.

EPILEPSY FROM DENTAL CARIES.[6]

Two cases are given in which the epileptic seizures disappeared immediately after the extraction of a carious tooth.

LAGOPHTHALMUS DUE TO DENTAL IRRITATION.[7]

The left eyelid was so drawn up that the white showed above the iris. The second and third left molars were extracted because decayed. This relieved a persistent neuralgia with which the patient had suffered, but had no effect upon the eyelid. A year after it was decided to remove a filling in the left upper third molar. An exposure of the pulp was found. The tooth was extracted, and as a result the trouble in the eye gradually got well, having entirely disappeared in six months.

EFFECT OF MENTAL OVERWORK UPON THE TEETH.[8]

Among the hard-worked pupils of the Paris public schools, the teeth become deteriorated in a few weeks after entry. The second dentition is often premature. These observations confirm the statements of Dr. J. L. Williams, who has given great attention to this subject. He has shown that any mental strain shows itself upon the teeth in a short time, both in increased decay, as well as in increased sensibility of the dentine. Dr. D. M. Parker has reported that these same changes are always apparent in men who are in training for athletic trials. As there is not the slightest doubt of the accuracy of these observations, they show that these are matters which demand serious consideration from educators.

SPINAL IRRITATION FROM THE TEETH.[9]

The patient, a girl of fourteen, had been under treatment for two years for reflex spinal irritation which was considered hysterical. An examination of the mouth showed that the bicuspid teeth were low down and wedged between the molars. The molars were extracted, and it was then found that the pulps were exposed. This exposure was thought to be due to absorption caused by the bicuspids. The patient recovered at once.

EPISTAXIS CAUSED BY A TOOTH.[10]

There was severe hæmorrhage from the right nostril at intervals for several days. The upper right lateral was extracted; the blood flowed profusely from the nose but soon subsided and the bleeding did not return.

B.

ALVEOLAR DENTAL MEMBRANE.[11]

This membrane consists of two distinct layers, developed from separate centres. The outer layer of fibrous connective tissue is the periosteum of the bone, the inner a layer of fine cells, originating in the dental follicle is the true root membrane.

IS A TRANSPLANTED OR REPLANTED TOOTH PULPLESS? [12]

He relates two cases in which in regulating, it became necessary to rotate an upper lateral incisor. The ordinary means failing, the tooth was extracted and replaced in the proper position. These teeth have never discolored, and are as sensitive to heat and cold as the other teeth in the same mouth. This he thinks proves that the pulps are living.

Two similar cases have come under my observation in which perfectly healthy teeth in young persons having been entirely separated from the jaws by blows were replaced and to all appearance have healthy pulps; and when afterward they decayed, the dentine was sensitive.

A NEW METHOD OF RECORDING THE MOVEMENTS OF THE SOFT PALATE.[13]

A straight rod is passed through the nose from before backward, in the living subject. In this position it is not influenced by the movements of the soft palate; but if the end of the rod which remains without the nostril is raised so that it comes in contact with the anterior border of the nostril, the pharyngeal end will lie in such a position as to receive a decided motion when the soft palate is raised. Supporting this rod from the forehead and recording its motions on carbonized paper gives a means of studying the motions of the soft palate in deglutition, respiration, coughing, hawking and snuffing, etc.

PROGRESSION IN TEETH.

Human teeth have a tendency to move forward. This is seen clearly under several conditions. If a molar is extracted the teeth behind the gap move forward so that the space is almost entirely closed from this movement. If a tooth is extracted in regulating to make room and we wish to draw back the teeth in front of the gap, we shall find it necessary to have the frame from which the tension is exerted, extend around several teeth behind the space, for if the frame is attached to only one tooth on each side of the space the tooth behind will move forward much more than the other will move back. This is true even where the tooth behind the space is large and firmly implanted by means of three roots, as in a molar. The following case illustrates this: A canine tooth erupted behind the lateral incisor. There was much pain of a neuralgic character which I could account for only on the supposition that this tooth in some way acted as an irritant to the first bicuspid in which the pain was located. The bicuspid was therefore taken out and an attempt made to draw the canine back. A frame extending around all the three molars and second bicuspid was made and used as the fixed point from which tension on the canine was exerted, but the canine remained stationary while all the teeth behind began to move forward. It was found necessary to have a plate attached to all the available teeth in the mouth to prevent the teeth from moving forward before the canine moved back. This is an extreme case as the root of a canine is deeply implanted, but it serves to illustrate this tendency in teeth which I am certain exists. We see it plainly in some of the lower animals, as in the elephant, who has a constant progression of the molars whereby the masticating surfaces are kept constantly renewed.

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[4] Coterell in Brit. Journ. of Dent. Science, p. 132, 1886.
[5] Bate in South. Dent. Journ., p. 61, 1886.
[6] Leibert in Brit. Journ. of Dent. Science, p. 116, 1886.
[7] Dent. Cosmos, p. 123, 1886.
[8] V. Galippe in Brit. Journ. of Dent. Science, p. 995, 1885.
[9] Redman in Brit. Journ. of Dent. Science, p. 715, 1885.
[10] Johnston in Dent. Cosmos, November, 1885.
[11] Ingersol in South. Dent. Journ., p. 415, 1885.
[12] Underwood in Brit. Journ. of Dent. Science, p. 30, 1886.
[13] Allen in Ohio State Journ. of Dent. Science, p. 551, 1885.

C.

RAPID SEPARATORS.

Numerous attempts have been made, from time to time, to produce an instrument for quickly separating the teeth, to prepare for filling. None of these attempts were successful. Recently, Dr. Bogue has devised a series of these instruments, which are of great value, as with them, enough space can be got in a few minutes to enable filling to be done without previous wedging, in the ordinary slow way.

DANGER FROM SMALL ARTIFICIAL PLATES.

Several cases of death from swallowing artificial plate, are mentioned in the journals for the past year. This shows how important it is to warn patients not to sleep with such appliances in their mouths.

AN ALL-PORCELAIN CROWN.[14]

The crown consists of a piece of keramic body baked to the shape of the crown, which has been lost by decay. Wires projecting above the roots, into which they are firmly fixed, are the means of holding the crown in position, as they project into a hollow in the crown, being fastened there with cement.

A BAND MATRIX.[15]

The matrix consists of a narrow and thin band of steel, of sufficient length to go three-quarters around a tooth. To use the matrix, it is bent around the tooth to be filled, and held in position by a small clamp, the ends of which go into holes in the ends of the band. By turning the screw in the clamp, the band is drawn tightly against the tooth, and held there.

FRACTURED TEETH.

The usual explanation of a fracture in a tooth, is to say that the tooth has received a blow. Redman [16] reports a case in which there was no history of a blow, nor, indeed, had the tooth any antagonistic tooth, so that it seems impossible to consider the fracture traumatic. In this case, the first symptom was severe pain, which lasted for two days. Then the tooth became loose, and was found, by the dentist, to be split in halves lengthwise.

AN IMPACTED TOOTH FROM A FALL.[17]

The patient, falling from a horse, drove the right upper lateral into the jaw, so that it could not be seen from the front. The tooth was grasped with thin forceps, drawn into place, and held with splints for four days, when it was firm enough to do without further treatment.

A NEW OPERATION FOR SALIVARY FISTULA.[18]

The fistula, which was caused by a stab, opened on the cheek, and had no communication with the mouth. Two needles, threaded on one fairly-strong piece of silk, were successfully passed through the fistula into the mouth, piercing the buccal membrane one-quarter of an inch apart; the ends were firmly tied, inclosing a portion of the duct, and the surrounding tissues. The internal wound healed in a few weeks, and the saliva found its way into the mouth, as usual.

ACCIDENTS IN TOOTH EXTRACTION.

At the December meeting of the Odont. Society of Great Britain, MacCormac related a case in which, during the extraction of a tooth, the forceps broke, and one blade disappeared. The patient immediately became "black" in the face, and almost suffocated. These symptoms gradually disappeared, and at the end of six weeks, there was no great cause for anxiety, though she suffered from pain on the right side of the sternum, spasmodic cough, and bloody expectoration; so it was decided to open the wind-pipe. Through this, in opening the end, the broken blade could be felt, five inches below, in the right bronchus. The fragment was removed, the patient making a good recovery. As the forceps were made by Evrard, the most distinguished maker who has ever lived, there is no reason to think that they were not as perfect as possible. The case, therefore, shows the importance of guarding the throat in tooth extraction. A case occurring in my practice, shows one other danger, which has never been mentioned. In an attempt to extract an upper bicuspid, the forceps slipped, and closing just as it reached the lip, it took a piece of this between the blades and severed it entirely, thus causing a permanent scar. As there is no use in having the blades of forceps with sharp-cutting edges, which come in contact, this very common form ought to be discarded.

PREPARING FOR THE ERUPTION OF THE FIRST PERMANENT MOLARS.

These teeth usually erupt when a child is six years old. They almost always decay, either during eruption, or shortly afterward. Until the eruption of the bicuspids, five years later, the anterior surfaces of these teeth are in contact with the first, or temporary molars. It is a well-established fact, that contact between teeth will result in decay in most mouths. As the temporary molars are to remain in the mouth for a few years only, there is no objection to so cutting away the posterior surfaces of these teeth, so as to give as small a contact as possible between them and the first permanent molars. A dentist should always see a child shortly after the age of five years, in order that this treatment may be carried out before the permanent teeth erupt, because after this, it is difficult to properly do the extensive cutting without injury to the permanent tooth, whose enamel is always soft at first. If it were possible to grind away the backs of the temporary molars, and thus prevent the permanent ones from ever touching them, the danger of decay would be slight, but there is a peculiar tendency in teeth, which has not been properly explained, or, so far as I am aware, noticed; this is the tendency which they show to move toward the front of the mouth. I shall speak of this later, under the head of "Progression in Teeth." It is due to this tendency, that it is not practical, in most cases, to maintain perfectly free spaces in the positions named.

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[14] Howland in Ind. Pract., p. 137, 1886.
[15] Guilford in Dent. Cosmos, p. 138, 1886.
[16] Brit. Jour. of Dental Science, p. 715, 1885.
[17] Tomes in Brit. Jour. of Dental Science, January 15, 1886.
[18] Hodgson in Dent. Cosmos, November, 1885.

The best one can do, is to grind the backs of the temporary molars, so that they shall only touch the permanent teeth at small points near the grinding surfaces, for here, contact will do the least harm: first, because the enamel is strongest there; and second, because, if decay should begin, it can be more easily managed than at any other point on the approximal surfaces. Without a figure, it is not easy to explain the shape this preventive trimming should make the teeth.

FATAL HÆMORRHAGE FROM TOOTH EXTRACTION.[19]

Patient, aged twenty-two, was admitted to the hospital for chronic synovitis of right knee, caused by a blow. Ten weeks after this, an aching lower molar was extracted. The bleeding ceased in a few minutes, but soon returned so profusely, that it was necessary to plug the socket. The bleeding continued, without interruption, for seven days, when the patient died. Just before death, the temperature had risen to 102.6° F. All known styptics were tried. Stimulants were given at short intervals. As a similar case, in which transfusion was used, was given in my report for 1884, in which the patient recovered, after he had become practically dead, it seems worth while to speak of this again, as this treatment did not seem to have occurred to the medical men who had this case in charge.

(To be continued.)

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Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

C. M. GREEN, M.D., SECRETARY.

Annual Meeting, April 24, 1886, the President, Dr. George B. Shattuck, in the chair.

Dr. A. L. Mason reported two cases of

HYPERTROPHIC CIRRHOSIS OF THE LIVER.[1]

Dr. J. R. Chadwick reported some cases of

ATRESIA OF THE GENITAL CANAL.[2]

Dr. J. W. Farlow said that the evidence of the stomach having been perforated by the trocar in Dr. Chadwick's last case was unmistakable. As soon as anything was taken by the stomach it appeared at the trocar. In subsequent microscopic examinations of the discharges from the canula there were found meat fibres and fat globules from milk: medicines also escaped, and there was a strong odor of gastric juice in all that came away. The patient's excessive diarrhœa was accompanied with an enormous appetite, which of itself would dilate the stomach. It is also probable that adhesions formed between the stomach and the abscess which served to drag the stomach down, especially after the evacuation of the abscess. It is strange that there was no indigestion, pain, or vomiting, as the result of the condition of the abdominal organs.

Dr. Farlow also related the following case, similar to one of those which Dr. Chadwick had just reported:

Mrs. M., aged 34, was married the first time seven years, and the second time two years. The catamenia have never appeared. Every month since the age of seventeen she has had severe abdominal cramps as if she were to menstruate. This pain has been more marked on the left side, and for the last year or more has been so severe that she has taken morphine for its relief. Sexual feeling has been present and coitus has not been painful. The labia majora, minora, and clitoris, in fact, the whole external genitals were normal, except a slight dilatation of the meatus urethræ. The vagina was a blind pouch one and a half inches long: nothing could be felt at the end but a small, hardish mass. Per rectum, I made out a hard nodule the size of a bean and on either side some small kernels, probably a rudimentary uterus and ovarian tissue. The patient said her first husband had made no complaint of her condition, but the second husband was not so well pleased.

Dr. A. N. Blodgett said that the case last described by Dr. Chadwick presented a most remarkable series of phenomena. The existence of an abscess of these colossal proportions in the parieties of the abdomen is in itself not a common occurrence. The communication of the abscess cavity with the intestinal canal is not so rare. The great feature which must excite astonishment is the surprising result of the vaginal puncture. It is doubtful if another instance can be found in the records of surgery in which the stomach has been drained through the vagina. The fact that a gastro-vaginal fistula can exist without at once destroying the life of the patient may be explained in the following way: the existence of an abscess of the magnitude of the one described in the present case must have excited a certain amount of inflammatory action in the surrounding tissues, and no doubt the peritoneal covering of the various visceral organs in the vicinity was also the seat of adhesive inflammation; this is often observed, as the result of inflammatory action in the vicinity, in which the organs become firmly united to one another and to the abdominal parieties. If this had occurred in this case, it might easily happen that the stomach would be drawn downward by the draining of the cavity of the abscess with the wall of which it was in firm contact, and the trocar, inserted into the cavity of the abscess, would easily penetrate the septum between the abscess and the stomach, and thus the contents of the stomach would at once appear in the vaginal drain. There seems to be no other satisfactory way in which to account for the innocent result in this case. It would be thought impossible to open the stomach from below, upon an unattached portion of its surface, by a puncture from the vagina, in the direction of the length of the body, without injuring important organs, the result of which would in itself be very grave: when we think, however, of the almost inevitable invasion of the abdominal cavity with the contents of the stomach, and the fatal result of this accident, we must, I think, come to the conclusion that the general cavity of the peritoneum was not opened by the trocar; but that the adhesion of the stomach to the neighboring organs and structures had shut off or obliterated the peritoneal space at this point, and thus averted what in all human probability must otherwise have been a fatal result.

INCIDENTAL BUSINESS.

The Treasurer submitted his annual report, showing the income of the Society to have been $734.35, and the expenditures $524.75, leaving in the treasury $209.60. The Publishing Fund now amounts to $181.98.

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[1] Publication necessarily deferred.

[2] See page 505.

[19] Albert, Dental Record, p. 85, 1886.

The Committee on Social Meetings reported that there had been collected during the past year for the use of the Committee $197.50; the amount on hand at the last annual meeting was $58.73, and during the year $64.73 had been expended. The unexpended balance, $191.50, will more than suffice for the ensuing year.

PROPOSED AMENDMENT TO THE BY-LAWS.

Dr. A. B. Morong submitted the following amendment to by-law XV., the same to be an addition to the present by-law, to wit:

In making nominations for the offices of the Society in 1887 and each subsequent year until otherwise ordered, the nominating committee shall not nominate any member who has held any office in this Society for two consecutive years immediately preceding the year for which such nomination is made. Nominations for Treasurer, Secretary, and Librarian are excepted from this restriction.

Action on this proposed amendment will be taken at the next stated meeting in October.

ELECTION OF OFFICERS.

The Nominating Committee presented its report. Dr. J. R. Chadwick declined to be a candidate for the office for which he had been nominated, and Dr. A. H. Nichols was named in his place. Ballots then having been given in, it appeared that the following officers had been duly elected:

President, George B. Shattuck; *Vice-President,* John Homans; *Secretary,* Herbert L. Burrell; *Treasurer,* Edward M. Buckingham; *Librarian,* B. Joy Jeffries; *Commissioner of Trials,* Charles W. Swan; *District Nominating Committee,* Hasket Derby; *Committee of Supervision,* Arthur H. Nichols, Albert N. Blodgett; *Committee on Social Meetings,* Morton Prince, Vincent Y. Bowditch, Harold Williams, Frank B. Harrington; *Censors,* Elbridge G. Cutler, Thomas M. Rotch, Frederick C. Shattuck, Francis H. Williams, Charles M. Green; *Councillors,* S. L. Abbot, J. Ayer, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, E. H. Bradford, A. T. Cabot, D. W. Cheever, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, S. H. Durgin, T. Dwight, R. T. Edes, R. H. Fitz, C. F. Folsom, M. F. Gavin, G. W. Gay, J. O. Green, F. B. Greenough, W. H. H. Hastings, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, M. B. Leonard, G. H. Lyman, A. E. McDonald, F. Minot, C. B. Porter, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, B. S. Shaw, A. D. Sinclair, A. M. Sumner, C. W. Swan, G. G. Tarbell, O. F. Wadsworth, J. C. Warren, T. Waterman, W. G. Wheeler, J. C. White, E. N. Whittier, H. W. Williams.

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PENNSYLVANIA STATE SANITARY CONVENTION UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH.

The first session of the convention was opened at McCaul's Opera House, Philadelphia, Wednesday, May 12, 1886.

The meeting was called to order by William Pepper, M.D., of Philadelphia. In opening the session the President referred to the great importance of such meetings and to the necessity for education of the public to the vital importance of attention to sanitary matters.

Governor Pattison was then introduced and gave a *résumé* of the sanitary work of past ages, and referred to the stress laid upon hygienic sanitation by the ancients, more particularly with reference to the Mosaic laws and Rome. In concluding, he said that no community with well-organized sanitary arrangements need be alarmed at the appearance of a pestilential disease, for they have at hand the means to at once control it.

The first paper of the morning was entitled:

AN EPIDEMIC OF DIPHTHERIA TRACED TO ITS SOURCE,

by Benjamin Lee, M.D., Secretary, Pennsylvania State Board of Health.

He described the epidemic of diphtheria which occurred in the city of Pittsburgh in 1877. The outbreak of the disease was confined to one portion of the city known as the south side. The mortality rate ran up from zero in June to 92 in August and 267 in October. During the seven months immediately preceding the outbreak there were only 35 deaths. The first cases occurred in immediate proximity to the Washington Street sewer. The street sewers were unprovided with drops. A portion of the south side is situated on a steep hill up which the sewer extends, and seemed to act as a ventilator for the one on the level. Examination of the sewers showed that they were filled to a depth of from one to three feet with deposits of filth, which on account of the slight fall of the main sewer could not be washed out. This condition had existed for years. What was the spark that exploded the mine? Prior to the outbreak there was a series of heavy rain storms, filling the sewers to overflowing. The effect of this was to force sewer gas into the dwellings. In many of the dwellings in connection with the Washington Street sewer there were not provided either traps or ventilators. To these conditions the outbreak causing the death of four hundred children was clearly attributable.

In discussing the paper the Rev. George B. Stroud remarked that the whole system of drainage was a mistake. The only remedy is to wipe out the whole system. He thought that it would be advisable to substitute earth-closets, and destruction of foul matters with fire. The removal by water has proven unsatisfactory.

Dr. Crosby Graves, Health Officer of Pittsburgh, stated that the Washington Street sewer had never been intended for sewerage purposes. It was intended for drainage purposes only; since the epidemic referred to, some improvements had been made.

NECESSITY FOR PHYSICAL EDUCATION,

by Carl H. Horsh, M.D., of Dover, N.H.

Rightly applied physical exercise is of great assistance in digestion and especially in improving the tone of the nervous system. The best results are attained by outdoor exercise.

TESTS FOR ORGANIC IMPURITIES IN WATER,

by Henry F. Formad, M.D., of Philadelphia.

One of the best tests for purity of drinking-water is the health of the community. It has been established that many diseases are communicated through the drinking-water, particularly is this the case in such diseases as cholera, and typhoid fever. It is therefore desirable to be able to have a method by which to determine the presence of organic matters. Up to the present time the methods have been purely chemical. The quantity by this method can be estimated, but its quality, whether living or dead, cannot be determined by this method. In this mode skilful manipulation and complicated apparatus are required.

The speaker then called attention to the biological or mycological test. Water contains living matter of different kinds; some is very useful, some is harmless, while another portion is exceedingly dangerous. The presence of these bacteria in large quantities in water indicates a large quantity of organic matter. They exist directly in proportion to the quantity of organic matter.

He then described the experiments made by himself and Dr. Allen Smith, his assistant. The methods employed are simple and can be used by any one. They consisted in making cultures with the water to be tested. The culture mediums have been sterilized gelatine and sterilized potato. Comparisons with water contaminated with a certain definite amount of sewerage, it was found that in the proportion of 1–5000, the presence of sewerage may be shown by the development of the micrococci. The speaker stated that he had found a micrococcus presenting peculiar appearance always present in water contaminated with sewage.

Dr. Vaughan, of Ann Arbor, Mich., asked if it were not possible for water to be contaminated with the products of bacteria contained in the soil, while the water itself may not present bacteria? Also, whether the special micrococcus found in sewerage was harmful or not.

Dr. Formad in reply stated that a few experiments seemed to indicate that this particular bacterium is not injurious. He thought that water might be contaminated with organic matter other than bacteria.

AFTERNOON SESSION. — IMPORTATION OF FOREIGN RAGS INTO AMERICAN PORTS,

by F. S. Wilson, M.D., Lazaretto, Physician.

The question of the importation of rags has been thrown on the local boards of health. The rags certainly afford an excellent breeding-place for germs. The speaker thought the proper plan would be to have the rags properly disinfected before being shipped. A still better plan would be the reduction of the rags to pulp before being shipped. Disinfection after reaching this country is a matter of great labor and expense.

In reference to the extent of the trade in rags it was stated that 1,659,347 pounds of rags valued at $18,596 were annually imported. The health of the people is of more importance than commercial interests. This question of the importation of rags is a matter for present consideration.

Mr. Wm. Taylor, Health Commissioner of Boston, stated that all rags have to be disinfected after arrival in Boston, and under the supervision of the Board of Health. This rule applies to all cargoes of rags, no matter whether or not disinfection has been practised before leaving the other side. The Boston Board of Health had been led to this action by finding that no reliance was to be placed on certificates of disinfection. The process employed is by superheated steam. It is better to exclude all rags than to have one case of disease from their introduction. A close watch should be kept on the whole coast, and everything should be done to guard the people of the United States against these diseases.

Dr. A. N. Bell, of New York, stated that of all articles of commerce, rags are the most dangerous. Some sixty years ago in New York, rags were not admitted at all during the hot weather; the rule being that rags arriving during the summer should be kept on the ships or in storehouses until winter. As a result, no captain would bring a cargo of rags in the summer. Evidence is not wanting of the carrying of cholera and other diseases in rags. It has been claimed that the rags are cleaned before being shipped, but this is offset by the fact that the first process to which they are subjected in the paper mills is cleaning by heating in which fifteen per cent. of the weight is lost. Again it is not uncommon to find old poultice rags from hospitals in the bales of rags. Not only are rags dangerous, but ships trading with infected districts become infected and even if disinfection is practised before shipment, reinfection may take place. In regard to the process of disinfection, he regarded the method by super-heated steam as the best and is efficacious. The use of steam in this way is not injurious to the fabric. Dr. Bell moved that the plan employed by the Boston Board of Health be indorsed by the Convention, and recommended for introduction to all Boards of Health in the United States. This was adopted.

The following telegram from Dr. S. H. Durgin, Chairman of the Boston Board of Health, was read by the Secretary: —

Boston, Mass., May 14, 1886.

Dr. Lee, *Secretary Sanitary Convention, Philadelphia.*

The copy of rag resolution adopted by your convention is received. The prompt notice is evidently intended as a compliment to the Boston Board of Health, of which I am the senior member. Being unwilling to accept any part of a compliment which does not belong to me, I therefore beg to say to your convention, through you, that the regulation in question, which requires that all imported rags be subjected to the patent steam process on arrival in this country, never has had and never will have my approval.

S. H. Durgin, M.D.

Dr. D. W. Jeffries, of Chester, read a paper on

HEATING AND VENTILATION OF PUBLIC SCHOOL BUILDINGS,

describing the Ruttan system of ventilation as applied to the High School at Chester.

ECONOMIC SANITATION,

by Dr. Albert L. Gihon, Medical Director of the United States Navy.

Good sanitary work costs a great deal. The amounts appropriated for this work were entirely insufficient. A small sum of money properly expended might often prevent outbreaks of disease. The expenditure of $20,000 might have prevented the small-pox epidemic of 1872, which caused the loss of $25,000,000. Hog cholera becomes a matter of international treaty, but diphtheria might decimate a community and the Health Officer be left to his own resources.

NARCOTIC APPETITES,

was the title of a paper read by Dr. J. Loury Sibbett, of Carlisle, Pa. This was followed by a paper on

OUR DRUGS AND MEDICINES,

by L. Wolff, M.D., Philadelphia.

An examination of drugs, made in this country were as a rule, of high character. Retail druggists have been accused of adulterating drugs but this accusation has been shown to be false. Only physicians, druggists and their assistants should be permitted to handle medicines. The manufacture of patent medicines should be restricted to qualified persons.

The evening session was devoted to the consideration of the First Annual Address, delivered by Hon. Erastus Brooks, of West New Brighton, N. J. His subject was

THE OBLIGATION OF STATES AND CITIZENS TO PRESERVE THE HEALTH OF THE PEOPLE.

He showed that the state would be comparatively powerless without the aid of citizens. He insisted that public health was public wealth, and that careful sanitation was true economy. The ignorance of the people in regard to the importance of these matters was illustrated by a reference to the opposition to vaccination in Canada, during the prevalence of small-pox. He referred to the great importance of supplying pure drinking water to the community.

After extending a vote of thanks to the reader of the paper, the convention adjourned to Thursday morning.

SECOND DAY.— MORNING SESSION.

PHYSIC TIPPLING AND MEDICINE BIBBING,

was the title of the first paper read, by Dr. Frank Woodbury, of Philadelphia.

" The object of this paper," said Dr. Woodbury, " is to direct public attention to a habit which has insidiously crept into our life as a people. and which in my estimation has attained sufficient proportions to warrant consideration at such a conference as this. The bromides only a few years ago were but little used; now it is estimated that at least two hundred tons are used every year in this country alone. Of chloral hydrate one ton a day is consumed in America and England. Nor will I speak of the vast amounts of the preparations of cinchona, of opium and of mercury, or of the alkalies, iodides, and digestive ferments which flow in a steady current from the stills of our manufacturing pharmacists down the throat of a confiding community. Why is it that civilized man in the nineteenth century consumes larger quantities of narcotic drugs — morphine, chloral, bromides, ether and chloroform — than his forefathers? Can we not see abundant evidence of the bad effects of over-medication in the weakened digestion and impressionable nervous system which have become almost universally recognized as characteristic of American life? Among the causes for the enormous drug trade in this country, is to be counted undoubtedly the overcrowding of the medical profession. Thousands of half-educated or entirely uneducated men, furnished with cheap diplomas, have been set loose to prey upon the community, and drug stores have sprung up at nearly every corner. But this is not all. The patent medicine advertisements warn us that hundreds of thousands of dollars are spent annually in the effort to induce our fellow citizens to purchase and consume medicines which otherwise they would not buy. Another reason for the extraordinary demand for medicine has its roots in the minds of the people. They are impatient and illogical. A large proportion of this community is suffering from indigestion in some form or other. They keep on eating and drinking the very things which make them sick and then call upon the druggists for aid. The growth within a few years of the demand for digestive ferments is astonishing. Pepsin and pancreatine in various forms, constitute a large proportion of the daily sales of city druggists. If the pepsin is introduced into the mouth our stomachs will naturally cease to secrete it, and consequently, according to physiological law, will lose the function. One fourth of all the children born in civilized countries die before they reach the fifth year, and the proportion is greater in large cities. Among the recognized causes of weakened vitality in children, I wish to place the abuse by parents of medicines acting on the nerves, and especially alcohol, tobacco, opium, chloral and the bromides. As sanitarians, we would teach the public that they should bear with patience the ills that flesh is heir to, that disease is very largely affected by mental states, and that physical troubles are made greater by thinking of them. Medicine is a two-edged sword, and if capable of doing good is also capable of doing harm. Physic tippling and medicine bibbing is simply a form of intemperance. The taking of medicine is a matter of grave importance and should only be done by competent medical advice, and should not be continued longer than the emergency demands. In conclusion, for the purpose of checking this evil, I should recommend,

1. The examination of all proprietary medicines by a Government or State commission of experts, who shall have power to permit the sale of such as are harmless or especially likely to prove serviceable, and to prohibit the sale of all which are particularly liable to do injury and those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese Government several years ago, and has been found to be of great service in that country.

2. The instruction of the public to properly estimate drugs and to regard every unknown medical agent as dangerous and endowed with capacity for harm. Let them endeavor to escape the caustic criticism of Molière upon those who pour medicine, about which they know little, into bodies about which they know less, in order to cure disease about which they know nothing at all.

CONTINUOUS PREVENTIVE DISINFECTION OF HOUSE-DRAINAGE,

by Henry Hartshorne, M.D., of Philadelphia.

The speaker referred to the epidemic of diphtheria and croup in Detroit, in which Mr. Wight, the Health Officer, had placed in the sewers 275,000 pounds of sulphate of iron, and had burned in them under cover, three tons of sulphur. The gas from this passed through the whole system of sewers. Immediately following this procedure, there was a marked diminution in the death rate, and in fact an almost total cessation. It has been asserted that sulphate of iron and sulphurous acid have no effect upon bacteria unless in strong solution. The method in which these agents act is uncertain. Koch believes that the effects of bacteria are the result of the poisonous products which they give rise to. It may be that a chemical agent which has no especial effect upon micrococci, bacteria or spirilla will yet antagonize or decompose the poisonous material which they produce.

We need to destroy or purify all filth on which these germs live and multiply, and to destroy the germs, or antagonize the poisonous materials. Many agents are useful for this purpose. They are, as a rule, applied fitfully. They should be employed continuously. Dr. Hartshorne then described an apparatus which accomplishes this purpose. This may be attached to any water-closet, and from it, a strong solution of chloride of zinc flows continuously into the bowl, at the rate of twenty drops per minute. This prevents any chance for decomposition of the fæces. With this arrangement, the traps cannot become dry. The chloride of zinc has no injurious effect upon the iron or zinc. The speaker thought that cess-pools should be done away with, and water-closets with this apparatus and with sewer attachments, should be substituted. This would make disease infection almost impossible. Diphtheria and typhoid fever would almost entirely disappear, and cholera, if it visited this country, would pass us by.

Dr. Hugh Hamilton, of Harrisburg, read a paper on the

RELATIONS WHICH THE TOPOGRAPHY OF HARRISBURG, PA., BEARS TO ITS DRAINAGE AND SEWERAGE.

Dr. V. C. Vaughan, of Ann Arbor, Mich., described

THE CHARACTERISTICS OF HEALTHY DWELLINGS, PARTICULARLY FOR THE WORKING CLASSES.

THE MAJESTY OF THE LAW OF SANITATION,

was the title of the address of Rev. J. Andrews, of Chestnut Hill, Pa.

The last paper of the morning session was

ON THE MEANS OF ELEVATING THE STANDARD OF SUPPLIES,

by Mr. H. Wharton Amerling, of Philadelphia.

After referring to the many adulterations of food supplies, he recommended the appointment of a local Board of Health, the passage of laws governing this subject, and the appointment of a committee to establish a standard of purity for foods and medicines.

AFTERNOON SESSION.

The first paper was by Dr. C. W. Chancellor, of Baltimore:

HEREDITY, AND OTHER PECULIARITIES AFFECTING HEALTH AND LONGEVITY.

HYGIENE OF OLD AGE,

by Dr. H. C. Wood, of Philadelphia.

Leaving out of consideration, deaths from accident, fevers, lightning strokes, and other more or less preventable causes, the man who is so built that he is equally strong in all his parts, lives out his appointed days. Excessive strength in one part is a veritable source of danger. The athlete perishes because his over-developed muscular system perpetually strains, and finally wears out the heart or lung, which was originally constructed for a muscular apparatus, of half the power of that which is artificially built up. The large proportion of mankind die early, on account of some local weakness. Human age is not to be accounted by years. In some individuals, the general tissues are older at fifty, than in others at one hundred. Many of the cases of so-called neurasthenia and nerve exhaustion in men or women, with sudden or gradual breakdown at forty or fifty, apparently from overwork, are really cases of premature old age, and they are to be treated in precisely the same manner. A large proportion of early deaths are the result of some feeble organ being originally endowed with a longevity less than the rest of the organism.

The man who enjoys fair health at seventy-five has probably been built upon the principle of the famous "One-Horse Shay," described by our inimitable Holmes, and he should be treated as a wise man would treat such a venerable instrument of progression. The principle involved in such cases is that of protection, and especially, protection from strain of any feeble part. Exposure to inclement weather, especially to high winds, is injurious, by throwing a great strain upon the heart, and this may result in sudden death, or, if it does not, may lead to a fatal pneumonia. Emotional disturbance, as the sudden receipt of good news, may have a like result. Medicines that pertubate, and measures that bring relief, by inducing a violent local action, are to be avoided; at the same time, incipient disorders should, if possible, be arrested at once.

In regard to details, every old person should go over, with a wise counsellor, his whole method of living, and personal habits. The first question is in regard to food. The lost teeth should be replaced by artificial ones, to facilitate chewing, but even then, the food should be soft, easily comminuted, and readily digested. The food should not be of a stimulating character. Many old people are injured by too much nitrogenous food. Milk, and bread-stuffs cooked with milk, should form a large part of the diet of the aged individual. Excessive quantities of food should be avoided. Many old people are more comfortable, enjoy better health, and probably live longer, for the use of wine. The habitual use of wine in youth, or in middle age in vigorous health, is, I think, a harm, rather than a good; but when the powers of life are failing, when digestion is weak, and the whole system feeble, one or two glasses of generous wine at dinner, aids digestion, and quiets, for the time being, nervous irritation. The danger of the formation of any evil habits when a man is past seventy, is very slight, and no conscientious physician need hesitate in recommending the daily use of alcoholic beverages to his patient.

In many cases of death, the final result is due to cold, and the failure, on the part of the body, to keep itself warm. In the old, the heat-making functions are exceedingly low, and few old people are comfortable in a room, the temperature of which is lower than 80°, and abundance of warm, but light clothing, should be provided. There is no ordinary garment which compares, in heat-preserving power, with the buck-skin jacket, and every man beyond the age of seventy, should provide himself with such a garment. At first, it should be worn only out of doors, but later, it should form part of the habitual under-clothing. If worn as an under-jacket, it should be perforated. When there is a tendency to abdominal weakness, or to pendulous abdominal walls, a flannel bandage should be worn. The mechanical effects of an abdominal bandage in affording support to the abdominal organs and vessels, are well known.

Dr. Laurence Turnbull, of Philadelphia, in discussing the paper, referred to some of the causes of death in the aged. Too much exercise was one of these. When an old person, walking up an elevation, or against the wind, feels an oppression in his chest, or a pain in his back, he should stop. Exposure to night air is bad for the aged, and often leads to bronchial catarrhs and pneumonia. At night, a night-cap should be worn in bed. Flannel underwear should also be worn. Exposure to the sun should be avoided in summer.

He agreed with the author of the paper in all points, with the exception of his recommendation of wine. If a stimulant is required at all, it should consist of alcohol and water in a definite mixture, rather than of wine, and withdrawn when the patient is able to take sufficient quantity of stimulating food. Old age is no protection to the temptations incident to our physical natures; rather does it weaken the resistance to these temptations, and more than one medical man can recall painful instances where a youth of probity, and a middle age of honor, has been darkened by an intemperate old age. Mr. Wickfield, in "David Copperfield," is by no means an unreal character in life.

(*To be continued.*)

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THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

The eighth annual meeting of the Association was held in the Hall of the College of Physicians, Philadelphia, May 27, 28, and 29, 1886.

The President, **Dr. Harrison Allen**, of Philadelphia, called the meeting to order at ten o'clock, and delivered the annual address.

Following the presidential address, a letter from the secretary of the Philadelphia College of Physicians, tendering to the Association the use of the Hall and the hospitalities of the college, was read. An invitation was also read, tendering to the members of the Association, the courtesies of the Union League Club, during their stay in the city.

The first paper was entitled

TWO INSTANCES OF ADENOID DISEASE OF THE ROOF OF THE PHARYNX, WHICH EXHIBITED UNUSUAL FEATURES,

by **Dr. Harrison Allen**, of Philadelphia.

The result of operations for the removal of adenoid tissue from the pharynx, is usually so excellent that the necessity for a repetition of the operation is said to be seldom met with.

The following cases were related as presenting certain points of interest.

Case I. A. B., age five years, much emaciated, without appetite, suffering with frequent attacks of indigestion, was sent to me in the latter part of January, 1884. Examination showed the roof of the mouth to be elevated, but the slightest attempt to depress the tongue was followed by gagging. The nostrils were filled with a mucoid discharge, and a small quantity of a similar discharge was seen in the fauces after gagging. During the day, the respiration was not exceedingly difficult, but at night it was greatly impeded. Almost directly after the child fell to sleep, respiration became labored. After three or four inhalations, breathing would cease, the child would open its mouth and make strenuous efforts to inspire; would then awaken and a forced inspiration ensue. It would then quickly fall to sleep and the same phenomena would recur, and in this manner the entire night would be passed. To these were occasionally added fits of crying and emesis. During an attack of whooping cough, the symptoms became much exaggerated and was associated with irregular action of the heart.

Hypertrophy of the adenoid tissue of the pharynx with unusual reflex phenomena was diagnosticated. On January 29, with the patient under ether, the operation for the removal of this tissue was performed. An attempt was made to break down the tissue with the finger, but the presence of the finger arrested respiration. Efforts were then made to rasp the growth away with an instrument passed through the nose, but in a short time the patient showed symptoms of depression and the operation was suspended. The pharynx was next seared with the hot wire. During the succeeding five weeks, applications of iodine and glycerine were made, but there was no evident improvement in the breathing at night. The patient was again etherized and the pharynx shown to be empty. Suspecting that the tonsils might be the cause of the difficulty a portion of each one was excised. Still no improvement followed. A third attempt to detect the cause of the difficulty was made, and it was determined positively that the nostrils were patulous. A careful examination showed that during sleep, the tongue fell backwards and that this was the essential condition. We then directed that when these attacks came on, the boy should be held with the face downwards. The moment this position was assumed, the child passed into a profound slumber. It was then so arranged that during the entire night, the patient should be watched, so that the tongue should not have an opportunity of falling back. This watching has been continued up to the present time. The boy prefers to lie upon his side, but when the attack comes on, turns on his face without awakening. He is now a strong and healthy boy.

Case II. A girl six years of age. The child was cyanotic at birth. When she came under observation the extremities were cold and of a bluish color, but no difficulty with the heart could be detected. The irritability of the pharynx was excessive. The patient had been twice operated on by other surgeons, and it was inferred that an attempt had been made to remove morbid tissue. The patient was etherized with great care and the entire nasal pharynx found to be much smaller than normal and its roof was highly arched in form. The posterior slope of the roof was the seat of an adenoid growth. Some portions of this were removed by the galvano-cautery passed through the nose. Some of the nodules at the lower border of the pharynx were removed with the scissors.

The patient was improved, and two weeks later she was again etherized and it was ascertained that all the nodules had been removed, but that the membrane at the roof of the mouth was exceedingly thick and tended to obstruct the passage of air. This was subjected to cauterization in several places. No further efforts were made to reduce the size of the membrane by operation and the patient was treated as a case of perverted nutrition of the osseous system. Iodine and glycerine were applied locally. Under this treatment gradual improvement in the nasal respiration took place and at the present time the child appears to be perfectly recovered.

DISCUSSION.

Dr. Franklin H. Hooper, of Boston. I have had only one case in which any accident followed the operation for removal of adenoid tissue. This was in the case of a little girl eight years of age, of a neurotic temperament and very precocious. Nasal respiration had been obstructed and articulation had been defective since the age of three years. Hearing was also impaired. A large quantity of adenoid tissue was demonstrated. The removal of this was followed by great improvement in breathing and articulation. The breathing did not improve at once, but the use of the Politzer bag resulted in marked improvement. This had been previously tried without effect. From this time she began to grow nervous. Eight days after the restoration of hearing, she complained that she could not keep still. In a short time symptoms of chorea developed and gradually increased in intensity. The speech became affected and for over a month she was unable to speak. The chorea assumed an exceedingly severe form. She was unable to sleep. Various remedies were tried without benefit. Finally urethan was suggested. The use of this drug was followed by quiet sleep. Since this time the child has continued to improve and the chorea has now entirely disappeared.

Dr. E. L. Shurly, of Detroit. Where the galvano-cautery is used, it has been said that there is considerable danger of the ether taking fire when this is used as the anæsthetic. I always use chloroform under such circumstances.

Dr. S. W. Langmaid, of Boston. In the case reported the interruption of respiration is an important point. In one case coming under my observation there was a period of thirty-five seconds between the respirations. In that case, the difficulty was relieved by the patient getting on his hands and knees. This corresponds with the case related. There must have been either a falling back of the tongue or some inhibitory action of the respiratory centre. The removal of the growth did away with the interruption of respiration. I am not aware that much has been said in regard to this interruption of respiration.

Dr. Carl Seiler, of Philadelphia. One point with reference to adenoid growths in the roof of the pharynx is the effect upon singing voice. Dr. Bosworth, of New York, called my attention to the fact that different lines might be drawn on the roof of the pharynx corresponding to different notes of the scale. A swelling in a particular situation will interfere with the production of a certain note. A case illustrating this was seen by me a short time ago. A young lady could not reach the upper notes of the scale. I found a small adenoid growth which I removed with my finger. She is now able to reach every note with the greatest ease.

Dr. Harrison Allen, of Philadelphia. Dr. Hooper's case is an evidence of the way in which the adenoid growths may affect the entire system. His case is noteworthy in view of the fact that the phenomena appeared after the removal of the growth.

With regard to the use of ether, I have not been unaware of the danger, but by fanning the patient for a moment before using the cautery the vapor of the ether is removed, and I have experienced no difficulty. My early teachings have led me to be afraid of chloroform on account of its depressing effect upon the heart.

I have been unable to find on record a case similar to the first one narrated. Dr. Langmaid's case agrees with it in that the difficulty was relieved by change of position.

In a case similar to the one related by Dr. Seiler, I removed a small mass of adenoid tissue, and although the patient was able to reach the higher notes, she complained of the sensation of a large cavity in the situation from which the mass was removed.

Dr. J. Solis Cohen then presented to the Society the following paper, which on invitation was read:

LUPUS OF THE THROAT,

by **Prof. Ramon De la Sota Y. Lastra**, M.D., of Seville, Spain.

The author referred to the difficulty of diagnosis which was experienced in many of these cases, and in illustration related the following: In 1884, I was consulted by a physician on account of an affection of the throat. The patient was much emaciated, reduced in strength, and with a clay-colored complexion. He was sixty years of age. The trouble with the throat had commenced one year previously. He was unable to take anything but milk and broths. The tongue was covered with psoriatic scales. The pharynx was lumpy and of a wine-red color. The right tonsil was the seat of an ulceration extending from the pyriform fossa below to the middle of the uvula and involving half that structure. Its borders were red and swollen. its surface lumpy and irregular and of a hard and elastic consistence. Some pain was produced by palpation, but no bleeding. There was no trouble while talking or on coughing. Liquids were swallowed without difficulty. Breathing was accomplished with perfect freedom. The sub-maxillary glands were swollen. The patient had suffered from rheumatism, but no history of syphilis could be obtained. Taking into consideration the history of the case and the age of the patient, I considered it an ulcerated epithelioma. This was concurred in by the patient's physician. Nevertheless mistrusting the testimony obtained, anti-syphilitic medication with mercurials was tried; this occasioned such bad results that it was necessary to suspend it. He was then placed upon the use of iron and bitter tonics and such diet as he could take. The specific treatment was subsequently resumed, but the local lesion assumed such a bad aspect, that it became necessary to give up the treatment. From the fact that the ulceration was unattended by pain, I began to have some doubts as to its epitheliomatous nature. I next prescribed sodium arsenite in ascending doses, with a gargle of resorcin, and the use of iodoform on the ulcerated surface after it was washed with a solution of borax. For a month the ulceration continued to extend, and when I had lost all hope, it stopped its progress and became covered with healthy granulations. Cicatrization went on and was complete in three months. The scar is irregular, elevated and depressed, hard and soft, the posterior portion being adherent to the pharyngeal wall. The lingual psoriasis continued. Restoration to health has taken place. It is now eighteen months since the ulcer healed. With this result I concluded that the case was one of lupus.

My experience with this and other cases of lupus of the throat has led me to conclude that the disease may make its appearance at any period of life. I have seen it more frequently in adults than in children and more frequently in men than in women. I have been unable to obtain any information in regard to inheritance. I have not found that hard drinkers or smokers were more liable to suffer, nor have I found that great exertion of the voice or exposure to irritating substances, the application of the cautery or other agents had any influence in its production.

I have never had an opportunity of observing the initial manifestations, but I have been able to detect the involvement of sound tissues later in the disease. Sometimes the mucous membrane assumes a purple color and swells up and becomes granulated. Then one or two nodules may develop and may attain the size of a pea. Sometimes they become prominent without any alteration in the appearance of the mucous membrane; they may remain superficial or they may attack the mucous tissue and also the sub-mucous tissue. Their form is rounded and their surface is smooth. These nodules are distinguished by their rosy red color from leprous tumors. Unlike carcinoma, the tumors are usually quite distinct. On pressure they present an elastic resistance. This is greater than the hardness of inflammation, but less than that of epithelioma. The parts on which the tumor develops become rigid and the natural movement is diminished or lost, contrary to carcinoma, which usually produces sharp lancinating pain, and to leprosy, which is generally accompanied with anæsthesia; there is in lupus no alteration of the sensitiveness of the part. After a shorter or longer period, the tubercle softens and becomes ulcerated. The ulceration assumes two forms. In some cases the tumor becomes excavated to a considerable depth, while in ulcers it is more superficial. These ulcers do not bleed on pressure. The cure is difficult and attended with the formation of scars. In some cases, these ulcers develop in a slow way, while in others they start with astonishing rapidity. They may develop within a few days, or they may remain quiescent for months or years and then take on destructive action. The healing of the ulcer is followed by the formation of irregular scars, raised in some places, depressed in others, red in the former, white in the latter. Adhesions to different parts take place; cicatrization takes place slowly and is easily destroyed. Infiltration always remains.

All agree that the cure of lupus of the throat is more difficult than the same process in the skin. In the cases which I have seen, the same treatment which I have employed in external lupus, I have found of service in lupus of the throat. I do not despise internal treatment, but use such remedies as are indicated by the general condition of the patient. This has an important influence upon the result of topical treatment. If the lupus is not ulcerated I apply caustic substances. Until a few months ago I used tincture of iodine. I have, however, found good effects from the use of lactic acid. I have used it in cases of lupus of the cheek and gums and also of the larynx. I have met with no inconvenience from its use except the pain, which varies in different cases; if the lupus is ulcerated, I sometimes use the lactic acid, more frequently I employ a wash of borax and cover the ulcer with powder of iodoform. I always prescribe a gargle of a one per cent. solution of resorcin. Patients thus treated have always recovered after a greater or less time. In some cases the cure has probably been realized in the natural course of the disease rather than as a result of the therapeutic measures.

(*To be continued.*)

— The Massachusetts Board of Health had its first meeting last week, and chose Dr. S. W. Abbott, of Wakefield, as Secretary.

Medical and Surgical Journal.

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THE STRIKES FROM A MEDICAL POINT OF VIEW.

The spectacle offered by the recent strikes in various parts of the country, of men giving up their individual right to work when, where, and for whom they please, and blindly obeying the irresponsible authority of certain individuals, who, better fitted for the workhouse than the workshop, are quite incapable of using intelligently any power whatever, is not a cheerful one. Many struck because they were told to do so, ignorant of any reason therefor, and conscious of no real or fancied cause of grievance in their own condition. Others simply followed their example, and struck in obedience, apparently, to the curious and unreasoning impulse to imitate the actions, or obey the commands of others, which plays so important a part in neurotic epidemics, and which reaches its highest type of special development in persons suffering from the disease known in Siberia as miryachit, examples of which are furnished, nearer home, by the Canadian "jumpers."

The following description of an instance of this malady, occurring in the steward of a steamer by which he was travelling in Eastern Siberia, is given by Lieutenant Buckingham, U. S. N.; "To annoy him (the steward), some of the passengers imitated pigs grunting, or called out absurd names, others clapped their hands and shouted, jumped, or threw their hats on the deck suddenly, and the poor steward, suddenly startled, would echo them all precisely, and sometimes, several consecutively. We afterward witnessed an incident which illustrated the extent of his disability. The captain, suddenly clapping his hands, at the same time accidentally slipped, and fell on the deck. Without having been touched by the captain, the steward instantly clapped his hands and shouted, and then, in helpless imitation, he, too, fell as hard, and almost precisely in the same manner and position as the captain. In speaking of the steward's disease, the captain of the general staff stated that it was not uncommon in Siberia; that he had seen a number of cases of it, and that it was commonest about Yakutsk, where the winter cold is extreme. Both sexes were subject to it, but men less than women. It was known to Russians by the name of miryachit."

Dr. Thornton, of the United States Marine Hospital Service, gives, in the *Medical Record*, an account of several "jumpers" who came under his observation. One of them, a French-Canadian, came to the post-office to get his mail, and while he was speaking to the postmaster, a bystander, knowing him to be a "jumper," suddenly called out, "Grab him by the throat," whereupon the "jumper" sprang upon the unfortunate postmaster, seized him by the throat, and held on until removed. Another "jumper" was standing near the camp-heater, in which was a very hot fire, and when some one cried out, "Grab the furnace," he immediately grasped the red-hot stove-pipe with both hands and was so severely burned as to be unable to work for several weeks.

Obedience to any command whatever, and close imitation of the actions of another person, are the characteristic symptoms of this disease, which seems to be a variety of hystero-epilepsy. In order to excite the explosion of nervous energy which finds its expression in these symptoms, there is usually necessary some shock to the nervous system, and the unexpected sound, sight, or blow, which causes a nervous man to start, will, in these extreme instances of nervous instability, give rise to imitative actions or irrational obedience.

One out of many examples of similar disturbance of nervous equilibrium, but affecting large numbers of people at once, and spreading from place to place, is furnished by the remarkable dancing mania which overran a large part of Europe during the fourteenth century, and which was as truly epidemic in its nature as the Black Death of the same period. It appeared at Aix-la-Chapelle in the year 1374, and spread from there, in the space of a short time, over the Netherlands, and throughout the Rhenish provinces, being known in Germany as the dance of St. Vitus; and in Italy, where it also appeared, receiving the name of tarantism, from its supposed origin in the bite of the tarantula, or ground spider. Thousands of men, women and children were affected by this mania, and bands of dancers roamed about the country spreading the contagion as they went. The manifestations of this neurotic epidemic consisted in convulsive movements and contortions of the body and limbs, attended by insensibility to pain and a condition of mental exaltation. Its victims "formed circles, hand in hand, and appearing to have lost all control over the senses, continued dancing, regardless of the bystanders, for hours together in wild delirium, until at length they fell to the ground in a state of exhaustion," while "gangs of idle vagabonds, who understood how to imitate to the life the gestures and convulsions of those really affected, roved from place to place, seeking maintenance and adventures."

Similar epidemics have often occurred at various times in all communities, being generally associated with and caused by religious excitement and affecting principally the ignorant and uneducated classes. These are at all times, more susceptible than others to the infectious influence of emotion, whether aroused by religious excitement, by the endeavor of a feeble understanding to comprehend mysterious propositions or by the senseless impulse which inspires mobs and incites riots.

There is an element of contagion, of blind imitation and obedience in the recent strikes, which calls to mind such epidemics, while the "gangs of idle vagabonds" are fitly represented by worthless agitators who go about, spouting demented twaddle and persuading the workman, against his better reason. The formation of individual character, and education, are remedies for unnecessary strikes as well as for instability of the nervous system. Character has been defined as a completely fashioned will, being in this sense built up by successive acts of intelligent and well directed volition. Its development will enable the workingman to stand by his rights, while education will teach him not only what those rights are, but also, that individual success is, and always will be, dependent upon individual industry, and ability, and that no amount of windy declamation, personal violence or snapping of fingers in other people's factories, can ever make it otherwise.

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GLASS EATING.

A CORRESPONDENT writes us that he has lately witnessed the performance of glass eating by an expert in this profession, a robust middle-aged individual by the name of Hill. The physician aforesaid, who had been sceptical as to the reality of the performance fed this Hill with two lamp chimneys, both of which were chewed and devoured. He also forced down the throat of the performer (to make sure that they were swallowed) a tea-plate full of small tacks with sundry fragments of glass of various sizes. Our correspondent is confident that there could have been no deception in this exhibition, which by the way, is of daily occurrence at the Skating Rinks and Dime Museums. The presumption would be that these fragments of glass would cause laceration of the stomach, as it is known that broken glass is atrociously prone to wound parts with which it comes in contact, sometimes causing frightful hæmorrhage. He was assured by Hill that such a result had never happened to him, and (what is still more mysterious, that neither glass nor tacks were ever voided in his dejecta!) This our correspondent disbelieves, and he thus explains the phenomenon; eating glass, tacks, etc., apart from the danger of wounding the mucous membrane of the stomach and intestines, is not necessarily any more dangerous than swallowing any inert foreign body. Geophagia has often been practised by certain Indian tribes. The fragments of glass, etc., eaten by Hill pass down to the stomach well coated with gelatinous saliva; they then become imbedded in protective mucus and refuse food-matters, and so pass through the alimentary canal without inflicting injury.

Hill assured our correspondent that he had been following this business with impunity, as a means of livelihood, for fifteen years, the ordinary dose of silicate of potash being two lamp chimneys a day. Glass tumblers are sometimes eaten on exhibition, though somewhat more difficult of mastication. On the whole the natural comment on the above is that the human stomach is more tolerant than has been heretofore supposed.

"COMPOUND OXYGEN."

The *Journal of Chemistry* publishes the result of a chemical analysis which will be, we imagine, a surprise to a large portion of the public if it ever reaches them. According to that analysis, "Compound Oxygen" is a solution of nitrate of ammonia, a solution which taken internally or inhaled, can no more yield oxygen than so much cold water.

This nostrum which has so long imposed upon a credulous and easily duped public owes its success largely to the conspicuous place it has held in the advertising columns of eminently respectable journals. That newspapers devoted to religion (or at least to some religious sect) should find it for their interest to make the management of their advertising columns a matter of business only, is not surprising; religious journals cause us surprise only when they rule out "medical" advertisements altogether from their columns.

It is a surprise, however, to find a nostrum like compound oxygen occupying a prominent place, or any space at all, for that matter, in a journal whose aim it is to popularize the results of modern scientific research.

MEDICAL NOTES.

— Physicians are eligible to membership in the Knights of Labor, lawyers and liquor dealers only being excluded.

— The facts as to a serious defection of the students in the medical department of the University of Vermont are probably known to our readers through the public press. A large number of the students have left Burlington. We are informed that the graduating class, numbering fifty, have applied to be graduated from the Medical School of Maine, at Bowdoin College, and offered to bring sixty juniors with them. The School declined to receive them, being unwilling to break the rule requiring a student to have attended one of his two full courses at that institution before receiving its degree, and the term being then half completed.

— The Medical Department of the University of the City of New York has recently received a gift of $100,000, to be devoted to the construction and maintenance of a laboratory building, to be known as the Loomis Laboratory. The gentleman who has made the gift wishes that for the present his name should not be made public. It is said that land adjoining the college property has already been bought, and that it is hoped that the new building will be ready for occupation next year.

The gratifying evidence that men of wealth are beginning to realize how useful their benefactions may be made in connection with institutions of medical science, is further confirmed by reports of two legacies recently received by the New York Academy of Medicine, of $70,000 and $5,000 respectively.

— The *Boston Transcript* has the following pleasant bit of gossip regarding an eminent London physician, who, about a month ago, had a telegram from the wife of a noble patient at Cannes. "Come for consultation; fee £1000." The great doctor replied, "Anxious cases; cannot come." Her ladyship seems to have thought that this was but a way of making a better bargain, for she increased her offer in four successive telegrams, till the last read, "Come at once — £5,000." While the five telegrams and the replies were being sent backward and forward the "anxious cases" considerately died or got better; so our doctor in his last reply telegraphed "Coming." After he had seen his patient at Cannes, my lady inquired what was the fee. He said "All the Riviera doctors with English clients met and fixed the fee for a consultation — the consultant coming expressly from London — at £1,000." A check for £1,000 was accordingly presented to him. Calling on his way to his train next day, merely to say good by and inquire after his patient, the lady handed him an envelope "not to be opened till by and by." The doctor said, "I have had my fee. This visit is not professional, but complimentary;" but being told to put the envelope in his pocket, he did so. Later on he found it contained a check for £500 — a sum which had no particular relation to the telegraphic bids. Nor is this all. Four checks came on successive days, their united value being £3,500, all signed by her ladyship; and at the bank letters were received preparing the cashier for their presentation. The doctor wrote, saying he had had his fee and could take no more. He offered to return £4,000 or distribute it among useful institutions. As the money was left in his hands he adopted the latter course, with the result that £1,000 was given to the Medical Examination Hall, £1,000 to each of two hospitals and £1,000 to one of the medical institutes.

NEW YORK.

— Dr. George W. Hodgson, the oldest and one of the best known physicians in Westchester County, died at his residence in White Plains on the 23d of May, at the age of 74.

— The Queen's County Medical Society held its annual meeting at Mineola, Long Island, May 27th, when the following officers were elected: President, Dr. E. D. Skinner; Vice-President, Dr. Joseph H. Bogart; Secretary and Treasurer, Dr. C. G. J. Finn.

— During the voyage of the Norwegian bark, Aguila, which left Rio Janeiro on the 11th of February and arrived at New York, May 28th, there were two deaths from yellow fever; one of the victims being the captain of the vessel. His death which was the later of the two, occurred, however, as long ago as March 18th.

— A few days ago the attention of the police of Elmira was called to a physician and his daughter who were in a state of maniacal excitement at the Delavan House, in that place. They were removed to the city hospital, and it proved that they were both victims of the cocoaine habit. The father, who was from Sharpsville, Pa., but had been practising for some time at Evansville, Ind., is said to have acquired the habit through experimentation with the drug, and to have taken as much as forty grains a day by hypodermic injections. The daughter, who is only nineteen years of age, has used the injections for only seven weeks, resorting to them at first for the relief of pain, but is already confirmed in the habit.

— Dr. Valentine Mott recently returned from Paris with a rabbit which had been inoculated by Pasteur, and since then daily experiments have been made by Dr. Alexander B. Mott to test the quality of the virus. The rabbit died May 16th, and another inoculated from it on that day, died May 24th. A number of medical men met at Dr. Mott's residence on the evening of May 24th, to consider plans for the proposed Pasteur Institute in New York, and it was estimated that $5,000 would be necessary for the first year. Medical treatment in the institute is to be free, but funds are needed for renting a suitable house and defraying other expenses in connection with the enterprise. It was decided to issue an appeal to the public for subscriptions, and if this is successful, a small house will be hired in a central location without delay. The officers of the proposed institute are: — President, Dr. Alexander B. Mott; Vice-President, Drs. Alexander F. Liautard and Louis Deplasse; Recording Secretary, Professor Charles Villa, and Corresponding Secretary, Dr. Valentine Mott.

Miscellany.

SURGICAL TREATMENT OF BRONCHIECTASIS.

The valuable paper contributed by Dr. C. T. Williams and Mr. Rickman Godlee to the Royal Medical and Chirurgical Society provoked considerable discussion, and may be regarded as marking a decided step in advance in the surgical treatment of suppurative disease of the lung. From the report in the *Lancet*, it will be seen that the following features were the main topics of discussion. All the speakers commented on the difficulty of diagnosing bronchiectasis, and special stress was laid by Drs. Goodhart, Barlow, and Coupland, on the difficulty that offered when a bronchus was totally obstructed. Under these circumstances, the absence of breath-sound, loss of vocal fremitus, and almost absolute dulness, gave a decided clinical resemblance to effusion into the pleura; and in most of the illustrative cases, the diagnosis was only made at the post-mortem examination. Most speakers concurred in the difficulty of forming any positive conclusion as to the existence of pleural adhesions. The majority of those who joined in the discussion argued that the most favorable cases for operation were not those of simple bronchiectasis, but those in which there was added a fibrosis or chronic pneumonia around the bronchial dilatation. Indeed, the authors of the paper considered that simple multiple bronchiectasis was not likely to be relieved by paracentesis. Other centres of interest were the question of danger from hæmorrhage, and the best method of exploring to discover the site of the bronchial dilatation. Sir Andrew Clark believed that the reason why hæmorrhage was slight in operations in such cases was because, fibrosis being generally present, the arteries were also sclerosed and their calibre diminished. The argument is perhaps supported by the freedom from hæmorrhage in some cases, but it might be urged that a sclerosed vessel would be more likely to remain patent, contraction of the middle coats being prevented. That danger may arise from hæmorrhage, was testified to by Mr. Godlee and Mr. Gould, who also spoke on the value of an aspirator in the detection of the situation of cavities.

OBITUARY. HORATIO GILEAD MORSE, M.D.

Dr. H. G Morse, one of the oldest physicians in Roxbury, died suddenly May 12. He was born in Roxbury in the same house where he died, on April 14, 1817. He received his early education in the Roxbury School and prepared for college at Worcester Academy and at New Hampton, N. H. He was graduated from Brown University in 1840, and immediately entered the Harvard Medical School, at the same time carrying on his medical studies with the late Dr. Winslow Lewis. After three years he graduated in 1843, in the same class with the late Drs. George H. Gay and Samuel Cabot. He commenced the practice of medicine in Roxbury on what is now Washington Street, but was soon afterwards taken severely ill with typhoid fever; recovering from that he recommenced practice at the family residence on Zeigler Street. He enjoyed for many years a very large practice as a general practitioner, doing some surgery, but his greatest work was in obstetrics, in which branch he became quite popular; he enjoyed a very large practice amongst the German population of Roxbury; he was always quiet, not pushing himself forward, positive in his ideas in regard to medicine, and thoroughly conscientious to every duty and trust. He was slow to take up with new hobbies in the practice of medicine, believing in the old ways. He was at one time connected with the Roxbury Dispensary, was for some thirty years a member of the Roxbury and Boston School Committee, and for many years chairman of the Roxbury board; he served a year in the Legislature, was connected with several masonic bodies as well as with the Odd Fellows. For the last few years increasing age and failing strength has induced him to abandon much of his practice, though he never entirely relinquished it, and saw patients up to the evening previous to the day of his death, so that he died in the harness.

Correspondence.

PARIS LETTER.[1]

PASTEUR AND HYDROPHOBIA.

Mr. Editor. — It seems impossible to doubt Pasteur's statements concerning the condition of his rabbits following inoculation beneath the dura mater. I watched them carefully from the first to the seventh day, and their condition was strictly as represented by Pasteur.

Probably no one would attempt to claim, if the rabbits died from the operation, that *all would systematically fall ill on the seventh* day after the operation. This would not be reasonable, for neither traumatic nor septic effects could possibly harmonize with such absolute precision as to the date of fatality. On the other hand, the period of incubation succeeding inoculation of rabbits, with a virus of known intensity in each case, has apparently assumed a fixed duration, which may be anticipated in every case.

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[1] Concluded from page 503.

Vulpian said to the Academy: "Pasteur has created a method of treatment by means of which one may, with absolute certainty, prevent the development of rabies in a man who has been bitten by a mad dog. I say with absolute certainty, because, after what I have observed in M. Pasteur's laboratory, I cannot doubt."

At the risk of telling a now twice-told tale, let me give a synopsis of Pasteur's entire procedure: A dog dead of undoubted rabies, is bound, spine upward, to the operating board; the spinal canal is opened with instruments purified by heat; the cord and medulla oblongata are removed, and a portion of cord or medulla several centimeters in length, is rubbed up, first with a drop or two of pure water, then with four to six times its bulk of sterilized veal bouillon, and injected into the head of a rabbit, thus: The animal is bound to the board, and is chloroformed: the integuments over the frontal bone are longitudinally incised; the bone is very beautifully trephined, and a button of bone one-quarter of an inch in diameter, is removed. A drop (not "several drops," Vignal) is injected beneath the dura mater (not "into the arachnoid membrane," as Vignal says in his paper,) with a sterilized Pravaz syringe, the point having a right angle. The wound, one inch long, is *washed* clean several times with a solution of phenic acid, is closed by two silk sutures, and the rabbit carried to the cage. In fifteen days the animal dies, or is seized with rabies. From this rabbit, a second is inoculated, from the second a third, and so on, until twenty-five rabbits form the first series. The virus will now cause rabies in a rabbit in eight days. Continuing the process, another series of twenty-five rabbits is inoculated, and having passed through fifty rabbits, the intensity of the virus has reached its acme, and further reinforcement, even to a ninetieth rabbit, will not increase its virulence. It will now cause rabies in a rabbit in seven (or six) days, and death occurs two or three days thereafter.[2]

From a rabbit killed by this virus, the cord is removed, with the usual aseptic precautions; is cut into lengths (6 cm.), which are laid in a small, sterilized plate; thence are suspended, one by one, on threads, in bottles (one cord to each) of two litres' capacity, previously sterilized by baking. The bottom of each is covered, one-third of an inch deep, with bits of caustic potash, which aids in the dessication. Each bottle has a second and lateral mouth near the bottom, to promote circulation of air in the flask, both mouths being stopped by antiseptic wadding. The bottles are kept in a ventilated cabinet, whose constant temperature is 20° C.

The duration of virulence in the cords depends upon their temperature; the lower it is, the less the virus diminishes. In three or four hours, the cords begin to dry. In four of five days, they are perfectly dry. Their virulence is null at the end of fourteen days, unless the cord be very large, when fifteen days are necessary. A seven days' cord will not produce rabies in a rabbit. The cords are now ready for the inoculation of human beings. The process and method have been described.

Many persons, I find, are not clear as to Pasteur's meaning, when he speaks of the nearly neutral virulence of a cord which has dried fourteen days. He does not mean that the virus is less virulent, but that there is less of it. Drying has the effect of lessening the quantity, not the intensity of the virus. This explains the sense of "attenuation by drying."

NOTES OF STATEMENTS MADE TO ME AT VARIOUS TIMES BY PASTEUR.

—"We have inoculated 944 individuals (May 4th). The death-rate in persons bitten by mad dogs, according to different writers, reaches thirty, thirty-five, forty, and Bollinger sets it at forty-seven per cent. In order to be moderate, I have set it at sixteen per cent. Now, if out of my 944 inoculated patients, twenty had died, that would not prove anything against my method. Small-pox does not always respect protected individuals, but as yet, my patients live, and more than half of them have passed the dangerous stage."

—"The virus of the wolf and of the dog evidently have the same virulence. The difference between the effect of mad dog and mad wolf-bites, depends chiefly upon the number and nature of the bites."

—"I do not endanger patients by inoculating them with rabic virus. Their number, their condition, the length of time now elapsed since I began to inoculate them, proves this."

—"There are no more cases of rabic dog-bites than formerly there were: not at all. The rush of people to me makes it appear so, but remember, they come from the entire world. Before my method was discovered, the friends of a person bitten by a dog, assured him that the animal was not mad. Even the name 'rabies' was not mentioned, for fear of frightening the individual, and the dog was killed. The matter was hushed, in order that the person bitten might not fear rabies, and that others might not fear him. Now, nothing is concealed."

—"That dogs are rendered refractory by rabbit virus, has long been admitted by unprejudiced, competent persons, and need not be discussed. Whoever doubts that I have not made every possible test experiment to avoid error, such as injecting rabbits with simple bouillon by trephining, inoculating dogs with rabbit virus, etc., etc., must be very ignorant of my methods."

—"I protect my dogs by inoculating with pure rabbit virus. I use nothing else."

—"I am making, in guinea-pigs, a study of the question as to whether the inoculation of breeding animals with rabbit virus, will render the offspring refractory to rabies. As yet, I have not reached a conclusion."

—"What do I consider the nature of the virus? Rabic microbes. Fol, of Geneva, has isolated them. I do not cultivate them, and prefer the reinforced virus of attenuated cords, because I am sure of its purity. From my experience with other forms of culture, I think it possible that in cultures of rabic microbes, the latter may create a matter which destroys them, or prevents their development. Until this point is settled, I shall continue to use the cord itself."[3]

—"I no longer use either saliva or salivary glands because in both may be foreign organisms. Nervous matter is free from them and therefore better for my purpose."

—"Since 1882 I have had an unbroken chain of reinforced rabbit virus which I consider pure and identical with itself. The supply is continued by inoculating two rabbits every day with virus from a rabbit dead of rabies. The virus which has passed through fifty rabbits is more intense than that of a mad street-dog."

—"Formerly I supposed the virus to be lodged only in the medulla oblongata. Later I found the cord equally virulent throughout its entire length."

—"Preserved in pure carbonic acid, cords will retain their virulence several months, provided they be kept free of all changes from strange microbes."

—"During the recent visit of the English Commission, Mr. Victor Horsley, then secretary, took from me the addresses of 110 persons in Paris and vicinity whom I have inoculated. He sought out and questioned every one of them and found them not only well but grateful."

—"The best proof I possess of the rabic condition of the dog which bit the Meister boy is a letter from Prince Hohenlohe, who at my request made the proper inquiries and then wrote me that there was every evidence that the dog was mad."

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[2] The bouillon is now made from veal, because, said Pasteur, veal costs less than chicken, and makes a larger quantity of bouillon at once.

[3] Rivolta, of Florence, announces (La Semaine Médicale, April 14th) the discovery, in rabic cerebro-spinal axes of rabbits, of microbes formed by several round or oval granulations united in chains. They were found abundantly in the medulla, were very numerous in the cord, but rare in the hemispheres; were found, also, in the epithelium of the salivary glands. Rivolta also reports that he caused rabies in rabbits by inoculation. In three, he used a filtration of virus in sterilized, distilled water. In two, he used the liquid remaining upon the porcelain filter. The two latter died of rabies in eighteen days. The first three, four months later, showed no signs of hydrophobia.

— "What I mean by decrease of virulence in cords by drying is that the drier they become the fewer rabic microbes do they contain. In the fourteenth cord they have disappeared, but there still remains a material which I term *vaccinate* or *preventive* matter and this matter begins the protection of my patients. The two rabic qualities — the microbes and the vaccinate material — co-exists in the fresher cords but the latter substance alone in the fourteenth. In which of the cords the microbes begin to appear it is difficult to say."

— "The bite of a dog which has been inoculated with rabbit virus is not dangerous on that account, and only unless the dog has already gone mad."

— "On days when no new patients appear I begin to inoculate with the virus corresponding with the newest series of patients who are present."

— "Tell American sceptics to *wait*. Doubt is wise and healthful but doubters must not expect all their questions to be answered at once. Recall Jenner. Could he have satisfied his opponents while he still stood upon the threshold of his experience? Let your last word to them be *wait*, and if they continue to doubt let them come to me and judge for themselves."

With one exception Pasteur freely shows every step of the process of and preparation for inoculation. One sees the bouillon prepared and sterilized. He sees the dead rabic rabbit and may have watched him from inoculation to death; sees his cord removed; sees a morsel *taken away* for emulsification in boullion; sees a rabbit narcotized, trephined and inoculated with this preparation and if one chooses he may watch the rabbit daily until he dies and then see his cord removed and hung in the drying bottle, and examine these daily until they are used, and finally may witness the injection of virulent bouillon containing portions of these cords, into the abdominal tissues of a human patient. *But*, a link is missing from this chain. The visitor does *not* see the preparation of this virulent bouillon, that is, the rubbing up of the morsel of rabic cord with the bouillon, and Pasteur refuses to allow it. Not decidedly, not ungraciously, but *enfin* he refuses. I asked him why. The national shrug followed as a matter of course and the reply was: "Mon Dieu! This point is a small matter. If I allow one visitor to witness the procedure I must admit many. Their movements would raise a dust and endanger the purity of my bouillon. It is intended for human beings and I must be careful." This feature is unsatisfactory to certain of Pasteur's visitors, although his reason for it is at least plausible. In order to become personally certain of the absolute sincerity of every step of the entire process, one should see the original rabic dog and know that he is mad; should see him die; see him dissected; see the virulent cord removed; watch the inoculation of it into the first rabbit; *see it* die of rabies, its cord removed and injected into rabbit number two and soon to the fiftieth; "assist" at the manufacture, sterilization and inoculation of the bouillon with the identical virus of the fiftieth rabbit and follow it until a syringeful has disappeared beneath the skin of a human being positively known to be under the influence of the bite of a dog also positively known to be rabic. This close personal scrutiny would occupy one daily and nightly for at least twelve months, and, it need not be said that he must personally control every one of the rabic cords intended for inoculation.

The following details of the inoculation of the bouillon were given me by Pasteur himself: In a room whose atmosphere is never allowed to be agitated, the assistant whose special work it is, lifts by its thread a dried cord from the drying bottle, passes both spinal cord and thread through the flame of an alcohol lamp, in order to destroy germs which may have fallen upon them during their removal, cuts a section of proper size with scissors, allows it to drop into a wineglass, rubs it up by means of a glass rod with a drop of pure water to moisten it, then rubbing constantly adds little by little the sterilized bouillon until five to six times the bulk of the cord, *before it was dried*, has been added and the process is complete. The glass is immediately wrapped in aseptic paper. Every instrument and glass used in this process is sterilized. Ten glasses are thus prepared for each day.

Vignal, in his paper, says that the whole length of the dried section of cord is dropped into the glass. This is an error. A small portion not over one inch in length is used.

That Pasteur does not attempt to conceal anything is shown by his gift to-day to the English Commission of two freshly inoculated rabbits, which Mr. Horsely immediately took to London where he will institute experiments with virus from these animals. Even the Commission did not witness the inoculation of the bouillon.

Something must be taken on faith in a procedure so complicated, and surely in consideration of his reputation and of the immense benefits which he has already conferred upon humanity by other discoveries, which at first met with the scepticism now meted out to preventive inoculation for rabies, — Pasteur deserves some confidence.

A recent writer on evolution says: "Truth becomes truth by its own achievement. . . . The wise spontaneous treatment of new theories delays their acceptance even when proved true, but always with advantage to the truth; for however fair the final form is to be, it comes unshaped and with entanglements, and often like some animals is born blind."

Pasteur's faith in his new method is steadfast as a rock. He has been doubted before, yet proved himself right. He welcomes criticism, but scorns blank contradiction. In all simplicity he says: "Any scientific man may fail in an experiment, but thus far I see only reason to hope, for I believe I have proved every step of my way."

In view of the object of his labors, in view of his simplicity, sincerity and earnestness, all criticism upon his method, his statements his theories, and upon his noble endeavor to save human beings from a horrible death, should be clothed with faith in the man himself.

Personally, I have to thank him for his great kindness to me during my visits to this laboratory on twelve successive days. H. O.

P. S. Pasteur has now (May 7th), inoculated 965 individuals, the Pelletier child remaining the one fatal case.

The 726 cases inoculated previous to April 12th, represented the following nationalities: France 505 cases; Algeria 40; Russia 75; England 25; Italy 24; Austrian Hungary 13; Belgium 10; North America 9; Finland 6; Germany 5; Portugal 5; Spain 4; Greece 3; Switzerland and Brazil each 1 case. Of these 688 were bitten by mad dogs, 38 by mad wolves. 682,500 francs have already been contributed toward the establishment of an institution for the inoculation of persons bitten by mad animals. H. O.

A CORRECTION.

New York, May 25, 1885.

Mr. Editor,— I am exceedingly sorry that my communication of last week (Journal, May 20th) appears to you disingenuous. I submitted it, before transmission, to Dr. R. P. Lincoln, who referred the patient to me, and he thought it perfectly fair. I think you are mistaken in some of your statements. Mr. Ormiston *did* allude to me by name, as you will find by referring to the March number of the *Homolectic Review* (p. 216). I made no attack upon this excellent religious journal, nor did I say that the writer had therein praised any of the quack agents. I simply complained of the questionable tone and unfairness of the article, and deplored the evil effects of "spread eagle" dissertations by clergymen upon medical subjects. Yours very truly,

Allan McLane Hamilton, M.D.

[It is true that Dr. Hamilton's name appears as he says. We regret that we should have overlooked it. We are glad to know that we misunderstood the tenor of his letter exactly as we think Dr. Hamilton misunderstood the tenor of our editorial.—Ed.]

REPORTED MORTALITY FOR THE WEEK ENDING MAY 22, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	626	213	16.80	19.04	2.94	6.88	1.68
Philadelphia	971,363	368	119	15.66	14.04	1.62	7.29	2.16
Brooklyn	690,000	257	98	10.92	10.93	3.90	19.11	3.54
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	175	56	10.83	18.24	1.14	3.99	2.28
St. Louis	417,220	158	72	19.53	11.34	.63	1.09	.63
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	130	60	12.56	14.63	—	1.54	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	62	19	6.44	17.71	3.22	—	—
Pittsburgh	190,000	67	31	13.32	11.84	1.48	1.48	1.48
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	34	8	11.76	17.84	—	5.88	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	27	11	3.70	29.40	3.70	—	—
Charleston	60,145	41	18	21.96	4.88	17.08	—	—
Worcester	68,383	27	19	14.80	—	—	—	—
Lowell	64,051	31	15	6.46	9.69	6.46	—	—
Cambridge	59,660	18	5	22.22	77.77	—	11.11	—
Fall River	56,863	13	5	7.69	—	—	—	—
Lynn	45,861	7	1	—	67.12	—	—	—
Lawrence	38,825	11	0	9.09	—	—	—	—
Springfield	37,577	13	3	23.07	7.69	—	7.69	—
New Bedford	33,393	11	5	—	9.09	—	—	—
Somerville	29,992	—	—	—	—		—	—
Salem	28,084	11	2	—	9.09	—	—	—
Holyoke	27,894	8	5	—	12.50	—	—	—
Chelsea	25,709	7	2	14.28	28.56	—	14.28	—
Taunton	23,674	8	2	—	12.50	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	5	12.50	25.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	0	—	—	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	2	0	20.00	20.00	—	—	—
Waltham	14,609	4	0	—	—	—	—	—
Newburyport	13,716	1	0	—	—	—	—	—
Northampton	12,896	3	2	33.33	—	—	—	—
89 Massachusetts Towns	—	34	8	14.70	14.70	—	5.88	8.82

Deaths reported 2,147: under five years of age 784: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 320, consumption 364, lung diseases 292, diphtheria and croup 105, diarrhœal diseases 58, scarlet fever 35, malarial fever 23, typhoid fever 22, whooping-cough 21, measles 18, erysipelas 16, cerebro-spinal meningitis 12, puerperal fever nine, small-pox (New York) one. From malarial fever, Baltimore seven, New York and New Orleans six each. Brooklyn two, Philadelphia and District of Columbia one each. From typhoid fever, Philadelphia 10, New York three, Pittsburgh and Providence two each, Boston, New Orleans, Worcester, Lawrence and Gloucester one each. From measles, Baltimore 11, New York, Charleston and Worcester two each, Pittsburgh one. From whooping-cough, New York 11, Baltimore five, Pittsburgh five, Brooklyn and Northampton one each. From erysipelas, Boston four, Philadelphia three, New York, Brooklyn and Baltimore two each, New Orleans, Cambridge and Fitchburg one each. From cerebro-spinal meningitis, New York three, Philadelphia and Springfield two each, Baltimore, New Orleans, District of Columbia, Worcester and Fall River one each. From puerperal fever, New York four, Brooklyn two, Philadelphia, Boston and Cambridge one each.

In 109 cities and towns of Massachusetts, with a population of 1,300,024 (population of the State 1,941,465), the total death-rate for the week was 15.85 against 15.76 and 17.14 for the two preceding weeks.

For the week ending May 8th, in the Swiss towns, there were 34 deaths from consumption, lung diseases 32, diarrhœal diseases 15, whooping-cough nine, measles eight, diphtheria eight, typhoid fever three, erysipelas one.

The death-rates were: at Zurich 17.2; Geneva 18.2; Basle 21.5; Berne 21.4.

The meteorological record for week ending May 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 22, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...16	29.822	56.9	66.6	45.4	100.0	86.0	63.0	83.0	S.	S.E.	N.E.	12	6	9	R.	C.	C.	—	—
Monday,.. 17	30.165	54.8	61.5	45.2	57.0	35.0	52.0	48.0	N.W.	N.	N.W.	12	12	5	C.	F.	F.	—	—
Tuesday,..18	30.301	58.8	65.3	46.1	48.0	37.0	58.0	47.7	S.W.	S.	W.	6	8	14	C.	F.	O.	—	—
Wednes., 19	30.167	57.7	65.4	52.0	66.0	63.0	86.0	71.7	S.W.	W.	S.W.	10	17	16	O.	C.	C.	—	—
Thursday, 20	29.884	64.6	76.2	51.7	76.0	43.0	85.0	68.0	S.W.	S.W.	N.W.	18	16	10	F.	F.	O.	—	—
Friday, ...21	29.908	64.0	72.4	54.9	56.0	19.0	39.0	38.0	N.W.	N.W.	W.	15	16	8	C.	C.	O.	—	—
Saturday, .22	29.820	63.0	75.8	56.2	61.0	67.0	65.0	64.3	W.	S.E.	S.W.	7	10	12	F.	C.	O.	.6½	0.93
Mean, the Week.	30.009	60.0	69.0	50.2				60.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 22, 1886, TO MAY 28, 1886.

Smith, Andrew K., surgeon and lieutenant colonel, Major Alfred A. Woodhull, surgeon, and Captain Jas. P. Kimball, assistant surgeon. Detailed as Board to assemble at United States Military Academy, West Point, N. Y., on June 1, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. S. O. 119, May 21, 1886.

Hartsuff, Albert, major and surgeon. Detailed as member of a Board appointed to meet at United States Military Academy, West Point, N. Y , on June 1st and August 25th, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the academy. S. O. 121, A. G. O., May 25, 1886.

Paragraph 7, S. O. 120, A. G. O., May 24th, revokes so much of paragraph 12, S. O. 119, A. G. O., May 21st, as details Surgeon Alfred A. Woodhull, as member of medical examining board to meet at West Point, N. Y., June 1, 1886.

Winne, C. K., captain and assistant surgeon. Granted leave of absence for twenty days on surgeon's certificate of disability. S. O. 34, Department of California, May 17, 1886.

Kilbourne, Henry S., captain and assistant surgeon. Assigned to duty at Vancœuver Barracks, Washington Ter. S. O. 80, Department of Columbia, May 15, 1886.

Appel, A. H., captain and assistant surgeon. Ordered for duty at Fort Reno, Indian Ter. S. O. 52, Department of Missouri, May 24, 1886.

Benham, R. B , captain and assistant surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 56, Department of the Platte, May 24, 1886.

Johnson, R. W., first lieutenant and assistant surgeon. Ordered for duty at Fort Adams, R. I. S. O. 45, Division of the Atlantic, May 25, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 29, 1886.

Dickson, S. H., passed assistant surgeon. Detached from the Naval Academy and to the "Constellation."

Simon, W. J., surgeon. Detached from the Naval Academy and to the "Constellation."

Kidder, B. H., surgeon. Detached from the "Powhatan" and to the "Tennessee."

Rhoades, A. C., surgeon. Detached from the "Tennessee," proceed home and wait orders.

Cordeiro, F. J. B., assistant surgeon. Detached from the "Powhatan," proceed home and wait orders.

Clark, J. H., surgeon. Ordered for examination preliminary to promotion.

Hugg, Joseph, surgeon. Detached from the "Minnesota," and granted sick-leave.

Beaumont, H. N., surgeon, ordered to the receiving-ship "Minnesota."

Law, H. L., surgeon. Detached from the "Wabash" and granted sick-leave.

Henry, Chas. P., assistant surgeon. Ordered to the receiving ship "New Hampshire."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING MAY 22, 1886.

Bailhache, P. H., surgeon. Detailed as chairman, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service, May 19, 1886.

Wyman, Walter, surgeon. Granted leave of absence for thirty days, May 14, 1886.

Stoner, G. W., surgeon. Detailed as recorder, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service, May 19, 1886.

Banks, C. E., passed assistant surgeon. Leave of absence extended four days, May 5, 1886.

Bratton, W. D., assistant surgeon. Detailed as medical officer, Revenue Steamer "Corwin," during cruise, May 22, 1886.

Perry, F. B., assistant surgeon. Appointed an assistant surgeon, May 21, 1886. Assigned to temporary duty at San Francisco, Cal., May 22, 1886.

DEATH.

Dr. W. O. Baldwin, President of the American Medical Association, in 1867, died at Montgomery, Ala., May 30.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at **Huntington Hall, Mass. Institute of Technology**, June 8, 1886, at 7.45 o'clock. The discussion upon the subject "The Effect of Military Drill on Boys," adjourned from the meeting of April 14th, will be opened by Prof. D. A. Sargent, of Harvard University. A demonstration of the Drill and its effects will be given, and this system compared with other forms of Physical Exercise; illustrated by means of a series of living subjects. Distinguished gentlemen from other Colleges and Schools have been invited to take part in the discussion. The Public is invited to attend. Members of the Massachusetts Medical Society are cordially invited to visit the Hemenway Gymnasium at Cambridge, the Gymnasium of the Boston Young Men's Christian Association, that of the Boston Young Men's Christian Union, and that of the Mass. Institute of Technology, and witness the exercises of the classes in those institutions.

F. I. Knight, M.D., *Chairman.*

Albert N. Blodgett, M.D., *Secretary.*

Boston Society for Medical Observation. — The last regular meeting of the year will be held at the Medical Library, 19 Boylston Place, Monday evening, June 7th, at eight o'clock. Readers: Dr. Edward J. Forster, "A Case of Puerperal Diphtheria." Dr. Arthur H. Nichols, "A Case of Poisoning by Chloride of Zinc; with Remarks."

Charles P. Strong, *Secretary.*

New Hampshire Medical Society. — The Ninety-Sixth Annual Meeting will convene in the chapel of the First Baptist Church, North State St, between School and Warren Sts., Concord, Tuesday, June 15, 1886, at 11 o'clock, A.M. The following papers will be read: Annual Address by the President, at 12 o'clock. Essay on School Hygiene, Dr. D. M. Currier, Newport. Report on Obstetrics, Dr. Frank Blaisdell, Goffstown. Dissertation, "Medical Common-Sense," Dr. C. A. Allen, Acworth. Report on Practical Medicine, Dr. J. F. Brown, Manchester. Dissertation, "A few Points in the Pathology and Treatment of Fever," Prof. C. P. Frost, Hanover. Report on Surgery, Dr. C. B. Hammond, Nashua. Oration, Dr. M. H. Felt, Hillsborough. Essay on Typhoid Fever, Dr. I. H. Adams, Derry. Dissertation on Nerve Weakness, Dr. H. C. Holbrook, Penacook. Report on Necrology, Dr. E. L. Carr, Pittsfield. The Annual Dinner will be served Tuesday, at the Phenix Hotel, at 1 P.M.

Rhode Island Medical Society.— The Seventy-Fifth Annual Meeting will be held on Thursday, June 10, 1886, at 62 Westminster Street, Providence. Annual Address by W. H. Palmer, M.D., at 1 o'clock, P.M. The Annual Dinner will be served in Blackstone Hall, corner Washington and Snow Streets, following adjournment. Dr. W. R. White, Anniversary Chairman. Dinner tickets can be obtained of the Treasurer.

Geo. D. Hersey, M.D., *Recording Secretary.*

Association of American Physicians.— The First Annual Meeting will be held at Washington, June 17th and 18th, 1886. *Thursday, June 17th.* 10 A.M.—I. "Organization." Address by the President, Francis Delafield, M.D., New York. II. "Knee-Jerk and Muscle-Jerk in Disease," by S. Weir Mitchell, M.D., Philadelphia, in conjunction with Morris Lewes, M.D. III. "Typhoid Fever," by F. Peyre Porcher, M.D., Charleston, S.C. Afternoon Session, 3 P.M. IV. "Spasm of the Larynx in Rickets,' by J. T. Whittaker, M.D., Cincinnati, Ohio. V. Discussion: "Does the present State of Knowledge justify a Clinical and Pathological Correlation of Rheumatism, Gout, Diabetes and Chronic Bright's Disease?" Referee, James Tyson, M.D., Philadelphia, Co-Referee, W. H. Draper, M.D , New York. VI "Notes on some Cases of Diaphragmatic Pleurisy," by E. T. Bruen, M.D., Philadelphia.

Friday, June 18th. 10 P.M.—VII. "Certain Elements found in the Blood of Malarial Fever," by W. T. Councilman, M.D., Baltimore. VIII. "Certain Clinical Facts connected with Tabes Dorsalis," by H. N. Lyman, M.D., Chicago. IX. "Diseases of the Appendix Cæci," by Reginald H. Fitz, M.D., Boston. Afternoon Session, 3 P.M. X. "Peri-Uterine Inflammation," by Wm. M. Polk, M.D., New York. XI. "An Experimental Study of Glomerulo Nephritis," by W. H. Welch, M.D., Johns Hopkins University, Baltimore. XII. "Bicuspid Condition of the Semilunar Valves," by William Osler, M.D., Philadelphia. Other papers are promised.

RESIGNATION.

Dr. F. W. Draper has resigned his position as Visiting Physician at the Boston City Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Oxygen Treatment and Oxygen Charlatans. Wallian. (Reprint from Medical World, with additions.) New York. 1886.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease and on the General Management of Children. By Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. With colored plates and other illustrations. Philadelphia: P. Blakiston & Co. 1886.

Lecture.

UNDERCURRENTS OF MODERN MEDICINE.

THE ANNUAL DISCOURSE DELIVERED BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 9, 1886.

BY RICHARD M. HODGES, M.D.[1]

Not longer ago than when this Society was founded, the element of mystery, and the spirit of credulity, pervaded medical knowledge so intimately, that escape from their sinister influences seemed almost hopeless. From that day to the present time, however, there has been a perpetual, and still unceasing effort, to enlighten ignorance, and to interpret obscurity. Science has sorely shaken the foundations of many time-honored delusions. The complex causes and entangled results, which medicine attempts to regulate, have been so unravelled, analyzed, and illumined, that we already look back on an era of unexpected progress. Exact observation has taken the place of speculation and pseudo-philosophic discussion. Predictions can be made, without the shadow of doubt, that definite consequences will follow a given lesion. There are maladies which can be prevented, or stamped out, as surely as the waters of a stream can be dammed by the engineer. Apparent inconsistences, — such as the good health of persons who work in the midst of filth and offensive effluvia, and the impunity with which diluted sewage may be drunk, — are accepted as illustrations of our ignorance, rather than of the variability of natural laws. Theories which are only probable, and opinions based on mere authority, meet with little approval. The observations even of competent judges, are distrusted until they have been verified by others. Tradition obtains scarcely the homage of a respectful attention.

The exercise of a profession like that of medicine, — which, in its working capacity, enters every family, and is brought into relation with the weaknesses, as well as with the ambitions of mankind, — demands not merely a learned knowledge of health and disease, but requires comprehensive familiarity with modern civilized life, executive skill, and business habits, not inferior to those exacted by other technical occupations. Although the public is incompetent to determine the presence or the absence of scientific acquirements, it recognizes practical efficiency by many outward and visible signs. Education does not always carry with it the external indications which catch the fancy, and prove most acceptable to those who seek for counsel and assistance; but bearing and demeanor, while they hide as often as they reveal the actual traits of an individual, are almost invariably the secrets of his failure or of his success.

The physician, therefore, who aims at a prosperous practice, — accepting the fact, that his personal and domestic joys are at the mercy of a bell, — holds himself in good-humored readiness to meet the unreasonable, as well as the reasonable, exactions of all classes of people. He remains stoically indifferent, if need be, alike to sewing-circle animosity and admiration. He listens with the attention, which is readily mistaken for professional interest, to incessant and repetitious accounts of bygone maladies. Blessed with the magnetism of a calm deliberation of manner, and by that kindliness which enables him to put questions sympathetically, he perceives intuitively the kind of advice his patient desires, and a judicious response lies in wait for every complaint and inquiry. Familiar with, and believing in the latest materia medica, he promotes their recovery by carrying his patients with him in the sanguine conviction that all their favorable symptoms are connected with his treatment.

While far from being a high type of his profession, such a man, nevertheless, possesses superior qualifications for usefulness. He has the tact, and a ready appreciation of the effect words can produce, which make him a sort of infallible Pope with the victims of insignificant ailments, — ailments which can be easily inflated into perversions of health apparently so serious as to require perpetual attendance. He will endear himself to the deluded invalids, to whom sympathy is such a luxury that they cannot allow themselves even the semblance of recovery; to the middle-aged spinsters who delight in superfluous measures; to the mothers whose children rule the house; and to the credulous men and women who take medicine from force of habit, or for the want of some other engrossing occupation. More than all, because justly, he will be gratefully esteemed by a large and intelligent clientage, to whom his pleasant visits, and placid mannerisms, carry genuine comfort and a full measure of satisfaction.

Masters of the highest arts of practice, — to whom mere popularity is of small account, — are, on the other hand, rarely recruited from negative or effeminate men, or from those who are wanting in self-reliance. Strong qualities possess strong attractions, even if they also provoke strong dislikes. Defects are more readily seen than virtues. Colleagues will not always sympathize with plain-spoken opinions that diseases, which have been developing for years, cannot be got rid of, like evil spirits, by the exorcism of some potent drug. Clients are not quick to agree, with Emerson, "that the laws of behavior must yield to the energy of the individual," or slow to be provoked by lack of patience, by indifference, or by brusqueness of manner, even when they merely indicate the friction which is generated in striving, by persuasion, to induce people to do their simple duty.

In every social grade, however, there are, invariably, those whom the individuality of some medical man will please. There are men and women who do not wish to be fussed over, — who simply desire to be painstakingly advised, and, if necessary, intelligently dosed. They are not allured by deferential and insinuating manners, — which, Mr. James says, can be traced back to the struggle for existence, — and they look indulgently upon faults, if, beneath them, they can detect that sense which is so rare, but which is nevertheless called *common* sense, and an honesty, frankness, and good judgment which invite confidence. They respect the disinterestedness which resolutely convinces people that they are well, when they only imagine themselves sick. They value the discernment which eliminates non-essentials, and which is ready to suspect that a patient has no disease to cure when he says he cannot take this or that medicine. They realize the value of reserve in social intercourse, and appreciate the brevity of speech, — or, even, the ill-concealed dislike to answer questions, — which is born of a belief that error lies in saying too much, rather than too little. Knowing their own ignorance of the manner in which a medical man must necessarily systematize his professional work, they see that he can, himself, best regulate the hour of his visits. Wisely perceiving that the interests of the practitioner are equally those of his patients, they willingly show consideration for the human nature which is in him, and, instead of dictating a line of action, amiably concur with his better methods for their relief. Bearing in mind that they can do much for themselves, they illustrate by their conduct the truth of the observation, that "few cases are so hopeless as those which refuse to get well; none so hard to kill as the people determined not to die."

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[1] The following pages, prepared to be read aloud, must not assume a printed form without an avowal of the writer's indebtedness to a greater number of articles and individuals, than the absence of quotation marks, or references, might imply. An endeavor to acknowledge this obligation has been attempted in an Appendix.

If the rivalry of a crowded profession sometimes tempts men to practice a certain degree of humbuggery in dealing with patients, there is rarely any association between profitable trickery and wilful quackery. Practitioners who please their clients are rarely incompetent, nor do they deserve to be called charlatans. They are not the knaves whose fatal ignorance accentuates and fosters the philanthropic proposition that the State should protect the community from medical imposition.

The fact must be surely though sadly recognized, that the practice of medicine, by people who have not the appropriate knowledge for what they undertake, cannot be prevented by legislation. If we could prohibit those who publicly proclaim their clap-trap, we should still leave unsuppressed the grandmothers, mothers-in-law, maiden aunts, and neighbors, whose readiness to assume responsibility in sickness is equally devoid of any educated qualification; and one shudders to think what might happen if, even as a single result, their energies were turned from this innocuous if not beneficent channel by the strong arm of the law."[2]

Interference with a man's choice of medical treatment may be a violation of the "liberty of the subject;" but not on that account do I venture to express the belief that the public should be left to care for itself,— in this respect, as well as in most other matters. It is a dangerous experiment to meddle with the relations of the public and a profession. In any attempt to modify the attitude of those whose rightful privilege it is to treat human diseases with absolute freedom from restraint, it should be remembered how wisely it has been remarked, that "Science commits suicide when she adopts a creed." The saying will prove equally true of medicine, when, by legislation, different medical sects are recognized, even to gain a worthy end.

If the Commonwealth is to be asked to take a hand in medical affairs, the appeal should be made solely upon the ground that, as the State employs medical men for certain purposes, it may properly be asked to define the conditions on which it will accept service. It is for the good of the community that nobody should die without an official record of the cause of death: that in both civil and criminal cases the law should be able to summon persons whose evidence may be accepted as expert. A petition that the State shall declare how and from what sources such general services may be received, and who shall be allowed to fill the medical offices of its military and other public institutions, is a request to its law-makers in which all could harmoniously join. An enactment covering a reply to this inquiry should constitute the whole of the State regulation of medicine.

The profession, and not the State, must be the guardian of its own interests. "No elaborate law," says Virchow, in a recent utterance, "no code of ethics, will of itself serve to instil self-respect into the minds of those to whom it appeals, or to keep in check the overwhelming desire of notoriety by which the less scrupulous members of our honorable profession are too often actuated."[3]

No safeguard can ever entirely prevent the fatal mistakes and accidents of both druggists and physicians, which arise from imperfectly written prescriptions, or carelessness in the handling of medicines. The business of the druggist is a large and important industry, demanding the best intelligence, and nothing should be done to impair its efficiency. It is remarkable that grave errors are not more frequently made. Every physician has had reason, probably on more than one occasion, to thank the acute oversight and the good judgment of some careful apothecary, for the detection and sagacious counteraction of blunders in prescription-writing. As the dealer in medicines bears the burden of this important supervision, let him not be condemned if he occasionally prescribes chalk-mixture, or bromide of potass, over his counter.

It is the prerogative of this Society,— indeed, it is the great purpose of its existence,— to educate public opinion, and to promote and disseminate such knowledge as will make medical legislation, if there should be any, not only well-advised and enlightened, but serviceable to the community rather than to individuals.

Nothing has better illustrated the influence of an Association like ours, than its effective support of the concurrent public sentiment, which helped to bring about the demission of the Coroner, and the accession of the Medical Examiner. A reform in the existing method of obtaining what is called expert testimony, would equally redound to the credit of this Society, if it were procured by its aid and coöperation.

Judges, juries, experts themselves, alike condemn the manner in which medical evidence is, at present, admitted in the trial of civil and criminal cases. In this city, within a few months, a jury, immediately on retiring decided to throw out all the medical testimony presented for their consideration. The revision of a mode of procedure,— acknowledged to be defective, and for the faults of which a whole profession is disparaged and ridiculed,— ought not to be found difficult, when a tried system in Germany, and elsewhere in Europe, has shown how much more wisely than by us the matter of expert testimony may be managed.

Unhappily it is not always the aim of litigation to arrive at the intrinsic truth; and the objection of lawyers to legislation which, with the intention of securing only the best quality of evidence, shall take from them the choice of their experts, and place it in the hands of the courts, grows out of a fear that witnesses so chosen, might be too much imbued by a desire to substantiate the truth, and the truth only, to meet the wishes of those whose aim is simply to win their cases.

Justice is at a great disadvantage when there is no certainty that real experts are called by either party to a suit,— no assurance that their non-expertness will be shown up, if it exists,— and not always the conviction that they will testify without regard to the side which has summoned them. Counsel cannot be expected deliberately to call witnesses who would certainly, or even possibly, damage the cause of their clients.

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[2] Mr. Huxley.

[3] Med. Times, Nov. 7, 1885, p. 633.

That medical testimony should possess value, witnesses must be held responsible for what they say or state. The trustworthiness, and the relevancy of evidence can be thus controlled only when it is uttered in the presence of an *amicus curiæ*, competent to recognize the ignoramus or the pretender, and to keep both court and jury from being led astray by side issues, or blinded by irrelevant talk, or deceived by the advancement of theories, which, though they may be true, are presented in a partial, an imperfect, or an exaggerated manner.

The conclusion, therefore, is a growing one, that the appointment of experts, in our Commonwealth at least, ought to be made a part of the judicial function, and that their compensation should be fixed by statute, or by the court, and be paid out of the public treasury. By the adoption of such a plan, court-rooms would be relieved of exhibitions which are frequently discreditable and mortifying; and a recent action by the Bar Association of the City of Boston, encourages the hope that this reformation, which so distinctly concerns the dignity and the welfare of two great professions, will not be indefinitely delayed.[4]

The tenor of a physician's intellectual way of life follows the border lines of science, and leads him to breathe the atmosphere, at least, of learning. Wherever, and however, his lot may be cast, it devolves on him to maintain and promote some of the truths most important to humanity. Towns and rural villages, far and near, are, fortunately, not without the practitioners who do their own thinking, who are good observers, broad in their views, abundant in knowledge, efficient in emergencies — equals in ability to those whose city life may have given them greater opportunities, — and full of the salutary influences which sound opinions, and a high moral tone, exercise among all classes of society.

The art possessed by bees, of producing at will an individual with the requisite qualities for supremacy, has not, however, been acquired by mankind. Men become wise and learned, rather by the strength of their special inclinations, than by the compulsory stimulus of educational expedients. Personal ability, personal energy, peculiar tastes and habits of mind, are qualities which are growing in general estimation; and the opportunity for the exercise of exceptional talents and attainments increases with the growth of population and the material welfare of the country. In no profession is there a more fertile field for turning to account a great variety of accomplishments than in that of medicine; nor is there one in which the demand is so constant for strength of character, and for intellectual capacity above the average.

The fact that preliminary education is unsatisfactory and defective, and that the study of medicine is consequently begun at too low a point, creates a generally accepted conviction that the time devoted to it by medical schools is insufficient; and yet the practical necessities of a large majority of young men, prevent the prolongation of professional training, because this would advance their graduating age. In England, the student of the present day enters his hospital as a boy of about eighteen years of age; and it is declared hopeless to think of extending the term of pupilage,— for the average medical practitioner, at any rate,— beyond the age of twenty-two. In our own country, a still earlier maturity not only exists, but is expected. In spite of this, however, the average age of graduation in the Harvard Medical School is more than twenty-four years and a half. A system which matures its fruit so tardily, must tend to make educational institutions for the few, rather than the many. This would not be a regrettable consequence if it were the ultimate object of medical teaching to turn every student into a professor, or if a special degree of Doctor Scientiæ Medicinæ, with all that the title implies, were the outgrowth of such a tendency.

There is but one remedy for too short a course of study,— which might be judiciously, though not easily extended,—and for graduating at an age which is too old, — and that is, to lengthen the curriculum backwards into the preparatory years by requiring better qualifications to begin with.

The well-deserved reputation of the Harvard Medical School,— largely added to by its early abandonment of traditional and imperfect methods of instruction,— is still maintained by the energy and enterprise of a Faculty, many of whose members, practically, give their whole time to teaching. Acknowledged to be a source of pride by the profession throughout the country,— by the city in which it has its home,— and by a community which has always greatly respected the calling of medicine,— it will be in no censorious spirit that I allude to two or three points of interest, having reference to still further improvement in the educational system of a school upon which this Society's usefulness pre-eminently depends.

Admission to the Harvard Medical School now requires the applicant to pass a "satisfactory examination in English, Latin, and Physics, and some one of the elective subjects, Botany, French, German, the elements of Algebra, or of Plane Geometry." If, instead of this, a knowledge were alone demanded of the elementary, but comprehensive, principles governing the action of living things, and which are the substrata of human anatomy and pathology, a great gain would be made. The familiarity of students with natural science, especially physiology and biology, and the manner in which they pass their examination therein, might easily decide, not only the fitness of candidates to begin the study of medicine, but also test their proficiency in English and classical subjects.

It was the great aim of Professor Agassiz here, as it has been of Professor Huxley in England, to make young people good observers, and to convince them that attention, memory, and observation, are not only serviceable and remunerative, but always attainable attributes. It should be a chief endeavor of any instruction intended to precede that of a medical school, to cultivate the tactile, visual and auditory senses, and to beget an early conviction of the value of precision.

Studies, therefore, which involve the logic of actual facts, can only be pursued to advantage where they are taught practically, and with a thoroughness which precludes the possibility of cramming. They must be made revelant to, and in harmony with, the subsequent education, which (it is complained) now usurps too much time, and is needlessly difficult, because previous discipline has so little prepared a ground-work for its reception.

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[4] Appendix I.

Schoolmasters may say that it is waste of time to teach science as they are compelled to teach it; but the means of carrying into effect some plan of primary scientific schooling can surely be perfected, if it is called for; and if details interpose obstacles, patience and experience must overcome them. Eventually, such instruction will be organized as well as,— better than, I trust,— classical teaching has been hitherto, and High Schools, at least in all cities and large towns, will become competent to fit young men for the study of medicine. The practical character of the age is gradually eliminating from education, many of the special processes by which the intellect was formerly developed. Various kinds of laboratory and experimental work are already urged upon all, — and adopted by some,— preparatory schools, as optional for pupils to whom a large amount of Latin and Greek does not offer the intellectual discipline or equipment which they are aiming to obtain.[5]

Harvard University is active in the effort to make natural science an attainable and profitable study. In the interest of those intending to become medical students, electives in anatomy and physiology have been asked for in its academical department. The Massachusetts Institute of Technology, and the Johns Hopkins University, have already established courses introductory to the study of medicine. These are wise, tentative endeavors,— even if rudimental and inadequate,— to provide instruction which shall save, by anticipation, much of the labor,— and, therefore, much of the time,— now connected with the acquirement of a professional education.

I cannot but think that compulsory attendance on the same course of instruction, for two or three successive years, would be an advantage in certain branches of study, and above all, in anatomy; because, from beginning to end, anatomy consists of intricate details. These are difficult to grasp mentally. Many require to be memorized, and the knowledge of them is worthless if not exact.

Furthermore, if the studies of Anatomy, Physiology, and Therapeutics could be arranged with maximum and minimum requirements, the separate grades into which students are inevitably divided would find the measures of their differing capacity better filled. Time and money could be expended to more permanent advantage if there were both prescribed and elective courses in each of these departments, in place of the present exaction of equal and uniform proficiency from all pupils. The aims of individual ambition would also be more securely gratified; and the hours available for obtaining practical acquaintance with the phenomena of disease, or for special subjects of study, both by teachers and advanced pupils, would be supplemented to an extent not heretofore possible.

In this connection, I venture to suggest that, if examinations should attack learning less on its intellectual side and more on its practical side,— as might be the case if they were not so generally conducted in writing,— knowledge would still be as exact, while the examinations themselves would not be the educational regulators (it might almost be said, the despots) they now are. Though we may not follow the example of universities under other surroundings, and adapted to other needs, we can put in practice the business methods of American requirements, without lowering the standard of liberal and productive scholarship.

I have no hesitation in saying that teaching of medicine and surgery by set lectures only, or even largely, is unsuited to the wants of learners, and is already recognized as antiquated. To justify this assertion, I need but refer to the sentiment of medical teachers in London, and to the comparable illustration which is furnished by the Law School of Cambridge. The disappearance of systematic didactic lecturing and the substitution of corresponding tutorial instruction,— if the difficulty as to the number of teachers and the expense of such a system could be met,— would be, radical as it seems, a most progressive step in education. Books and lectures may make scholars, but not practical physicians. American students add to their course of study a year in Europe,— not because the hospitals are larger, or the knowledge of teachers greater than in their own country,— but because, in small classes, under the immediate guidance of a first-class instructor, they can see and demonstrate every fact for themselves.

The existence,— side by side with its University Faculty,— of what is called an Extra-Mural Medical School, accounts in great measure for the attraction which Edinburgh has offered to students of Great Britain during recent years. The generous rivalry, which the tutorial character of such a school generates, cannot but inspirit the neighboring university; and it should be realized in America, as it is in Scotland,— and as it also is in France, in the *enseignement libre* of its *Ecoles Pratiques*,— that no policy could be more short-sighted than to discourage competitive teaching which exercises so healthy a stimulus, or to restrain pupils from obtaining, wherever they may think their interests are best met, that instruction which is to carry them through their examinations.[6]

There are misgivings here,— and they are equally strong elsewhere,— as to the influence upon the practical education of young men which is exerted by the Training Schools for Nurses, now so popular and so numerous.

An interested and superior class of young women, who bring great enthusiasm to their work, are instructed, by teachers of the highest grade, in Anatomy, Physiology, the Theory of Wounds and their antiseptic treatment, Fractures and the use of Splints, and Bandaging, in all its refinement. They are taught how to observe symptoms, count pulses, take the temperature, judge of doses, if not of drugs, and to prepare systematic written reports of cases. Purely medical subjects, such as Dropsy, Rheumatism, Erysipelas, Gangrene, and Diseases of the Eye, are included in the list of lectures given at one of the oldest of these institutions.

Many of the duties which are now delegated to nurses in the wards of the hospitals where they obtain their training, are such as physicians have heretofore attended to personally. In private practice they are encouraged to regard certain details of domestic labor, on which the welfare of the sick depends in no small degree, as menial, or inconsistent with the "elevation of their calling." Their social status in the family by whom they are employed, is a constant source of trouble. Practical experience leads many to the conclusion, that as a nurse advances in special knowledge she proportionately retrogrades in the efficient discharge of the minor duties and drudgery, which, after all, are the chief requirements of her occupation.

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[5] "Jesse Foot accuses me," said John Hunter, "of not knowing the dead languages; but I could teach him that on the dead body which he never knew, dead or living."

[6] Appendix II.

Experienced training school pupils become so familiar with many manipulations and points of practice, that hospital students give way to them, partly from a too common *vis inertiæ*, and partly from a fear of showing themselves less skilful; but, more than all, from the idea that time cannot be profitably spent in learning the minutiæ which belong to the subordinate occupation of nursing. Nor is this impression confined exclusively to hospital pupils, or those interested especially in surgery. It extends unwittingly to students of all degrees and preferences, in and out of hospitals, and to physicians as well. Dependence on nurses for information about the patients "under their care" (as they say), blunts the young practitioner's own observation, lessens his attention to particulars, and deprives him of the experience and the education which come by doing things for one's self.

There is no reason why a nurse should not be interested in purely medical subjects. Her experience is of the same kind as that of the physician, — in certain cases even greater in its opportunities,— and it is too much to ask that she should pay no attention to the medical aspects of disease; but the fact must not be lost sight of, that, at the present time, intelligent women have the choice before them of being either nurses or doctors, and that they cannot be both.

The needs of sick people, so far as the requirements of the sick room are concerned, are of a nature which women alone can satisfy. The present system has been brought about by the aid, if not by the instigation, of physicians. Admirable in many ways as its results are; greatly as trained nurses contribute to the comfort of patients, physicians, and families; in spite of the fact that nursing takes a higher stand, for the very reason that drugs, outside of a few specifics, are less and less depended upon,— it would be a misfortune if the existing method of teaching nurses should tend to lift them out of a position,— servant-like though it must be in many respects,— which it is a womanly privilege to fill, and one not unworthy of female ambition. It would be still more deplorable if their training should bring female nurses into collision with physicians, either of their own or of the other sex; or if, by their too near approach to the same lines of study, the zeal of medical students should be diminished. Worst of all misfortunes would be the creation of an unexpected hybrid, neither servant, nurse, nor doctor.[7]

The study of the phenomena of life,— and therein lies the whole of science, so far as the business which engages our attention is concerned,— has exercised a great influence in promoting truer estimates of disease and wiser methods of treatment; but a just and natural proportion should be maintained between that part of our pursuit which is purely scientific and that which is practical. If one is in danger of being prosecuted at the expense of the other, it ought not to be the latter.

The lack of practical knowledge on the part of a physician, otherwise profoundly learned, may cause an immense amount of suffering. It may give an impetus to disastrous epidemics. Hesitancy to command the isolation of a single case of measles or scarlatina,— or delay in so doing,— subjects a family, a school, or a community, to the peril of an epidemic more dangerous than the small-pox. His finger-nails may communicate a fatal poison, through the trivial operations of surgery which every one undertakes to perform, or inaugurate the "private pestilence" which still sometimes follows in the track of the obstetrician. The increasing frequency of non-union in fractures, if I can trust my own observation, shows that they are not so skilfully treated as formerly. The acne of an emigrant, it is said, has quarantined an ocean passenger steamer. Within the past year, in a town with the organization, resources, and appliances of 8000 inhabitants and 13 physicians, an outbreak of typhoid fever reached the extraordinary proportion of 1200 cases in one month, 500 occurring within the first ten days after its irruption. Through this outbreak 300 families were made dependent on charity at one time, and 107 lives were sacrificed. The extra expenditure by the sufferers was $60,000, besides an equal amount lost in wages through enforced idleness. Starting from a single typhoid patient, whose accumulated evacuations suddenly gained access to the town's aqueduct, the germs of disease were disseminated with great rapidity along the line of water distribution; but the differences of medical opinion, as to the origin of the trouble, were at first so great that no prompt restrictions were placed upon the use of the drinking-water, though it was suspected from the outset of being the medium of conveyance for this terrible affliction, ending in such unnecessary loss of life. Subsequent developments proved the suspicion to be well founded, and the number of suits brought against the water-company by the relatives of those who died, indicates the prevalent impression that this epidemic, like so many others, might have been prevented by intelligent vigilance.[8]

Ignorance of certain groups of diseases is acknowledged and confessed by every honest physician. The rapid accumulation of facts in all departments of medical research is beyond the comprehensiveness of a single mental grasp. There are anatomists and physiologists who have never set foot within a hospital. The International Medical Congress, with its twenty or more sections, is an illustration, as well as a recognition, of distinct demarcation in the lines of professional study.

Almost without exception, such sub-divisions are concessions to convenience, and owe their existence largely, and perchance unfortunately, to considerations connected with the treatment of disease. In nearly every instance, they represent departments of operative surgery, in which particular skill or special manipulations are required; and their technical element, often reaching the highest refinement, has exercised a great influence in advancing the art of medicine. But they have also abetted a mistaken tendency of public belief, that elaborate division of labor must necessarily be as useful and successful in a learned profession, as it is in the mechanic arts.

Old-fashioned practice,— that is to say, the practice of thirty or forty years ago,— looked on specialism as an innovation of doubtful respectability. Sick people were then regarded as private property, and poachers were punished if they intruded on personal preserves. To-day the assumed right to deal exclusively with the diseases of special parts of the body,— generally those beyond the sick man's own range of vision,— is no longer regarded as presumption, or a violation of ethical rules. Patients, even, exercise the prerogative to be their own judges, both as to the nature of the particular disorder from which they think they suffer, and of the remedy it requires.

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[7] Appendix III.

[8] Appendix IV.

It is also asserted that the empire of the general physician and surgeon is crumbling away, and that his dirge is being chanted. The *personnel* of a general practice is said to change entirely in about the same time which it is popularly supposed to take for the renewal of the combined atoms of the human body: and the family doctor,— once a fixed and immutable institution,— finds it his office, now-a-days (it is cynically declared), solely to decide what specialist shall be summoned, and must count himself highly favored if subsequently invited to listen to the opinion obtained, or lend his assent to the treatment prescribed. "Specialism," we are told, by its recent vindicator, "being a movement founded on the true principle of progress, and in harmony with the general 'stream of tendency' in these days, will gain strength and volume as it advances, sweeping away, in its victorious current, all the rubbish of pedantic prejudice and malicious bigotry that formerly defiled its waters, and hindered their flow."

There can be no denial of the fact, that whoever, in addition to his general requirements, knows more about some particular thing than any one else,— or at any rate, can do some special work pre-eminently well,— has a decided advantage over his fellows; but the suggestion that all diseases of the body, and not merely those of its inlets and outlets,— even though they are beyond the reach of mirrors, aspirators, or sounds,— must be put in the same category with ailments of throats and ears, and reveal their secrets hereafter only to the sharp observation and skilled insight of specialists, is one which will hardly be conceded at present. With all the facts before them, enthusiastic students and workers still deliberately select the broad roads of general medicine and surgery, in preference to the narrow and possibly devious paths of special practice, though the latter may lead to speedier pecuniary success.

The human body is made up of parts and functions so thoroughly inter-dependent, that it cannot be parcelled out into defined and isolated regions. Let me illustrate this self-evident statement by quoting a post-mortem diagnosis, made by Professor Fitz, and taken absolutely at random from the Autopsy Book of the Massachusetts General Hospital. It reads as follows: "Chronic Pneumonia; Suppurative Pyelitis; Chronic Perimetritis; Hæmatoma of Ovary; Ischio-rectal Abscess, with Perineal Fistula; Chronic Typhlitis, with pseudo Polypi; Gangrenous Ulceration of Vermiform Appendix; Granular Degeneration of Liver and Kidney." The patient, with this appalling pathological conglomerate as his record, was one who, if alive, would have sought the advice of a specialist in diseases of the chest, and none other.

Despite all arguments drawn from expediency,— despite the difficulties encountered in the mastery of details, by any physician who has not had a special training,— one such case as that just alluded to emphasizes the assertion, that he who has the most comprehensive knowledge of the human organism and its disorders is, with certain well-recognized exceptions, best able to determine what is the matter with any given part of it, and so to help its unlucky owner to recovery, either through his own practical skill, or his ability wisely to select the colleague whose attainments may permit him to deal better with the case than he can. This object will not be less readily achieved if the practitioner acknowledges the limitations of human understanding, and the immaturity of medicinal therapeuties; or if he believes in the maxim that "the best physician is he who can distinguish what he can do from what he cannot."

Greater refinement in the distribution of medical practice is not likely to carry its analytic tendency beyond the present separation of physicians into a few distinctive and somewhat inclusive classes, drawing from a common fountain of knowledge, and maintaining the integrity of their profession, by the essential identity of science in every department. Accurate and familiar acquaintance with the applied laws of the latest medical learning is required in these days, as a part of the most limited professional outfit. The merest practitioner equips himself with this resource, in the same matter-of-fact way that he buys a thermometer or a stethoscope. Without it he can scarcely take part in the present competition for wealth, influence, position, and advancement. But skill in diagnosis will always remain the important practical part of a physician's business. What is the matter with a patient must be the fundamental problem which presents itself for his consideration, and the more he lays emphasis upon methods of treatment, the greater will be his danger of an approach toward empiricism. Increase of competition may place our successors under a mighty temptation to think, as the French epigram puts it, that "there are no such things as diseases, but only patients"; and make them forget that medicine is a profession, not a trade. It is to be confidently hoped that the growing efficiency of medical education, with its broad and intelligent training, will encourage a higher standard of self-respect than is implied in such a misgiving.[9]

(To be continued.)

Original Articles.

YELLOW FEVER IN BRAZIL. FREIRE'S INOCULATION.[1]

BY H. M. LANE, M.D., BRAZIL.

The etiology and pathogenesis of yellow fever, its contagiousness, geographical limits and treatment, are questions that have vexed the medical mind for two centuries, and a vast literature has grown up second in extent only to that of *malaria*, without definitely settling a single essential point.

The object of this paper is to give a few facts growing out of a long residence in Brazil, as the result of personal observation and experience, and rather of general interest than of a strictly scientific character, though most points will barely be referred to.

Concerning the birthplace of yellow fever, it has been claimed that its *home* is the West Indies, and that

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[1] Extracts from a paper read before the Kansas State Medical Association, at its annual meeting, Atchison, May 19, 1886.

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[9] Appendix V.

it is the outgrowth of certain conditions found there permanently, — of heat, moisture, putrefaction, etc., and that it may arise *de novo* whenever these conditions obtain: This is theory; the facts are that fever was never known in the Western World prior to the arrival at Martinique of the French ship "*Oriflamme*," in the latter part of the seventeenth century,[2] coming directly from Siam, and the disease described by the writers of that day as the "*mal de Siam*," a name which it bore for half a century. It is true that since then it has never been absent from the Northern coast of South America, the Islands of the West Indies, and the shores of the Gulf of Mexico.

In December of 1685, a fearful epidemic broke out in Pernambuco, known as the "*epidemia da bicha*," which carried off more than two thousand persons the first year. A Portuguese vessel had returned from St. Thomas bringing some barrels of putrid meat, which were opened by a cooper who, on inhaling the infected air, was seized with sudden illness, taken home, and died in a few hours; from him the disease spread to the members of his family, who all perished, and from this house to the entire city and to the cities of Olinda and Bahia. It has been claimed that this was yellow fever, though Rosa[3] speaks of it as a *pestilential typhus*, and the minute descriptions of Rocha Pitta[4] correspond rather with ship fever than yellow fever. After two years it entirely disappeared from the coast, where the conditions for the development of yellow fever are quite as good as in the West Indies. It is therefore safe to infer that the disease at Pernambuco was not the yellow fever which we know to-day, and we may conclude that the spread of true yellow fever from the Northern extremity of South America where it undoubtedly existed, southward, was prevented by the barrier which the waters of the Amazon interposed.

It is reasonably certain then that yellow fever made its first appearance on the coast of Brazil in October, 1848, where it can be traced to the American brig Brazil, arriving from New Orleans direct.[5]

In December of the same year it was carried to Rio de Janeiro by the Brazilian steamer *D. Pedro*, and we find the first death recorded on the 27th of December, 1848. In 1849, the disease broke out in a severe form and from December, 1849, to May, 1850, there was in Rio Janeiro an epidemic which is without parallel in the history of the disease. Upwards of five thousand deaths being recorded, and it is probable that half as many more escaped notice, in the terror and confusion incident to such a reign of death.

From that date until the present day yellow fever has never been absent from Rio Janeiro and rarely from any of the principal sea-ports between Santos, three hundred miles south, and Para, on the equator, a coast line of over two thousand miles.

Preparations for the "*approaching epidemic*" are made in Rio, with as much regularity and it is looked forward to with as much certainty as the summer solstice.

As the hot weather approaches, the more favored classes seek the cool heights of Petropolis, Nova Friborgo, Therisopolis, and the high plateaux of the interior, while the employés of commerce, the laboring classes, and those connected with shipping, remain to face the disease as best they may. Among the working classes those who are most exposed to the sun or other heat are soonest attacked, as sailors, cooks, smiths, etc. As in our Southern States, the negro enjoys immunity as a rule.

Recent arrivals from whatever source fall early victims to the disease. During the present year the mortality among very young children was unusually great; this may be regarded as one of the vagaries of the disease. Among foreigners those who commit excesses in *Baccho et Venere* rarely escape.

Its environment. The city of St. Sebastian on the river of *January* (a literal translation of its name) commonly called Rio de Janeiro, is perhaps the most beautiful in the world, and, from its situation among the foot-hills of the Coast range, surrounded on three sides by the magnificent bay of Rio, also famous for its picturesque beauty, fanned by perpetual breezes, from the sea by day and land by night, barely within the line of the tropics, should be one of the healthiest. The tall peaks of *Fijuca* and *Corcovado*, stand at its very gates on the south, furnishing on their slopes and approaches, cool resorts of easy access, while in the very heart of the city half a dozen hills furnish an excellent refuge from the heat and smells of the lower town. Still, the scourge remains, and its spectre drives emigration from the fairest and most fertile shore of earth.

The force of an epidemic is usually spent in those portions of the shore line that are cut off from the sea-breeze by intervening hills, and in the low, flat districts, densely populated, that stretch back from the sea front and are also deprived of the sea winds and have poor hygienic surroundings.

The sanitary appointments of Rio have been immensely improved during the past twenty years; privies and intra-mural burials have been prohibited, an expensive and elaborate system of drainage adopted, and just in proportion as the hygienic conditions have improved there has been a corresponding decline in the violence of all epidemic disease.

Through some radical defect in the main, the drainage works are notoriously inadequate, but those who remember the old days of the *Cabunge*, when the excreta of the city was brought in wooden buckets and dumped into the bay in front of the city are not inclined to grumble.

The supply of palatable water is also inadequate, and a water famine has been threatened several times.

The old habit of converting every convenient corner into a latrina still remains, and the air of certain localities is laden with the odor of decomposing urine.

On the whole, however, the sanitary appointments of Rio, with its four hundred and fifty thousand souls, are superior to most of our own large cities.

The importance of yellow-fever as a factor in the country's prosperity may be seen from the number of deaths during the ten great epidemics;—

1850	5,340 deaths	1875	1,291 deaths
1852	2,165 "	1876	3,820 "
1860	1,449 "	1878	1,178 "
1870	1,271 "	1880	1,760 "
1873	3,790 "	1883	1,650 "

Total, 23,714.

The ten years of next greatest severity show an aggregate of seven thousand six hundred and thirty-one deaths. It would be safe to say that these figures are at least thirty-three per cent. under the real numbers. The years of greatest mortality correspond to the seasons of *greatest heat* and *least rain-fall*. A hot, dry season is sure to bring an epidemic, a heavy rain or a cold "*Souther*" during the prevalence of an epidemic is sure to cut it short.

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[2] Moreau do St. Mery. Descrip. Typ. et Phys. de S. Dom., quoted by Carpenter.

[3] Trat. sobre a febre pestilential de Pernambuco por Joan Ferreira de Rosa, Lisboa, 1694, page 12, et seq.

[4] Hist. Am. Portugues, por Rocha Pitta, Lisboa, 1727, pp. 214, liv. vii.

[5] Consular Reports, 1850, and documents in the Archives of Provincial Government at Bahia.

Another fact worthy of note is that yellow-fever and all forms of endemic fever run in parallel lines, as the table of comparative mortality for the last three years will show:—

	1883	1884	1885
Yellow Fever	1,650	618	574
Pernicious Fever	760	426	345
Typhoid Fever	190	157	106
Other Malarial Fever	392	135	193

This proportion will hold good for all the years of which we have a record. Malarial fevers do not, however, tend to merge into yellow fever, but rather to give immunity from it. This leads us to believe that, in some way, the development of yellow fever depends upon the same general causes which produce other fevers, and that while there may be, and doubtless is, a specific germ, upon which each depends for its individuality, at the same time, the prevalence of either as an epidemic must depend largely upon the "environments."

It would be out of place to discuss the question of the *contagiousness* of yellow fever until some exact definition of the term is accepted, and the precise relation which it bears to *infection* is made clear.

The months in which yellow fever prevails most are December, January, February, March, and April. In 1885, however, its greatest mortality was in *May*; in in 1883, one-third of the total number of deaths was in April.

The total number of deaths from all causes in Rio in 1884, was 9,732; the total number of deaths from all causes in Rio in 1885, 10,182. Of these, in 1884, 636 were still born; and in 1885, 793 were still born. In the early epidemics, the rate of mortality in yellow fever was as high as seventy-four per cent.; recent years, it is about thirty-three to fifty per cent. in epidemics, and much less in the *sporadic* years, averaging not more than sixteen per cent.

The largest number of deaths from any one cause is found to be from *pulmonary consumption*, last year being 1884, nearly twenty per cent. of the total mortality. The three greatest causes of mortality on the whole Coast, from Santos to Pará, are: *pulmonary consumption*, *beri-beri*, and *yellow fever*, in the order given.

It is a fact, however, that yellow fever, standing third in the list, inspires a terror which is felt for no other disease, and probably exerts an influence for evil on the commerce of the country, its material development, and the advancement of social interests, greater than all other diseases combined. There is no interest of society to which it is not inimical: hence the anxiety of the government to root it out or devise means for controlling it.

Dr. Freire's investigations are already so well known, that anything more than a mention of his work is unnecessary. He does not exactly claim to have discovered a new germ, but simply that he has, from the granular elements already noticed by Rhees in 1820, Hassel in 1853, Alvasengu in 1856, and Jones in 1873, in the blood and other fluids of yellow fever patients, succeeded in isolating, defining, and determining the exact character of a micro-germ, which he calls the *cryptococcus xanthogenicus*, whose causal relation to the disease he has demonstrated, through a series of carefully-conducted experiments, in the clearest manner. Dr. Freire's work was commenced in 1878 or 1879, and in 1880, he published a full statement of the results obtained, and his mode of obtaining them.[6]

In 1883, obeying the mandate of his government, he extended his researches to discover some means of utilizing the work already done for a preventive vaccination, after Pasteur's methods. The whole story of his success, how he discovered animals that possessed the requisite receptivity, the cultivation and successive attenuations, is told, and well told, in his "*Doctrine Microbienne*," a book of six hundred and thirty pages, where every step of his work is described and illustrated; published in Rio in 1885.

He commenced his inoculations of the pure culture at once, and in January of the present year, published his "*Resultats Statistiques*," detailing 3,051 inoculations from January to August of 1885, without a single death. He shows that in the immediate neighborhood of these cases, 278 *non-inoculated persons* had died of yellow fever, while not a single inoculated person had perished.

His inoculations now reach nearly 7,000. During the present epidemic I was in Rio, and took occasion, personally, to follow up a large number of the inoculations reported, and during a whole week, with the assistance of friends, I was unable to find a single well-authenticated case of an *inoculated person* dying of yellow fever; but found numerous instances where persons *not inoculated*, living in the same yard, and sometimes in the same house, with those protected by inoculation, *had contracted the disease and died.* These facts have some significance. My own experience with the inoculation is not without value.

I arrived from the cool mountain region on the 16th of last March, during the prevalence of an epidemic of yellow fever, in perfect health. At eleven o'clock the next morning, Dr. Freire injected into my left deltoid one gramme of his pure culture of the yellow fever germ, the twenty-second attenuation. At 5 P. M., I had a slight chill, followed by a feeling of general discomfort, nausea, frontal headache, pain in legs and lumbar region, the temperature going up, with corresponding acceleration of pulse, until at 2 o'clock, A. M. of the 18th, it reached 102.7°, which was the highest point reached. At this time, I went asleep and slept two hours, when I awoke perspiring; the pulse and temperature gradually declined, until at 7 P. M. they had reached normal. Headache and other symptoms also left, leaving me, on the morning of the 19th, a little weaker than usual, without appetite and with a furred tongue, and skin slightly jaundiced. There was an almost complete suppression of urine for twenty-four hours. The restlessness, the hot, dry skin, the thirst, nausea, headache and muscular pain, were all characteristic of the first period of yellow fever.

During the next week, I was constantly exposed to the disease in the infected districts, among yellow fever patients, without further trouble. It is worthy of note, that a friend coming from the same place as myself a few weeks before, and passing a single night in Rio, had taken yellow fever and died.

Numerous instances might be cited during the present epidemic, where people, particularly foreigners, coming down from the mountain resorts and passing one or two nights in Rio, have contracted the disease and died.

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[6] "Recherches sur le Cause, la Nature, et le Traitement de la Fièvre Jaune."

It is reasonable to claim that my own case is a fair proof of the protective power of the inoculations. Now, whatever scientific value may attach to the experiments of Dr. Freire, whether the germ he cultivates be or be not the essential cause of yellow fever, or whatever may be the nature of the fluid he uses in his inoculations, and whatever the relation which his cryptococcus xanthogenicus or any other micro-germ may bear to this disease, we have here certain unchallenged facts which all fair-minded men must consider. There are nearly 7,000 vaccinations, with name and residence of persons vaccinated given, and the unanswered challenge for any one to produce an instance of one of these cases dying of yellow fever.

The patient, untiring zeal with which Dr. Freire has pursued this difficult subject for the past seven years, his great ability, his unquestioned integrity, and the unrivalled facilities he has had, as well as the vast importance of the subject, all join in demanding for his claim respectful attention.

No argument based upon theory, no display of cheap rhetoric, no indecent exhibitions of professional jealousy, should be allowed to stand in the way of a searching examination of the value of these alleged discoveries. If true, their value to our Gulf States cannot be estimated in dollars and cents; if not true, it is due to the people of this country that they be fairly disproved.

Drs. Freire and Carmona have both made out a strong *prima facie* case, and to attempt an argument on the supposed difference between the germ claimed by Freire and the one presented by Carmona, is both weak and wicked. The rapid changes which these micro-germs undergo in completing the cycle of their existence is well known to bacteriologists — their extreme sensitiveness to the media in which they develop, the relation of the names usually given to the form, rather than to the essential character of the germ, all go to show how little real importance attaches to the point. The comma bacillus of Koch may be produced by the segmentation of the spirilla, and might be called by another name without at all disturbing its relations to the diseases with which it is taught to connect it.

It is to be hoped that all questions of party, and all professional differences will be laid aside, and Congress be urged to pass the bill now pending, which has for its object not the support of any theory, but a fair investigation of the truth or falsity of certain claims which affect the prosperity of the whole country.

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RECENT PROGRESS IN DENTISTRY.[1]

BY WILLIAM HERBERT ROLLINS.

DANGER OF PULPITIS FROM THE USE OF GUTTA-PERCHA AS A PULP CAPPING.[2]

The writer claims that this material expands so much, that when used over a pulp, under a metal filling, it creates enough pressure to kill the pulp.

CYSTIC TUMOR OF THE ALVEOLAR MEMBRANE.[3]

The patient had been treated by one physician for gout, by another, for an obscure liver disease, but in each case, without relief to the symptoms, which were intense pain over the face, scalp, and occiput, extending down the spine as far as the last ribs; and upon the neck, as far as the bifurcation of the two heads of the origin of the sterno-mastoid muscle. The pain was worse at night, and about half an hour after meals, at which latter time the stomach became tympanitic, impeding the movements of the diaphragm to such an extent as to cause alarming dyspnœa. An examination of the mouth showed nothing abnormal in its appearance. On a more extended examination, the resistance offered by a first upper molar to pressure, was found to be slightly different from that of the other teeth. On this slight hint, the tooth was extracted. Attached to the root, was found a hard, slightly vascular tumor with three lobes, which projected into the antrum. As the result of the extraction, all the symptoms disappeared.

LOSS OF SENSATION IN THE GUMS AND LIPS AFTER TOOTH EXTRACTION.[4]

The patient, a surgeon, in the course of five years, had three teeth extracted, following which, in each case, there had been loss of sensation in the gums and lips, from the angle of the jaw forward to the median line. Sensation gradually returned without treatment, and was fully re-established in three months.

CHRONIC PTYALORRHŒA OF THE GLANDS OF THE ORAL MUCOSA.

This disease has not been clearly recognized, though to the effects which it produces upon the teeth several names have been given, beginning with John Hunter, who mistook one of its symptoms for a distinct disease to which he gave the name "decay by denudation." This name is still in use, and other and more recent writers have farther withdrawn attention from the real disease by giving the names "surface wear," "erosion," "denuding," "chemical abrasion," to its effects upon the teeth.

The only treatment which the writers who have used these names have suggested, has been either to do nothing, or, when the effects upon the teeth have been extensive to fill the cavities with gold.

Ptyalorrhœa shows itself chiefly in an increase in the amount of the secretion of the acinous glands of the lips and cheeks. Accompanying this increase in amount is an increased viscidity and slight acidity. Even in those cases where the effect upon the teeth is very rapid there is seldom a marked acid reaction in the secretion. This faint acidity explains why the grooves in the teeth almost always are smooth, as if polished; indeed, many writers mistaking the real cause of the trouble, have attributed the grooving of the teeth to the effects of a stiff brush in cleaning them.

There are cases where caries supplements ptyalorrhœa in which the starting point of the caries is due to the intensity of the ptyalorrhœa, the evidently softened tooth substance not being removed as rapidly as formed; thus affording a culture ground for germs which produce the usual results, caries. These cases are chiefly those of the channeled form, in which the effects upon the teeth consist of grooves across the teeth near the necks.

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[1] Concluded from page 511.

[2] Brit. Jour. of Dental Science, October, 1885.

[3] Harris in Brit. Jour. of Dental Science, p. 894, 1885.

[4] Glassington in Dental Record, p. 193, 1886.

Ptyalorrhœa is an entirely distinct disease from caries. In most cases it is a local expression of some ill-defined constitutional condition or conditions. In a less number of cases it is sharply local. Its effects upon the teeth show themselves in at least three forms. In a general wasting away of the teeth; in transverse channeling of the teeth at their necks; by the formation of saucer-shaped cavities upon the labial surfaces of the teeth. This last form attacks the canine teeth often before any others. This fact, together with another, that pulpless teeth are as much affected as those having living pulps, tend to show that the effects upon the teeth are not due, as has been suggested, to a retrograde metamorphosis in which the wasting of the teeth is produced by an absorption of the lime salts by a new cellular growth. In one of these cases there is no living tissue from which the cells could come, while on the other hand it is not likely that if this were the true explanation the canine tooth which is the strongest tooth would be attacked first. In the cases in which the cupped or saucer shaped cavities are formed on prominent portions of the labial surfaces it is often easy to see the effect of the glandular congestion; the orifices on the mucous membrane occupying the centres of little raised papillæ of a deep red color. If the surface of the membrane is dried, only a few seconds will elapse before it is studded with little pearls of secretion, acid to litmus paper. In an ordinary condition of these glands a minute or more would elapse before any secretion would be observed, nor would the reaction ever be acid except perhaps early in the morning. It is an open question whether the action of the parotid secretion and also that of these glands may not be normally acid for a short time before rising; whether this transient acidity is due to the same acid or acids that are present in the pathological conditions named is not known. Treatment, where the disease is simply a local manifestation of an undetermined constitutional condition, we can give alkalies as these at least diminish the local effects upon the teeth, though this treatment may be only palliative.

In those cases where the disease is evidently due to an overworked condition of the patient, as is frequently the case in nervous children, these alkalies are of great value, as they improve the condition of the digestion. A large number of cases of ptyalorrhœa of this kind have been cured in a few months by this treatment. In other cases where gout is responsible for the trouble this treatment is also of value.

Local Treatment. This should consist of the daily use of astringent and alkaline mouth washes. Where the disease is evidently local and confined to a few glands these may be partly broken up by tattooing, or the use of electrolysis may be suggested.

FUNGI FOUND IN THE HUMAN MOUTH.

Miller[5] has found twenty-two fungi in the human mouth. Ten of these are micro- or diplo-cocci. Five are bacteria, and six are bacilli. In liquid media three develop into leptothrix, one into spirilli; eight are motile, while only three have been seen to form spores; the others multiplying only by division. Ten are strictly ærobian, four not strictly ærobian, and eight grow equally well without air. Sixteen produce an acid reaction in beef extract and in sugar; four produce alkaline reaction. In all cases where the acid produced was tested it was found to be lactic acid. His conclusions are, that a great majority of the fungi found in the human mouth are capable of producing acid from cane or grape sugar but in non-fermentable substances the reaction produced is alkaline. In those cases where the fungus produces both an acid and an alkaline reaction there are two processes going on. first the nutrition of the organism accompanied with an alkaline reaction; second, the fermentiveaction accompanied by acid products. A large number of these fungi possess a peptonizing action which accounts for the solution of the dentine after it has been decalcified.

Any of these fungi that can produce acid by fermentation of carbo-hydrates, or can dissolve the decalcified dentine may aid in the production of caries, while only those which combine both of these properties, can produce the disease. A solution of dentine or enamel without previous decalcification cannot take place. The comparative or complete independence of air of many of these germs explains why caries can go on under fillings or deep in the cavity of a tooth. The fact that teeth form such poor culture substrata for schizomycetes is an additional proof of the position that they are not the primary cause of caries which is produced by acid resulting from the action of these organisms on certain carbo-hydrates in the mouth.

D.

NITROUS OXIDE DANGEROUS.[6]

Nitrous oxide should never be given pure, as, though it may not produce death, there are many concomitant accidents. Among those mentioned are, first, death of the fœtus in a young woman enciente five months, who had taken the gas to have a tooth extracted. Second, several cases of albuminuria. Third, numerous cases of suppression of the menses.

ALKALIES FOR SENSITIVENESS OF THE TEETH.[7]

If bicarbonate of potash is given in doses of five grains three times a day the sensibility of the teeth in excavating them is much diminished.

IODOL.

Among the new antiseptics, this drug has been useful in treating dead pulps and as an injection in Rigg's disease.

NAPELLINE IN ACUTE PULPITIS.[8]

Napelline was given in granules of one-twelfth of a grain, repeated every fifteen minutes. In each of the cases the pain ceased after five or six doses had been given.

NAPTHOL.

B. napthol is superior to carbolic acid or creosote as an injection into the sac of an alveolar abscess, and as a dressing for suppurating pulps. Its comparative freedom from odor and the absence of unpleasant after-effects if it comes in contact with the gums or lips are strong points in its favor.

AMALGAM FILLINGS.[9]

Fletcher says mercurial poisoning may occur where a plug is made with the grossest carelessness and an immense amount of uncombined mercury, though he has never seen a case in twenty years practice. But this, even if it does occur is a proof not that amalgam is in fault but that the dentist is not acquainted with the material he is using. Any dentist who will put in a filling saturated with uncombined mercury had better discontinue practice till his education is more complete.

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[5] In Ind. Pract., page 283, 1885.

[6] Lafont in South. Dent. Journ., page 75, 1886.

[7] Abbot in Dental Practitioner, page 54, 1886.

[6] Grognot in South. Dent. Journ., page 388, 1885.

[9] In Am. Journ. of Dent. Science.

AMBROSIA ARTEMESÆFOLIA AS A HÆMOSTATIC[10].

Several cases are given in which a decoction of the fresh leaves used locally and taken internally stopped the bleeding when other remedies had failed. No exact directions are given.

PILOCARPIN IN TOOTHACHE.[11]

A solution of two grains of the drug in one ounce of water was used. This was injected into the temporal region on the side of the neuralgia from the teeth. In one case a quarter of a grain was used, in two others one-eighth of a grain.

In all the cases the pain disappeared in about an hour after the injection.

ARSENICAL TREATMENT OF THE TOOTH PULP.[12]

The usual length of the time that arsenic has been allowed to remain in contact with the tooth has been a few hours only. Then, if as usually happened, the pulp was not dead, the application was renewed as many times as was necessary to produce this result. Morsman thinks the arsenic should remain in contact with the tooth until the pulp is killed even if it takes a month. He claims that there is no danger in this, as the arsenic is never absorbed.

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Reports of Societies.

PENNSYLVANIA STATE SANITARY CONVENTION.

UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH.[1]

FORCED VENTILATION, VS. NATURAL VENTILATION BY HEAT

was the title of the paper read by Mr. Russel Thayer.

THE DRAINAGE AND SEWERAGE OF CITIES AND TOWNS

was considered by **Col. George E. Waring, Jr.**, of Newport, R. I.

THE INFLUENCE OF OVER-WORK IN THE PRODUCTION OF NERVOUS DISEASES AND INSANITY,

by **Dr. Charles K. Mills**, of Philadelphia.

The speaker remarked that over-work was capable of producing the most serious disorders of the nervous system. Just as over-work of a certain set of muscles may lead to exhaustion, so over-work of the mental faculties may exhaust the higher brain centres. There are three periods at which over-work is liable to prove injurious; first, during the educational process of childhood and youth; second, at the time of the greatest struggle for existence, from thirty to forty years of age; and third, beyond middle age in men who are compelled to assume responsibilities for which they are not fitted.

In regard to insanity there are many forms which are distinctly attributable to over-work, associated with emotional disturbance. The most frequent forms are paretic dementia or general paralysis of the insane, primary dementia, and what is called confusional insanity. There is another form which occurs in business men and is often seen in those actively engaged in politics which has been termed by some political insanity.

In a paper on

DEFECTIVE VISION IN SCHOOL CHILDREN,

Dr. P. D. Keyser, of Philadelphia, described the various forms of defective vision, their causes and the means by which they could be remedied.

The closing paper of the day was on

VACCINATION,

by **Dr. William M. Welch**, of Philadelphia.

No discovery has mitigated so much suffering and saved so many lives as that of Jenner. The history of vaccination was then referred to. In regard to the comparative value of bovine and humanized vaccine, the speaker said that there was really no difference between bovine and recent humanized virus, but as regards long humanized virus there is considerable difference. With the latter virus, the period of incubation and the length of the vaccine disease is shortened, and while it does protect, it is doubtful whether the durability of the protection is so great. On account of the more rapid action of long humanized virus, it is preferable where vaccination is performed after exposure to small-pox. In such cases, bovine virus does not give the same results. Bovine virus is usually to be preferred on account of the improbability of conveying diseases by it and for the reason that it is always procurable, and if necessary, can in time of need be obtained in large quantities. The necessity for re-vaccination was insisted upon.

EVENING SESSION.

WATER SUPPLIES OF TOWNS AND CITIES,

by **Charles Smart, M.D.**, Major and Surgeon, United States Army.

He spoke of the danger attending the use of contaminated milk as favoring the development of typhoid fever and other affections.

Various statistics with reference to the mortality from typhoid fever in various cities. The rates per 100,000 of population is as follows. New York, 21; London, 17; Boston, 38; Cincinnati, 44; Brooklyn, 15; Philadelphia, 64. The high death-rate in Philadelphia would lead to the suspicion that the drinking water was contaminated.

THURSDAY.— MORNING SESSION.

Dr. John M. Keating, of Philadelphia, read a paper on the

ARTIFICIAL FEEDING OF INFANTS.

The subject being so extensive, the author devoted himself simply to a consideration of infant feeding during the first year of life. The very large mortality among infants, according to the latest census reports, occurs during the first year. The figures presented show that there is, in reality, no such thing as the dreaded second summer. This fact points to the necessity for some definite improvement of the diet of infants of that period.

Concluded from page 519.

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[10] Hill in Ohio State Journ. of Dent. Science, page 479, 1885.
[11] Kuszakoff in Dent. Register, page 150, 1886.
[12] Morsman in Am. Journ. of Dent. Science, page 453, 1886.

The milk foods were first considered. Cow's milk was regarded as the best, and it should be prepared to resemble, as closely as possible, mother's milk. The importance of a careful analysis of milk was then shown, but at the same time, scientific rules must not be too closely followed. Individual peculiarities show themselves very early in life. In using cow's milk, the proportion of casein must be diminished, and the amount of cream and sugar, and of bone-forming material, must be increased. The bone-forming material may be increased by the addition of lacto phosphate of lime. This is preferable to lime-water. In the artificial feeding of infants, where cow's milk cannot be employed, condensed milk, or partially-evaporated milk, without cane sugar, is to be preferred. In using condensed milk, it should be used in the strength of one part to ten or twelve of water. For every eight ounces of this mixture, two tablespoonsful of cream are to be added. This would represent pretty closely mother's milk, with the exception that cane sugar takes the place of grape sugar. It is well to add a portion of lime salts. The various farinaceous foods were then taken up, and considered at length.

THE WATER-SUPPLY OF PHILADELPHIA

was considered by Dr. J. Cheston Morris, of Philadelphia.

AFTERNOON SESSION.

Dr. W. S. Ross, of Madisonville, read a paper on

DISPOSAL OF HUMAN EXCRETA BY FIRE.

He described an apparatus which he had devised, by which the solid excreta could be collected, and burned at intervals.

In the absence of Dr. Alfred L. Carroll, his paper on

THE FINANCIAL ASPECT OF SANITATION

was read by Dr. Joseph F. Edwards.

THE SANITARY SIGNIFICANCE OF SPORADIC TYPHOID FEVER,

by Pemberton Dudley, M.D., of Philadelphia.

The object of the paper was simply to call attention of the public to facts well known to physicians. He insisted that in all cases, the disease was the result of filth. He emphasized his remarks by the relation of several instances.

Dr. Henry Hartshorne did not think that we are justified in assuming that in all cases, typhoid fever was the result of filth. He referred to cases where it seemed impossible to trace the transmission of the disease to any other person, or to filth. Whatever may be the actual cause of the disease, filth is, at least, one of the most active promotive causes.

Dr. A. N. Bell, of New York, insisted on the necessity of examining the history of all houses before moving into them. He referred to the danger of closets, without they were freely ventilated.

Dr. W. L. Zuill, of Philadelphia, read a paper on

THE CARE OF ANIMALS IN THE PROPAGATION OF VACCINE.

For this purpose, he prefers female animals of sixteen to eighteen years of age. Before the vaccination, the animals are brought into a condition of perfect health. The color of the animal is important. A red and white coat is the best, as indicating a soft skin.

The method of operation, and the treatment of the animal, subsequently was treated of at length. In regard to the means of preserving virus, the ivory points were considered the best. They should be doubly charged.

He presented a sample of glycerinized virus. In preparing this, the pure lymph is collected in a spoon, and transferred to a vial. An equal weight of glycerine is then added, and the mixture filtered. Thus prepared, the lymph remains active for a number of months.

Dr. W. F. Hyer, of the Mississippi State Board of Health, described the origination of the Mississippi State Board of Health.

The following papers were read by title:

THE PREVENTION OF THE SPREAD OF SCARLET FEVER,

by Dr. W. W. Vinedge, of Lafayette, Indiana; and

THE INFLUENCES OF DIET ON HEALTH,

by Dr. A. K. Hills, of New York.

The Convention then adjourned.

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THE AMERICAN LARYNGOLOGICAL ASSOCIATION.[1]

Prof. Joseph Leidy, of Philadelphia, on the invitation of the Council, made some remarks on

INTERESTING POINTS CONNECTED WITH THE LARYNX,

as follows:

The first point to which I shall refer is the aperture of the larynx. This aperture communicates with the pharynx, and is a large oblique opening, bounded above by the summit of the epiglottis and laterally by the aryteno-epiglottidean folds. The lower portion is formed by the notch of the arytenoid cartilages. Laterally on each side, two eminences are quite prominent in the fresh larynx, an upper pair and a lower pair. The lower pair is produced by the corniculæ of the larynx which terminate the summits of the arytenoid cartilages. The text-books state that immediately above these there is another pair of cartilages. These are the cartilages of Wrisberg. In my experience, I have rarely found these cartilages decidedly developed in the white subject. Where a prominence exists in the white subject, it is caused by a group of glands. Often in these a little cartilage may be found. In the negro, the cartilages of Wrisberg are conspicuously developed. This point has also been referred to by European observers.

The next point refers to the vocal cords, as they are usually designated. These are described as two elastic ligaments extending from the entering angle of the thyroid cartilage directly backward and upward to be attached to the vocal process of the arytenoid cartilage. Between these cords is the narrowest portion of the larynx, or the fissure of the glottis. While physiological it is correct to speak of the vocal cords, yet anatomically it is not correct to speak of vocal cords. These bands are usually spoken of as the inferior thyro-arytenoid ligaments. There is another ligament extending between the thyroid and cricoid cartilage in front and extending back to the base of the arytenoid cartilages. This is described as the middle crico-thyroid ligament. This is connected with the upper border of the vocal membranes. This connection is very important. If the cricoid cartilage is broken or crushed, it must influence the action of the so-called vocal cords, for the vocal membranes are connected quite as much at the lower border to the cricoid cartilage as they are at the upper border of the thyroid cartilage.

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[1] Continued from page 521.

The vocal cords are influenced altogether by the muscles attached to the arytenoid cartilages. These are supplied by the inferior laryngeal nerve. Another muscle which may influence the movements of the vocal membranes is the crico-thyroid. This is supplied by a separate nerve, the superior laryngeal. Why this muscle should be supplied by a different nerve has not been satisfactorily explained. The muscles which operate the arytenoid cartilage are the posterior crico-arytenoid, the lateral crico-arytenoid and the arytenoid muscle. These muscles are sufficient to produce all the movements of the vocal membranes. Other muscles, that is to say the aryteno-epiglottidean and the thyro-epiglottidean muscles, have been described, but in my experience the development of these muscles is exceedingly uncertain.

Another point is in regard to the connection of the muscles. In looking at the origin of muscles we usually consider that they are attached to the surface over which they lie; for instance we look upon the posterior crico-thyroid as arising from the posterior lateral surface of the arytenoid cartilage. If the muscle is cut across, we find that it arises only at the most remote portion of this surface. Between this and its insertion there is a smooth surface.

These are, I believe, all the points I have to present.

A vote of thanks was tendered Prof. Leidy for his communication.

DISCUSSION.

Dr. J. Solis Cohen, of Philadelphia. In regard to the cuneiform cartilages, I have noticed that these are best developed in those who have the best control over their voice. I have regarded them as supports for the ventricular bands, supporting them in the same manner as the rib supports the tissue of an umbrella. The connection of the crico-thyroid membrane with the vocal cords is very interesting. There are two supposed paralyses of the larynx which present exactly the same picture. One is the paralysis of the thyro-arytenoid muscle, giving the Indian-bow paralysis of the Germans, the other is paralysis of the crico-thyroid muscle, giving exactly the same appearance. The way to distinguish these paralysis is by placing the finger on the crico-thyroid membrane. If the membrane vibrates when the patient speaks, the crico-thyroid muscle is not paralyzed. With reference to the action of the crico-thyroid muscle in phonation, the thyroid cartilage is fixed and when the attempt to sound high notes is made the cricoid cartilage is drawn up by this muscle. The posterior crico-thyroid muscle from its attachment, not only separates the vocal bands, but when they are made tense by other muscles, its action is to increase their tension.

Dr. F. I. Knight, of Boston. The demonstration of the attachment of the vocal bands to the cricoid cartilage solves the problem in regard to the impairment of voice after laryngotomy. When operations are limited to the thyroid cartilage, the voice is usually not impaired, while if the cricoid cartilage is the seat of operation the voice is always impaired.

Dr. F. H. Hooper, of Boston. I have been especially interested in what has been said with reference to the cartilages of Wrisberg. Only a short time ago an Irishman, fifty years of age, in whom these cartilages were enormously developed, came under observation. His larynx looked very much like that of the dog. In the dog, there is a muscle attached to these cartilages, corresponding to what we would call the dilator vestibuli laryngis in man. If this muscle in the dog is stimulated, the cartilage is rotated outwards. I agree with Dr. Cohen with reference to the action of the crico-thyroid muscle.

Dr. Joseph Leidy. I have never been able to see that the crico-thyroid muscle was related to the other muscles in the production of sound. I am glad to hear the explanation of its action which has been given, which appears to be a satisfactory one.

Dr. J. N. Mackenzie, of Baltimore, exhibited an instrument for fracturing the nasal septum, the chief difference from other instruments of the same class being the great leverage which was obtained.

Dr. Carl Seiler, of Philadelphia, exhibited an apparatus to be used in making sections of frozen heads. Sections made with the machine were exhibited. It is possible to electroplate these sections, which will preserve them indefinitely; after electroplating, the specimen may be heated and the tissue removed in this way. Then by pouring wax into the mould a cast exhibiting all the anatomical features of the original specimen will be obtained.

Dr. C. E. Sajous, of Philadelphia, presented a galvano cautery handle, in which the wires were attached in the middle of the instrument, and both the wires and the electrodes were secured without the use of screws. The connections within the handle were made of copper and heavier than usual in order to diminish the resistance.

Dr. J. H. Hartman, of Baltimore, exhibited a form of ecraseur with extremities of different shapes which could be used for various purposes.

The President announced the following as the Nominating Committee: Dr. T. R. French, of Brooklyn; Dr. F. I. Knight, of Boston, and Dr. G. W. Major, of Montreal.

Adjournment of morning session.

FIRST DAY.— AFTERNOON SESSION.

The first paper was entitled.

CONCERNING THE POSITIONS OF PARALYZED VOCAL BANDS,

by **Dr. F. H. Hooper**, of Boston.

The paper was in part based on experimental work done in the physiological laboratory of the Harvard Medical School, and in part theoretical. Specimens and drawings illustrating certain points, were shown. The reader stated that it was his purpose to inquire into certain influences which might combine to determine the positions of paralyzed vocal bands and to ask whether we are always justified in assuming that a given position of an immobile vocal band was indicative of the arrested function of this or that muscle of the intrinsic laryngeal group. The speaker thought that a vocal band might assume different positions in cases of complete paralysis of the recurrent nerve, and he passed in review certain anatomical factors and physical causes which he thought might contribute towards producing the position which might happen to be present when seen reflected in the laryngeal mirror.

Dr. Hooper concluded by saying that in his judgment the larynx is such a complicated organ anatomically, it is subject to such changes at different stages of life, its shape is so different in different individuals, its nerve supply is so great, the arrangement of its muscles so liable to anomalies, that as surely as one attempts to formulate theories on the positions alone of paralyzed vocal bands,—positions which may be controlled by intrinsic muscles of the larynx that are not paralyzed, as well as by those that are,—just so surely will one be led unconsciously into erroneous mental inferences.

The next paper was by Dr. J. Solis Cohen, of Philadelphia, and related the further history of a case of paralysis of the posterior crico-arytenoid muscles presented at the first meeting of the Association in 1879, with a report of the autopsy and the exhibition of a specimen.

The history of the case was briefly given as follows: A man aged forty-eight years was brought to me with a history that for two years he had suffered from occasional spasm of the larynx so that on at least two occasions he had fallen unconscious in the street. When a boy, he had suppurative inflammation of the left ear, and ever since then, the introduction of the finger into the ear would produce spasm of the glottis. On examination with the mirror, I found what we then considered to be the picture of paralysis of the left posterior crico-arytenoid muscle. The examination produced spasm on the other side. The patient was directed to carry with him nitrite of amyl to be used when the attacks came on. This he did for awhile with good results. He subsequently returned with the statement that the day before he had had a severe spasm from tickling in the ear. While illustrating this he had a violent attack in the office, requiring the use of chloroform to relieve it. The next day tracheotomy was performed. No other lesion could be found at that time. The spasms were still produced by irritation of the ear. Five or six weeks later, he began to have paralysis of the right vocal band. The picture then became extreme, and after this time I never saw the larynx in any other position. The man gradually became blind and developed other symptoms of locomotor ataxia. During the four years preceding his death I did not see him, but during this time, he continued to wear the tube. He was able to speak well without occluding the tube. With the condition of abductor paralysis, I think that there was a condition of spasm of the abductors.

At the autopsy all the parts that could be available in the examination, were removed and submitted to Dr. William Osler, for examination. No abnormal appearance was discovered in the brain. The optic nerve was small, grayish white, and atrophied. Many microscopical sections were made of various parts. The left recurrent nerve seemed natural although it will be remembered that the left cord was the first affected. The right recurrent showed a distinct line of demarcation between the healthy and the unhealthy fibres. Instead of the right muscle being atrophied, it was the left muscle which had undergone wasting.

THE FUNCTIONS OF THE RECURRENT LARYNGEAL NERVE,

by Dr. Frank Donaldson, Jr., of Baltimore.

The speaker first referred to the fact that all the muscles, with the exception of the crico-thyroid are supplied by the recurrent laryngeal nerve. The nerve therefore contains fibres controlling both phonation and respiration, acting both upon the abductor and upon the adductor muscles. He then referred to the experiments performed by Dr. Hooper, of Boston, the results of which had been presented at the last meeting of the association. Dr. Hooper had found that the constrictors cease to act when consciousness was suspended by the action of ether and that abduction with dilatation of glottis was obtained by stimulating the recurrent laryngeal nerve when consciousness was suspended. Dr. Donaldson's experiments were made to test the correctness of these results. In five experiments under states of deep narcosis, slight narcosis, and almost complete consciousness, he invariably got adduction of the vocal bands under the application of stimuli with the induction coil at ten. In one case in which consciousness had been suspended, under slight stimulation, abduction was produced, while under strong stimulation, adduction was obtained. It was then found that abduction was always produced when weak currents were employed, but adduction was obtained when stronger stimuli were used. He therefore concluded that the constrictors did not cease to act during profound narcosis or in suspension of consciousness from any cause, and that abduction is not always obtained when consciousness is suspended. It is with weak currents that abduction is produced, but as the stimulation is increased, adduction takes place.

DISCUSSION.

Dr. Hooper. I personally feel very much indebted to Dr. Donaldson for having taken up this work, for it is only by getting many interested in the subject, and bringing forth their results and comparing and criticising them, that we can ever hope to arrive at the truth. The reader has prepared his paper in the friendliest spirit towards myself, but it would have been more gratifying to me if he had read my paper on the Respiratory Function of the Human Larynx with closer attention and then quoted me correctly and accurately. I object very strongly to the wholesale manner I have been misrepresented, yet I recognize that it was unintentional on the part of Dr. Donaldson. He very oddly got the idea from reading my paper that none of my experiments had been verified. If such had been the case the paper would never have been presented to this Association. Dr. Donaldson has laid great stress upon what he calls my theory of the innervation of the larynx. I was not aware before that I had a theory on the subject. In my paper of last year I detailed the results obtained from certain experiments, and in passing, offered more as a suggestion than anything else, that they might be explained in a certain way. The reader has expressed agreement with me upon one point in which I least expected support, and has disagreed with me upon points that admit of no doubt, and are so firmly established by repeated experiments, that I am convinced that the reason why Dr. Donaldson failed to confirm my observations was due to some error in his method of experimentation. If Dr. Donaldson will give me the pleasure of seeing him in Boston, the phenomena which his (perhaps) hasty experiments failed to show him, will be demonstrated to him with ease, and repeated as often as he may desire. Again, in regard to another small oversight, the reader declared that I said that I had observed the same effects with morphine, chloral, and chloroform, as with ether. I never made such a statement. I understand, with regret, that the reader's paper is to appear in the July number of the *American Journal of the Medical Sciences* as it now stands, containing so many inaccurate statements.

Dr. F. I. Knight, of Boston. We must bear in mind that these experiments have been performed upon lower animals, and not upon man, and even if a certain unanimity of opinion is reached, we shall have to adapt these results to the case of man by clinical and pathological observation. It does not follow that the same mechanism takes place in the opening and closure of the glottis in man as in the lower animals. Although stimulation of the transversus muscle produces approximation of the cord, still, in considering the articulation of the cartilages it has always seemed to me that there must be some other factor, and that the lateral muscle is stimulated at the same time.

In regard to abductor paralysis, I think the whole question should be decided upon the position of the vocal process without any reference to the cord. If the vocal process is found in the median line, it is fair to assume that for some reason the function of the abductor muscle has been abolished. A good deal of difficulty has been experienced by observers in determining when the vocal process is in the median line. To me the crucial test is by phonation. If you get a vertical glottis on phonation, without any movement of suspected cord, you have a sure case.

With reference to the question of spasm, it seems absurd to me to consider these cases of what we call abductor paralysis, as cases of spasm. Whoever heard of a muscular spasm lasting for years without any relaxation? I do not believe that it is possible. I do not refer of course to what is called by surgeons muscular contraction, but to real spasm which in the cases that I have seen has been more or less intermittent and not perfectly continuous.

Dr. S. Solis Cohen, of Philadelphia. In reference to the question of spasm, I can show several cases in which there is constant spasm as the result of an irritative lesion. In a case of injury of the spine, resulting in pressure of the cord, there is spasm of the extensor muscles on one side and of the flexors on the other. I think therefore that the point is not well taken.

It is important to distinguish between the automatic (respiration), the reflex (cough) and the psychic (phonation) functions of the larynx. A well-known physiological law is that the resistance which a nerve offers to the transmission of nervous force is inversely as the use made of the muscle which it innervates. No muscle is used more than the abductors of the larynx. The resistence of their nerves would *a priori*, then be supposed to be the least, and Dr. Donaldson's experiments show that they respond to a weak stimulus. The phonatory muscles are not so frequently used, the resistance of their nerves, though low, is higher than that of the respiratory fibres. The respiratory impulses traverse the nerve continuously and additional stimulation, whether reflex (irritation of the superior laryngeal), producing cough, or psychic for purposes of phonation produces adduction of the vocal bands. There is a local centre in the medulla, the vaso-accessorius nucleus for all the laryngeal muscles. Moderate stimulus from the respiratory centre opens the glottis for respiration, increased stimulus opens it farther, a greater increase save by reflex irritation, closes it for cough. An impulse from the cerebral cortex, the centre of voluntary motion closes it for speech.

LARYNGEAL VERTIGO,

by Dr. F. I. Knight, of Boston.

A number of cases of what is called laryngeal vertigo have been reported by various authors. The distinctive feature of these cases is that attacks of coughing are followed by giddiness and momentary loss of consciousness. This latter symptom was present in all but two cases. While it is probable that attacks of dizziness after coughing are not rare, yet but little attention has been paid to the subject. The writer had been able to find fourteen published cases. To these he was able to add two coming under his own observation. The first case was that of a man, aged forty-two years, who had a chronic bronchitis of one year's duration. He had had rheumatism when fifteen years of age, and on one occasion had suffered with insomnia. No morbid condition of the heart was detected. The chest was filled with sonorous and sibilant râles. Under the use of iodide of potassium there was gradual improvement. After a day of worry and fatigue, he had a cough followed by loss of consciousness. There was no evidence of spasm of the glottis, and no convulsive movements. He never had another attack of loss of consciousness.

The second case was that of a lady, forty-seven years of age, who had previously been the subject of attacks of dizziness, the result of indigestion. She had suffered with winter cough for a number of years. During one attack of coughing she lost consciousness. During this time there was congestion of the face.

The following points were obtained from a study of the reported cases. All the cases with the exception of one have been in males. The average at which the attack has occurred has been forty-seven and one-half years. The cough which induced the attack was slight in six cases, spasmodic in two and severe in three. Momentary loss of consciousness occurred in fourteen cases. One case felt, but declared that he had not lost consciousness. Dizziness is mentioned in eleven cases. In four cases there seems to have been decided evidence of laryngeal spasm. In one this was doubtful. In four cases there was marked congestion of the head and face. In two the patients were pale. Convulsive movements of the limbs occurred in three cases: in one the movements affected the face and head, and in another the face. In all these cases there was no biting of the tongue, no frothing of the mouth, and no involuntary micturition. The speaker objected to the term laryngeal vertigo. There probably is no real vertigo in these cases in the sense of the vertigo seen in aural vertigo. There is simply giddiness or lightness of the head. These cases can not be considered to be instances of petit mal.

The cause of the attacks is disturbance of the cerebral circulation, perhaps due to the compression of the large bloodvessels of the chest and perhaps the heart. Even without this, the effect of rapid breathing is well known. This causes marked cerebral disturbance.

A CASE OF CONGENITAL DEFECT OF THE EPIGLOTTIS. ILLUSTRATING A FUNCTION IN DIGESTION,

by Dr. Frank Donaldson, of Baltimore, was read by title.

BUCCAL TUBERCULOSIS,

by D. Bryson Delavan, M.D., New York.

He had seen six cases of this affection. In the reports of twenty-four cases of tuberculosis of the tongue, in all but one the subjects were male. In twelve cases the lesion was anterior, in seven upon the side and in one at the base of the tongue. In four the situation was not stated. The disease was primary in nine case, secondary in seven cases, in the remaining cases it was not stated whether the disease was primary or secondary. The longest duration of a case of primary tuberculosis was two and one-half years, the shortest ten weeks. The age of the oldest person affected was seventy years, and of the youngest not under twelve.

The first case coming under the speaker's observation was H., aged thirty-five, a laborer. His family history and previous history was good. The man was remarkably robust. Six weeks before coming under observation he experienced pain at the base of the tongue. This pain became excessive, and at the end of two weeks was obliged to give up work. On examination a fissured and ulcerated surface was found at the base of the tongue on the right side. This lesion was indurated. In the centre was a large ulcer with large, flabby granulations. On the right side, externally under the angle of the jaw was a hard tumor about the size of a chestnut. There was slight fetor of the breath. The diagnosis was uncertain. The pain was so severe as to prevent sleep. An application of a four per cent. solution of cocaine, checked the pain for five hours. The patient's condition became so serious that he was removed to the New York Hospital where, under the idea that the disease was epitheliomatous, the complete removal of the tongue was made. The patient recovered rapidly from the operation and there was marked improvement in the general condition. It has been impossible to find any evidence of disease of the lungs or other internal organs. On microscopic examination all the parts present abundant tuberculous material. A point of interest in this case is that this is the first case on record in which such an operation has been followed by an apparent cure. Of course sufficient time has not elapsed to speak positively as to the ultimate result. The operation was done in the latter part of December, 1885.

In a second case of tubercle of the tongue, the patient, P. O., age twenty-seven, gave no history of hereditary tuberculosis. Began to run down two years ago and developed chronic laryngitis. When examined he presented evidence of advanced tubercular disease. The larynx was ulcerated. There was also a lesion on the right tonsil and one on the left. The pain on swallowing was severe. Iodoform gave but little relief. Temporary ease was given by cocaine. An application of lactic acid was made to the right tonsil and two days later it was much improved; this was repeated and the improvement continued for two weeks, when the patient began to run down and died. The bacillus tuberculosis was not found, but the man had evident pulmonary tuberculosis.

The third case was that of a man, aged forty-three. Family history good. No history of specific disease. He was well until ten months ago when his strength began to fail and cough came on. Two months ago the throat began to grow sore, and within the last two weeks this has increased. Careful examination of the chest failed to reveal any evidence of disease. Examination of the fauces showed ulceration extending out along the upper border of the uvula. Later the signs of pulmonary involvment became evident. Applications of lactic acid gave only temporary benefit. In this case, the disease has extended along the gum.

Three other cases of somewhat similar character were reported.

DISCUSSION.

Dr. E. L. Shurley, of Detroit. In these cases of so-called primary tuberculosis, mistakes of diagnosis are sometimes made. We do not diagnose the presence of other lesions when we should, and sometimes we diagnose as tubercle that which is not. I am not sure that the bacillus can be regarded as an absolute evidence that the disease is tubercle. In one case which I considered to be a case of tubercle of the larynx and in which the bacillus tuberculosis was found, the patient recovered and is still living five or six years later. There was never any evidence of a pulmonary lesion. In another case in a woman, under the most favorable conditions for the development of tuberculosis, the bacilli were found in an abscess at the base of the tongue. The patient, however, recovered and is still well.

In the treatment of this condition the part should not be excised, but some treatment which will destroy the part should be advised.

Dr. J. Solis Cohen, of Philadelphia. I recall a case of tuberculosis of the tongue, in which I removed one-half of the organ with the galvano-cautery. There was in this case tubercle of the larynx. Within a few months I have had a case of what seemed to be tuberculosis of the lungs and larynx sent to me. I have been unable to detect the bacilli. This case is notable for the entire absence of pain. I found on examining the urine that it contained sugar, since then I have been in doubt whether or not this might not be a case of diabetic phthisis, and this might account for the peculiar manifestations.

Dr. J. O. Roe, of Rochester. I have had no case of what seemed to be tuberculosis of the tongue, which I did not consider secondary. I have had two well-marked cases of primary tubercle of the pharynx. The first case was that of a lady thirty-five years of age. Six months before coming under observation she suffered great pain in the throat. A well marked lesion was found above the border of the epiglottis and at the base of the tongue. This improved under local treatment. Subsequently the ulceration returned, the patient ran down in health, and died. The larynx was entirely free from ulceration. The second case was a gentleman, forty-five years of age, who had tuberculous ulceration of the pillars of the fauces. Later ulceration of the larynx developed. Under the persistent application of iodide of amyl continued for some time the patient recovered and is still well, weighing 225 pounds.

Adjourned.

FRIDAY MORNING.— MORNING SESSION.

At ten o'clock the executive session was held and the following business was transacted.

The following officers were elected:

President, Dr. E. Fletcher Ingals, Chicago.

First Vice-President, Dr. E. Carroll Morgan, Washington.

Second Vice-President, Dr. J. N. Mackenzie, Baltimore.

Secretary and Treasurer, Dr. D. Bryson Delavan, New York.

Additional Member of the Council, Dr. F. H. Hooper, Boston.

The following active members were elected:

Dr. Benjamin F. Westbrook, Brooklyn; Dr. Frank Donaldson, Jr., Baltimore; Dr. Alexander W. MacCoy, Philadelphia; and Dr. J. C. Mulhall, St. Louis.

Prof. Ranon De la Sota Y. Lastra, of Seville, Spain, was elected a corresponding Fellow.

A proposition in reference to the formation of a Congress of American Physicians and Surgeons was received. The proposition was approved, and the following committee taken from the ex-presidents of the Society was appointed to confer with committees from other societies: Dr. J. Solis Cohen, Philadelphia; Dr. G. M. Lefferts, New York; Dr. F. I. Knight, Boston; Dr. F. H. Bosworth, New York; and Dr. E. L. Shurley, Detroit.

It was decided to hold the next meeting in New York, the time to be determined by the Council.

The first paper was by Dr. E. L. Shurley, of Detroit, giving

OBSERVATIONS ON THE USE OF SOME OF THE NEWER REMEDIES IN DISEASES OF THE UPPER AIR PASSAGES.

The speaker took up in detail some of the numerous new remedies, and gave the result of his experience in their use.

DISCUSSION.

Dr. J. N. Mackenzie, of Baltimore. Although it has not been mentioned in this paper, I should like to state that I have found the internal use of dioxide of hydrogen of decided value in old cases of catarrh of the larynx and pharynx. I have used it in old cases which have resisted almost all other forms of treatment. I employ a four per cent. solution, giving it in doses of from two to four drachms from four to six times a day. This is kept up for two or three weeks. In a fair proportion of cases the discharge is arrested by this remedy alone.

Dr. S. Solis Cohen, of Philadelphia. I have used the dioxide in cases of phthisis and of laryngeal phthisis, and have observed from it good effects upon the nutrition. One of the effects of the administration of this agent is a remarkable retardation of the pulse rate. In one case this was so distinct as to compel the discontinuance of the drug.

THE SIMPLEST AND MOST EFFICIENT TREATMENT OF DIPHTHERIA,

by Dr. William H. Daly, of Pittsburgh.

The speaker stated that he did not intend to offer a new treatment, nor one which would cure ninety or one hundred per cent. of the cases. He would not discuss the point whether diphtheria and croup were identical. His object was to describe the calomel treatment. This is an old treatment. It is mentioned in the writings of Rev. Sydney Smith. About 1779, Sydney Smith's daughter, when six years old was taken sick with a violent attack of croup; Dr. Hamilton, of Edinburgh, was sent for, but not being able to come sent direction to "give the child two grains of calomel every hour and to persevere. He had never known this to fail." This was done and the child recovered.

The credit of practicing and recommending this treatment in modern times belongs to Dr. William C. Ritter, of Pittsburgh. Of the different forms of mercury, calomel is the best. The drug is to be given in doses of from two to five grains every one, two, or three hours. It may be given dry and washed down with a little ice water, or it may be given in water. This is to be continued until the stools become frequent and contain in them gelatinous masses of a bright green color, resembling chopped spinach. Then the interval is to be lengthened and the drug continued so as to keep up this condition of catharsis, the patient having two or three stools each day. It is better to lengthen the interval than to diminish the dose. In this way there is less liability to induce ptyalism. Very little depression follows these large and frequently repeated doses. Ptyalism does not often occur. Under this treatment the membrane exfoliates and reforms, if at all, with less readiness. The fever diminishes. The diet is to be of a light nutritious character.

The speaker had found it the most efficient of any treatment which he had employed, and was the simplest to use. The cardinal rule in the treatment is to give the calomel until the condition of catharsis described has been produced. Under this method a greater number of cases will be saved than under any other proposed method.

DISCUSSION.

Dr. E. L. Shurley, of Detroit. I have had a large experience with diphtheria and with the calomel treatment. I agree that the internal administration of calomel is one of the most efficient remedies for croupous inflammation, but in regard to its efficiency in the treatment of diphtheria, I cannot agree. The difference between croupous inflammation and diphtheria is considerable. Diphtheria is an infectious disease, while croupous inflammation is not necessarily an infectious process. In my experience, I know of no cases of diphtheria relieved by the calomel treatment.

Dr. Donaldson, of Baltimore. I wish that Dr. Daly had given us some statistics and reported some cases. I have seen the calomel treatment frequently tried, but without success. I saw Trousseau treat cases of diphtheria in that way, but he finally abandoned it. If any mercurial were used I think that the bichloride would be the one to be employed. Under our present view of the nature of the disease, the best method of treatment would probably be the use of a spray of a solution of the bichloride of mercury (1–1000) sustaining measures and keeping the patient in a room where there was free ventilation.

Dr. Beverly Robinson, of New York. There is scarcely a remedy which has not at some time been recommended as a specific for diphtheria. Calomel has been thoroughly used, and finally given up, because it did not accomplish what was proposed. I am convinced that epidemics of diphtheria, as of other infectious diseases, differ very much in virulency, and a remedy which is successful in one epidemic, will entirely fail in another. Another point not sufficiently dwelt upon, as a rule, is that the character of diseases differ much in different countries. I have never seen in New York such types of typhoid fever as I have seen abroad, notably in Paris. I have never seen such cases of malignant diphtheria in the hospitals of New York as I have seen in the children's hospitals of Paris.

I believe that in treatment, it is safer to follow what has been considered by the accurate men of our profession, in large numbers, the most reliable treatment for a disease of this character. There is a general consensus of opinion that the proper line of treatment is disinfection of the throat and air-passages, the use of smaller or larger doses of tincture of iron, combined or not with chlorate of potassium.

DR. F. H. BOSWORTH, of New York. I think that mercury possesses a specific value in the treatment of diphtheria. Diphtheria is a blood poison, which often kills by its toxic effect, but in a greater majority of cases, it kills by leading to the development of croup. The affection of the larynx is not diphtheria, but a sequent disease. While I think that mercury has no effect upon diphtheria, yet I believe that it has a specific effect in arresting the disease in the larynx called croup. I believe that mercury is the remedy to be administered in croup.

DR. J. N. MACKENZIE, of Baltimore. I simply want to call attention to the fact that where, in diphtheria, we have great depression, alcohol should be our sheet anchor.

DR. WILLIAM H. DALY. I am not surprised that this method of treatment has not been received with favor. I did not receive it favorably when it was presented to me. I do not recommend calomel as a specific; I simply say that I have had a greater proportion of successes under this plan of treatment than under any other which I have tried.

THE QUESTION OF HÆMORRHAGE AFTER UVULOTOMY, WITH THE DESCRIPTION OF AN INSTRUMENT FOR ITS ARREST,

by **DR. E. CARROLL MORGAN**, of Washington.

The speaker first quoted from numerous authors, giving their views as to the danger of hæmorrhage after this operation. He then described the following case: A man aged twenty-eight years, whose uvula had been excised five days previously by another operator, came to him with the statement that the bleeding came on four hours after the operation, and had continued at intervals since then, a large quantity of blood having been lost. Various means had been tried to stop the bleeding without success. The parts were covered with a coagulum of the persulphate of iron. This was removed, and the parts cleansed. The bleeding points were then seen. The uvula evidently had been greatly hypertrophied. The scissors had been used in the operation. There was no evidence of the hæmorrhagic diathesis in this patient, or in any members of the family. The parts being cleansed, the stump was seized with dressing forceps and the hæmorrhage was controlled. The galvano-cautery was applied, and the bleeding stopped. In nine hours, it recurred. The cautery was again used, and the stump dusted with the persulphate of iron. The following morning a copious hæmorrhage took place, not less than a drachm a minute by actual measurement, being lost. A careful examination was then made to detect any other source of hæmorrhage, but none could be found. Chromic acid was then used, and the hæmorrhage stopped. At three o'clock the same day, copious bleeding re-commenced; galvano-cautery was again employed. There was not room for the application of a ligature. Torsion was tried without success. A small clamp used in retaining shirt sleeves in position was then taken, the spring weakened, and the teeth filed down; it was then applied. A string was attached to this and brought out of the mouth. This checked the bleeding, and was allowed to remain for several hours. It was then removed, and the bleeding did not recur. A search for the literature of the subject failed to show any instance in which such a procedure had been before adopted. In this case, he thought that this device had saved the patient's life.

A careful study of the subject had enabled him to find seventeen other cases, in which the hæmorrhage after this operation had been profuse. Death has never resulted directly from the hæmorrhage after uvulotomy. Where the bleeding is persistent, it is always arterial in character.

The speaker, in conclusion, said that a fatal hæmorrhage had never followed uvulotomy. A persistent, alarming hæmorrhage is only encountered in the rarest instances. A moderate bleeding, stopping spontaneously, or by the use of the mildest applications, occasionally happens. A loss of a few drops of blood at the time of operating, followed by a slight oozing, is a common occurrence.

The most reliable surgical measures for controlling uvular hæmorrhage, are, ligature, compression by a clamp or forceps, and the use of the actual cautery. The most reliable styptics are in the order named: solid nitrate of silver, persulphate of iron, gallic acid, tannic acid, alum, the local use of ice, and vinegar. The most reliable systemic remedies are opium, acetate of lead, sulphuric acid and ergot.

To the paper was appended an exhaustive bibliography.

The speaker recommended that in operating, the object should be to restore the uvula as nearly as possible to its normal size, and that the entire uvula should not be removed.

DISCUSSION.

DR. F. H. HOOPER, of Boston. I have never seen a bleeding of more than a few drops after this operation. I never cut through the muscle, I merely remove the redundant mucous membrane. It is with me, however, an infrequent operation — about once in 165 cases of throat disease.

DR. FRANK DONALDSON, of Baltimore. I have seen but a few drops of blood after this operation. I think that the uvula very rarely requires to be amputated. The old idea that enlargement of the uvula produces irritative cough, is, I think, erroneous. The principal trouble produced by an enlarged uvula is interference with the proper adaptation of the soft palate during the second stage of deglutition.

DR. WILLIAM H. DALY, of Pittsburg. This operation, if done at all, should be so performed as to leave the parts in as nearly a normal position as possible. Uvulotomy is, however, rarely necessary.

(To be continued.)

— A private letter from Cairo published in the *Albany Medical Annals*, gives an interesting account of the accouchement of a Turkish princess. The "infidel" physician gained access to the case through his reputation as one who gave chloroform in labor. The anæsthetic gave great satisfaction in the harem, and the native surgeon overcame his fears sufficiently to hold the sponge himself towards the end of the labor. The favorable result of the case promises well for the introduction of European physicians and methods.

Medical and Surgical Journal.

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ANNUAL REPORTS OF THE MASSACHUSETTS GENERAL AND BOSTON CITY HOSPITALS.

The Trustees open their report by a reference to the loss which the hospital has sustained in the death of the resident superintendent, Dr. Whittemore. His ten years of service had won the respect and friendship and even the admiration of the officials of the institution.

The resignation of Dr. Hodges has caused the only change in the staff in the period covered by the report. Dr. Hodges has been a member of the surgical staff for twenty-three years, and resigns because private duties no longer allow him to devote his time to hospital service. Many others, who, with the trustees, "have appreciated his untiring and efficient devotion," will join with them in regret that the time has come "when his repeated wish, that his resignation be accepted, can no longer be resisted."

One of the contemplated sanitary towers, containing all the bath-rooms and water-closets for the wards on the north side of the main building, has been completed, and will free those wards from all possible taint from bad drainage. The other tower, which will perform the same service for the wards of the south side, will undoubtedly be built before another year has passed.

The Convalescent Home is increasing its work in a way most satisfactory to the Trustees, but in view of all that is said of the inability of convalescents to find place and opportunity to fully recruit before taking up again the business of life, it seems strange to read that the public do not make as much use of the Home as was hoped for. It was not built solely for patients from the Massachusetts General Hospital, but for convalescents from other hospitals, hotels, and boarding-houses, or from private houses, where quiet and rest, with fresh country air, and good food, could not easily be procured.

In common with most hospitals dependent in part upon voluntary contributions, the trustees suggest the need of further support. The subscription to the free bed fund has fallen off from previous years and money was never more needed for this purpose than now. The average number of patients in the hospital was 167, of which the average number of 150 had free beds.

Among the many tables, showing various financial matters in the management of the Hospital and Asylum, is one giving the expenses of the Hospital and Asylum for twenty-four years. In 1862, the total expenses at the hospital were $42,114.81 and at the asylum $71,823.46: in 1885, they had increased to $112,623.36, and $140,278.86, respectively. The average cost per week per patient had risen from $6.04 and $7.27 to $11.99 and $15.72.

At the hospital the whole number of patients admitted during the year was 2,327, of whom 918 were medical and 1,409 surgical.

The report of the superintendent of the McLean Asylum shows that the average number of patients in the Asylum was 171. Of the admissions during the year 36 were voluntary patients admitted on their own written application. The working of this voluntary plan is proving it to be most useful and satisfactory. The persons who make use of it regard it as a privilege, when feeling the need of care and treatment; and they are glad to avail themselves of its advantages as they thus avoid an examination and commitment which will formally pronounce them to be insane. The report shows that this class of patients contributes a little more than its due proportion to the number and percentage of recoveries.

The training school for nurses occupies the greater portion of Dr. Cowles's report. He is very enthusiastic in its favor, regarded both from the standpoint of the hospital and the nurse. It certainly seems to mark a still further progress in the treatment of the insane.

The record of several post-mortem examinations at the asylum closes the report.

The twenty-second report of the Trustees and Superintendent of the Boston City Hospital is for eight months of the year 1885, from May 1st to December 31st. The hospital year will in the future coincide with the calendar year; hitherto it has dated from the first of May.

The total expenditure for the eight months was $120,375.63, of which about $6,000 was for repairs, alterations, etc. After making other deductions for stock on hand and income from paying patients, a *per capita* cost of $7.64 for the care and treatment of each patient is reached. This is seventy-five cents less than last year, a reduction which is apparent rather than real, being really due to the final payment by the State of past claims for the board of non-resident sick.

The largest number of patients on any one day was 365, against 357 last year; the smallest was 265, against 260 last year. The daily average was 315+, which is 9 more than last year, and 20 more than two years ago. The average length of stay was the same as last year.

The number of patients admitted with accidental injuries was 562. Of all patients admitted, 140 died within 48 hours after admission. The rate of mortality was 10 2-10 per cent. If from the total number of deaths we deduct those brought to the hospital in a dying condition, the annual mortality is reduced from 10 2-10 to 6 5-10 per cent.

During the eight months of the year the benefits of the Hospital have been received by 8,271 persons. Of 3,965 persons examined for admission 736 have been rejected; a proportionately smaller number than last year.

The capacity of the Hospital is now 425 beds. The classification of sexes and the numerous diseases will not, however, under the most favorable circumstances, allow the number to exceed 400 on any one day. When the new wards for contagious diseases are completed 60 more beds will be added, making a total capacity of 485 beds. The buildings for these wards for which an appropriation of $40,000 was voted last year by the city and for which plans were prepared, have not yet been begun. Their completion would not only add considerably to the hospital accommodations, but also to the needed facilities for properly isolating such cases.

The Nurses' Home has been completed and furnished within the year, and occupied since September. It is the largest, and is considered by the Superintendent to be on the whole the best Home connected with any training-school in this country, or perhaps in the world. It has in many ways already justified its erection. There are about sixty nurses attached to the School, and these supplemented by twenty male nurses and twelve ward maids are found to be fully adequate to do the work of nursing.

The crying need of the Hospital is a new building for the Out-Patient Department, a need frequently brought to the notice of the city council. About 45,000 visits are made annually to the various departments for out-patients; and the facilities are totally inadequate for receiving and treating these patients even with a due regard to common decency, to say nothing of the comfort and convenience of the attending medical officers.

This report throws some light upon the alleged abuses of medical charities. In the Trustees' Report we find it stated that: patients are frequently admitted asserting they are too poor to pay for medical attendance, who on scrutiny are found to be amply able to pay at least the cost of their board and care. Patients have been admitted as described who have been found to own unencumbered real estate amounting to $20,000; and in one instance a landlord occupied a "free" bed for several months while his tenants came semimonthly on visiting days to pay their rent.

— A printing contract, said to be the largest on record, is reported to have been made between a New York manufacturer of a nostrum and a Philadelphia printer. The bargain is for 40,000,000 thirty-two-page pamphlets and 400,000,000 four-page circulars, to cost $800,000. Part of the work will be done in Philadelphia, and the remainder in England and Germany.

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY.

The annual discourse, before the Massachusetts Medical Society, delivered this year by Dr. R. M. Hodges, of Boston, is devoted, under the title of "Undercurrents of Modern Medicine," to a brief consideration of several of the most important questions of the day, in the relations of modern medicine and medical men to society and the State. The first part of this discourse, which was delivered yesterday, appears in this issue of the Journal, the remainder will appear next week. It contains suggestions upon the questions presented which are the product of the ripe wisdom of personal experience and observation, suggestions which deserve the careful reflection of those who were present and heard the reader, and of those who have the advantage of making a less hurried acquaintance with the discourse in our printed pages, which it will repay all to do.

In regard to the regulation of the practice of medicine by the State, Dr. Hodges expresses the opinion that the profession, and not the State, must be the guardian of its own interests, and that, if the Commonwealth is to be asked to take a hand in medical affairs, the appeal should be made solely on the ground that, as the State employs medical men for certain purposes, it may properly be asked to define the conditions on which it will accept service. An enactment covering the certification of deaths and the giving of expert testimony in civil and criminal cases should constitute the whole of the State regulation of medicine.

In the matter of the higher medical education the lengthening of the curriculum backwards into the preparatory years, by requiring better qualifications to begin with, is favored. By better qualifications, a familiarity with natural science, especially physiology and biology, is meant; and a satisfactory preliminary examination in those subjects, it is suggested, would be equally indicative of general fitness as, and more indicative of special fitness than, such an examination in the present subjects demanded of candidates presenting themselves for entrance to the Harvard Medical School.

The courses introductory to the study of medicine, which have been established by the Massachusetts Institute of Technology and the Johns Hopkins Medical School, are commended. Compulsory attendance on the same course of instruction for two or three successive years Dr. Hodges would regard as advantageous in certain branches of study, and above all in anatomy. An arrangement of the studies of anatomy, physiology and therapeutics, with maximum and minimum requirements, thus offering prescribed and elective courses in each of these departments, is suggested. The encouragement of competitive teaching, as illustrated by the so-called Extra-Mural School at Edinburgh, is strongly and wisely recommended.

Judicious misgivings are expressed as to the influence upon the practical education of young men which is exerted by the Training Schools for nurses, now so popular and so numerous; and also as to the possible retrogression of these trained nurses in the efficient discharge of the minor duties and drudgery of their occupation, in direct ratio to their advances in special knowledge, formerly the province of the physician.

Specialism and specialists are fairly treated, but the just assertion is made that he who has the most comprehensive knowledge of the human organism and its disorders is, with certain well recognized exceptions, best able to determine what is the matter with any given part of it, and so to help its unlucky owner to recovery, either through his own practical skill, or his ability wisely to select the colleague whose attainments may permit him to deal better with the case than he can.

Dr. Hodges dwells regretfully on the more robust health and quiet life of the earlier generations in New England, the inheritance from which has not yet been entirely squandered, and compares it to the "little health" of the present time. One may fairly suspect that the more rapid elimination of the weak and sickly by the hardships of the rougher life, as well as the absence of the telephone and telegraph, had something to do with the more vigorous type of Yankee of the last century. Be that as it may, we readily accept the pregnant truth of the statement that:

"Among the predominant causes of preventable disease in our own community, there are two exercising an influence in youthful life, and particularly among females, which are as universal as those of specific micro-organisms, and scarcely less pernicious. These are insufficient nourishment, and insufficient rest and repose, or expressed in briefer terms, famishment and fatigue. To counteract these inimical influences is to control, to a great extent, the conditions of life, especially of city life."

We have touched hastily upon a few of the principle points made in this wise and practical discourse, without any intention of discussing them, but solely with the purpose of persuading our readers to study the whole for themselves.

MEDICAL NOTES.

— Sir Henry Thompson is among the noble army of the medical novelists, or, as we might almost say, has gone over to the majority. The neurologist novelists have a fund of experience in their specialty, which is often available for the purposes of fiction. But what Sir Henry finds in his specialty to adapt for such ends, is a matter of curious conjecture. The title of his latest work is announced as "All But." Theories are rife among those who have as yet failed to obtain the book, as to whether the plot turns on a case of defeated catheterization, or of the persistence of residual fragments after a lithotrity.

— A somewhat unusual and ingenious therapeutic device is reported as having been practised in the case of the late Lemuel Walter Sands, a lawyer who died recently in New York city at the age of eighty-seven. It is said that his last case related to the ownership of some real estate that the Astors bought. It was complicated by a will contest, a faultiness of deed and other questions. He became intensely engrossed in it, and declared that when it was off his hands he would be ready to die. He was bent on bringing it to a conclusion. That got to be a passion with him. Therefore his relatives, under the advice of his physician, managed that the end should not be reached. The idea was that if he felt that his final litigation was over he would relax his grip on life. The Astors consented to let the matter lie in abeyance, three Supreme Court judges were kindly parties to the deception, delays were caused, and the belief was that Sands lived several years longer than he otherwise would have done, in consequence.

— The National Board of Health report under date of May 20th, the following particulars gained from consular and other reports, regarding cholera and yellow fever. Reports from Brindisi state that cholera made its appearance in that place April 6, very soon after the arrival of a vessel from India, and it is consequently believed to be a fresh importation of the disease. From April 6 to 24, there were 140 cases and 46 deaths. Sporadic cases have been reported in Osbuni, Measgne, and Campi. The disease made its appearance in Venice about the same date, and to April 24, 30 deaths had been reported. In the city of Padua two deaths of citizens occurred early in the month, and from the 3d to the 9th there were 12 cases and two deaths among the soldiers of one of the regiments stationed at that place. April 27th, one case occurred in another of the regiments stationed at Padua. Four cases have occurred in the province outside the city, and two in the province of Rovigo. Cases have also been reported in Chioggia, Carvarzere, and Lecco. Reports dated April 28, state that cholera has abated in the Department of Finistere. April 3d, there were 16 cases under treatment, on the 9th two, and that no new cases have been reported in Audierne since April 3d. Reports received from Singapore state that cholera prevailed there and in that vicinity during the second and third quarter of 1885. 82 deaths occurred in Singapore, 12 in Penang, and 77 in Wellesly. Cholera is also reported as epidemic in the island of Liamo, northeast of the Celebes. During February 345 deaths from yellow fever were reported in Rio de Janeiro as compared with 160 in January. Of the deaths 205 occurred in private houses and 140 in hospital. A strict quarantine against Brazil is maintained by the neighboring governments.

NEW YORK.

— The programme of the semi-centennial meeting of the County of Chemung, to be held at the Masonic Temple, Elmira, comprises an address by the President, Dr. Albert H. Baker, on "Benevolence and Fraternity in the Medical Profession," an historical sketch of the Society by Dr. Wm. C. Wey, an address by Dr. Truman H. Squire, on "The Advance in Medicine and Surgery for the past Fifty Years," and a poem by Dr. William Woodward, commemorating the occasion. Then follows a banquet at the Rathburn House.

— At a meeting of the New York Chamber of Commerce held June 2d, a special committee appointed to consider the rules and regulations of the Health Officer of the Port of New York, relative to the disinfection of imported rags, reported the following resolutions:

Resolved, That it is the opinion of this Chamber: — I. That invoices of rags accompanied by a certificate of the United States Consul that they were all gathered in a country which, at that time, was, and for at least six months immediately preceding, had been free from cholera or other contagious or infectious epidemic diseases, should not be required to be disinfected, either before shipment or on arrival. In the absence of such certificate, rags coming from a port or country claimed to be free from such diseases, should be disinfected on arrival.

II. That rags gathered in any port or country where such diseases then are, or have been prevalent at any time within six months immediately preceding the shipment thereof, and whether such rags are exported direct or by way of any other port or country, and whether landed or stored therein, or trans-shipped overside to another vessel for re-export, should be prohibited from being landed in the United States so long as any prohibitory order published by the government or Health Officers remains in force, nor when the order is rescinded, should such rags be landed until disinfected on arrival.

III. That quarantine regulations in relation to rags or other merchandise, or the disinfection thereof, should be uniform at all ports of entry in the United States.

The third resolution was amended by adding the words, "and should be under the sole control and management of the United States Government," and the resolutions were then unanimously adopted.

Miscellany.

ALBUMINURIA IN HEALTH.

The view of the not necessarily serious significance of albuminuria, which has received abundant support in recent years, is given still further emphasis by a recent editorial in the *British Medical Journal*, founded on a monograph by Dr. C. von Noorden, of Giessen, on "Albuminuria in Healthy Persons," in the *Deutsche Archiv für Klinische Medicin*. He classes "physiological" albuminuria into three groups. In the first group, the albuminuria is generally found in weakly youths between the ages of puberty and twenty, rarely in children or in adults. The presence of albumen is discovered in these cases, either during clinical statistical researches, or else in persons who send for the medical attendant because they feel faint, weak, or otherwise slightly indisposed. The proportion of albumen differs greatly at intervals of a few hours. It may run up from 0.0 to 0.5 per cent., or higher in a single morning. Rarely, if ever, is the urine continuously albuminous all day. These conditions are very characteristic of physiological albuminuria, and do not exist in any form of nephritis. The urine is pale, clear, and generally, but not always, of high specific gravity. The albumen is always coagulable on boiling. Occasionally, a globulin-like compound has been detected in excess of the serum-albumen. Casts very rarely are found, and if present, they are hyaline, never epithelial. The albumen is always to be found in greatest quantity before noon. In some cases of physiological albuminuria, no abnormal general condition could be found; in others, muscular pains, errors of diet, or mental excitement, have been observed, and assigned as causes of this condition. No evidence of renal disease has ever been proved, nor of altered conditions of the blood. Dr. von Noorden believes that it is more likely due to blood-changes themselves, possibly caused by slight renal disease, than by disturbed filtration in the tubuli uriniferi, as Leube has suggested.

In the second class of cases, mucin is present, as well as albumen. In this class, again, the albuminuria is most marked before noon. The mucin might be derived from the lower part of the urinary tract, or from the kidney itself. The proportion of albumen is very variable and much influenced by bodily exertion. In raw recruits, it is most abundant after heavy drill. Dr. von Noorden believes that this class represents mild vesical catarrh.

The third class of cases, on the other hand, appears to represent slight renal catarrh, insufficient to cause the general and local symptoms of renal disease, just as, in the second, the subjective signs of cystitis are present. In striking contrast to the first class, the albuminuria may last for a whole day and then disappear, or may be found only before noon, yet in regular, but very small, proportions. No mucin can be detected, but hyaline, and sometimes epithelial casts, and even red corpuscles, are generally present.

The first class is evidently the purest kind of "physiological" albuminuria. Yet this term is still questionable, for a trifling amount of disease in the genito-urinary apparatus is a more probable cause of the condition in question than any unusual "physiological" tissue-change, caused by exertions after heavy meals, etc. Physiological albuminuria, then, must be held to imply albuminuria in persons who appear to be otherwise healthy, though local disease is, in all probability, present to an extent insufficient to produce any other symptom.

Correspondence.

REMARKABLE POWER OF REPRODUCTION.

Mr. Editor, — In the *Journal of the American Medical Association* for May 29, the editor makes the following statement: —

"We think it proper to reproduce the general officers of the Congress, the members of the Executive Committee, and of the Local Committee of Management at Washington, and the Presidents of the Sections," etc.

Definition: — "Reproduction. The function by which living bodies produce bodies similar to themselves." — *Dunglison*.

Since the time when the ingenious Mr. Abram Johnson diverted the scientific world with his "*Lucina sine concu-*

bitu," no such surprising feat of generation as the foregoing has been made known. While it is natural to marvel at the capacity for reproduction enjoyed by this aged but still vigorous editor, it is impossible not to feel an almost pathetic interest in the fate of the distinguished gentlemen who are born again. How will they like it? Will they spring into their renewed existence endowed at once with the same learning, skill, and fame which belonged to them in their pristine state? Let us hope so. To be reproduced with *less* were unjust to them and to the Congress, and would be taxing the powers of their reproducer too heavily. Some malevolent persons, it is said, will attempt to depreciate the importance of this interesting phenomenon by asserting that it is not a new phenomenon at all, but only a further manifestation of an old fashioned habit of "successive abortions." Such impious libels upon the latest development of the *new birth*, the simultaneous reproduction of eighty mature physicians in broad-cloth, to which Vishnu's single incarnations were trivial and easy, merit no reply.

The most bewildering reflection connected with this remarkable performance arises from the fact that the potent and fecund editor himself stands first in the list of "officers." Will he then, reproduce himself, and how will he go about it? Let us pause with decent reverence on the threshold of this mystery of autogenesis, and humbly wait for the result of the "general delivery."

Very truly yours, C. C. C.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 29, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	635	238	17.22	14.98	7.56	29.40	1.26
Philadelphia	971,363	353	126	13.44	18.48	.28	5.88	2.24
Brooklyn	690,000	251	102	15.21	12.48	.39	7.80	4.29
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	160	41	8.19	12.60	.63	5.67	—
St. Louis	417,220	160	71	13.86	13.23	1.89	1.26	1.89
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	125	52	18.40	18.40	15.20	.16	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	75	20	3.99	21.28	—	—	—
Pittsburgh	190,000	65	28	12.06	8.04	4.02	—	1.34
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	39	7	12.80	25.60	5.12	5.12	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	17	6	41.06	5.88	5.88	—	—
Charleston	60,145	43	20	20.97	18.64	13.98	—	—
Worcester	68,383	17	8	17.64	5.88	—	—	—
Lowell	64,051	23	0	4.35	8.70	—	4.35	—
Cambridge	59,660	15	2	20.00	6.66	—	6.66	13.33
Fall River	56,863	15	5	6.66	20.00	6.66	—	—
Lynn	45,861	12	0	8.33	50.00	—	8.33	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	14	4	7.14	7.14	—	—	7.14
New Bedford	33,393	8	2	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	1	—	7.14	—	—	—
Holyoke	27,894	11	2	36.36	18.18	18.18	—	18.18
Chelsea	25,709	6	0	—	33.33	—	—	—
Taunton	23,674	5	3	20.00	—	—	20.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	1	20.00	40.00	—	20.00	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	2	0	—	—	—	—	—
Malden	16,407	6	1	16.66	16.66	—	—	—
Fitchburg	15,375	5	0	—	60.00	—	—	—
Waltham	14,609	3	0	33.33	—	—	—	33.33
Newburyport	13,716	11	1	—	9.09	—	—	—
Northampton	12,896	5	0	20.00	20.00	—	—	20.00
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,100: under five years of age 741: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 320, consumption 343, lung diseases 202, diphtheria and croup 115, diarrhœal diseases 61, scarlet fever 35, measles 24, whooping-cough 21, typhoid fever 21, malarial fever 21, erysipelas 10, cerebro-spinal meningitis six, puerperal fever five, small-pox (New York) one. From measles, Baltimore 10, New York seven, Brooklyn three, Nashville two, Worcester and Holyoke one each. From whooping-cough, New York five, Philadelphia three, Brooklyn, Boston and Baltimore two each, Pittsburgh, Providence, Nashville, Charleston, Worcester, Cambridge and Lynn one each. From typhoid fever, Philadelphia 11, New York, District of Columbia and Pittsburgh two each, New Orleans, Nashville, Holyoke and Malden one each. From malarial fever, New York, 14, Charleston two, Philadelphia, Brooklyn, Baltimore, New Orleans and District of Columbia, one each. From erysipelas, New York, seven, Philadelphia, Brooklyn and Boston, one each. From cerebro-spinal meningitis, New York and Philadelphia two each, Baltimore and Worcester one each. From puerperal fever, Pittsburgh and Nashville two each, New York one.

Cases reported in Boston: measles 35, diphtheria 18, scarlet fever 17, and typhoid fever six.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 17th the death-rate was 19.1. Deaths reported 3,321: infants under one year of age 766; acute diseases of the respiratory organs (London) 293; whooping-cough 120, measles 90, diphtheria 30, diarrhœal diseases 39, scarlet fever 23, small-pox (Blackburn) one.

The death-rates ranged from 8.8 in Huddersfield to 27.8 in Preston; Birkenhead 10.4; Birmingham 19.6: Bradford 17.4; Hull 24.3; Leeds 19.1; Leicester 20.6; Liverpool 20.8; London 17.8; Manchester 28.2; Nottingham 16.1; Portsmouth 19.9; Sheffield 18.8; Sunderland 16.0.

In Edinburgh 20.9; Glasgow 27.7; Dublin 22.2.

For the week ending May 15th, in the Swiss towns, there were 39 deaths from lung diseases, consumption 38, measles 12, diarrhœal diseases 10, whooping-cough eight, small-pox six, erysipelas one, typhus fever one.

The death-rates were: at Zurich 24.8; Geneva 21.2; Basle 18.5; Berne 18.2.

The meteorological record for week ending May 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 29, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...23	29.760	68.1	82.6	59.5	68.0	61.0	47.0	58.7	W.	S.E.	N.	13	7	3	C.	C.	C.	—	—
Monday,.. 24	29.701	60.8	68.9	59.2	54.0	72.0	63.0	63.0	E.	E.	W.	8	6	12	F.	O.	F.	—	—
Tuesday,..25	29.522	54.1	63.4	47.3	69.0	85.0	71.0	75.0	S.W.	N.W.	N.W.	2	14	21	O.	O.	R.	—	—
Wednes., 26	29.647	51.5	56.6	44.6	55.0	37.0	55.0	49.0	N.W.	N.W.	S.W.	24	20	17	C.	O.	O.	—	—
Thursday, 27	29.670	55.3	67.8	49.1	37.0	83.0	80.0	66.7	W.	S.W.	S.W.	11	17	12	C.	R.	O.	—	—
Friday, ...28	29.775	58.1	65.0	51.3	80.0	59.0	70.0	69.7	N.	S.E.	N.W.	9	4	7	F.	F.	C.	—	—
Saturday, .29	29.885	63.2	75.4 68.5	50.7 51.7	58.0	47.0	59.0	54.7	N.W.	S.E.	W.	6	8	14	C.	C.	O.	.14½	0.28
Mean, the Week.	29.709	58.7	82.6	44.6				62.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 29, 1886, TO JUNE 4, 1886.

Gardner, E. F., captain and assistant surgeon. Ordered for duty at Madison Barracks, N. Y. S. O. 49, Division of the Atlantic, June 1, 1886.

Robertson, R. L., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Snelling, Minn., and ordered to Fort Keogh, M. T.

Phillips, Jno. L., first lieutenant and assistant surgeon. Relieved from duty at Fort Keogh, M. T., and ordered to Fort Sisseton, D. T. S. O. 45, Department of Dakota, May 24, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 5, 1886.

Smith, Howard. Detached from the "Nipsic" and placed on waiting orders.

ELECTION OF OFFICERS OF THE MASSACHUSETTS MEDICAL SOCIETY FOR 1886-87.

The annual meeting of the Councillors of the Massachusetts Medical Society, a full report of which will be given in next week's Journal, was held at No. 19 Boylston Place, June 8th, at 7 p.m. President Charles D. Homans, M.D., in the chair. The following officers were elected for the ensuing year: President, Thomas H. Gage, M.D., of Worcester; Vice-President, John M. Harlow, M.D., of Woburn; Treasurer, F. W. Draper, M.D., of Boston; Corresponding Secretary, C. W. Swan, M.D., of Boston; Recording Secretary, F. W. Goss, M.D., of Boston; Librarian, E. H. Brigham, M.D., of Boston; Orator, G. H. Townsend, M.D., of South Natick; Anniversary Chairman, W. L. Richardson, M.D., of Boston.

APPOINTMENTS.

Dr. M. F. Gavin has been appointed Surgeon to the Boston City Hospital.

Dr H. W. Cushing has been appointed as Surgeon to out-patients at the same hospital.

BOOKS AND PAMPHLETS RECEIVED.

Æsthetics of Medicine. The Doctorate Address in the Medical Department of the University of Louisville, 1886. By H. A. Cottell, M.D. Louisville, Ky. 1886.

Transactions of the American Gynæcological Society. Volume X. For the Year 1885. New York: D. Appleton & Co. 1886.

The Medical Record's Position Editorially as to the Value of Exsection for Hip Disease. By W. R. Whitehead, M.D., of Denver, Col. (Reprint from Denver Medical Times.)

Address Delivered at the Fourteenth Annual Convention of the Colorado Medical Society, June, 1884. W. R. Whitehead, M.D., of Denver, Late Professor of Anatomy, etc., Retiring President. 1886.

Nineteenth Annual Report of the Directors of the Massachusetts Infant Asylum. Presented to the Corporation at the Annual Meeting, April 13, 1886.

De la Dilatation de l'Estomac chez les Enfants et D'un Nouveau Moyen d'Exploration Pour la ruonnaitor. Note sur la Impérateur de la Paroi Abdominale dans les cas. D'Entérite Aigue et Chronique chez les Enfants. Par le Docteur Moncoroo, Professor de Clinique des Maladies des Enfants de Rio Janeiro. Paris: G. Steinheil, Editeur. 1885.

Le Vaccin de la Fièvre Jaime Résultats Statistiques des Inoculations Préventives Pratiqués avec la culture du Microbe attenué de Janrier à Adut de 1885. Par le Dr. Domingos Freire. Rio de Janeiro. 1886.

Memoria Sobre as Ptomaïnas da Febre Amarella. Apresentada á Academia Imperial de Medicina de Rio de Janeiro afim de obter um logar de membro titular Pelo, Dr. Domingos José Freire. Rio de Janeiro. 1885.

A Manual of Surgery. In Treatises by various Authors. In three volumes, edited by Frederick Treves, F.R.C.S., Surgeon to and Lecturer on Anatomy at the London Hospital. Vol. I., General Surgical Affections, The Blood-Vessels, the Nerves, The Skin. Vol. II., The Thorax, The Organs of Digestion, the Genito-Urinary Organs. Vol. III., The Organs of Locomotion and of Special Sense, The Respiratory Passages, The Head, The Spine. Duodecimos, 1866 pages, 213 engravings. Per volume, cloth, $2. Philadelphia: Lea Brothers & Co. 1886.

Surgical Diseases of the Kidney. By Henry Morris, M.A., M.B., F.R.C.S., Surgeon to and Lecturer on Surgery at the Middlesex Hospital, London. 12mo., 555 pages, with 6 chromo-lithographic plates and 40 engravings. Cloth, $2.25. Philadelphia: Lea Brothers & Co. 1886.

The Surgical Diseases of Children. By Edmund Owen, M.B., F.R.C.S Surgeon to the Hospital for Sick Children, Great Ormond Street, London. 12mo., 585 pages, with 4 chromo-lithographic plates and 85 engravings. Cloth, $2. Philadelphia: Lea Brothers & Co. 1886.

How to Care for the Insane. A Manual for Attendants in Insane Asylums. By William D. Granger, M.D., etc. New York and London: G. P. Putnam's Sons. 1886.

On Asthma: its Nature and Treatment. Containing an entirely new and Comprehensive Working Hypothesis, Suggestive of New Remedies and of the more Efficient Application of Old Ones. Illustrated by Horace Dobell, M.D., etc. London: Smith, Elder & Co. 1886.

Monthly Nursing. By A. Worcester, A.M., M.D., Fellow of the Massachusetts Medical Society. Boston: D. W. Mason. 1886.

A Manual of Midwifery. By Alfred Lewis Galatin, M.A., M.D., Obstetric Physician and Lecturer in Midwifery and the Diseases of Women to Guy's Hospital, etc. Illustrated with 227 wood engravings. Philadelphia: P. Blakiston, Son & Co. 1886.

Materia Medica and Therapeutics, Vegetable Kingdom, Organic Compounds, Animal Kingdom. By Charles D. F. Phillips, M D., Fellow of the Royal Society of Edinburgh, etc. Philadelphia: P. Blakiston, Son & Co. 1886.

Spaltpilze und Krankheiten. Dr. J. Schmitt Vortraege. Herausgegeben vom Klutschen Gesellig-Wissenschaftlichen. Verein von New York. No. 12.

? Quiz-Compend? No. 11. A Compend of Pharmacy. By F. E. Stewart, M.D., Ph. G. Based upon Prof. Joseph P. Remington's Text-Book of Pharmacy. Philadelphia: P. Blakiston, Son & Co. 1886.

Programme of Proceedings of the Thirty-Seventh Annual Session of the American Medical Association. Held at St. Louis, Mo., May 4-7, 1886.

Lecture.

UNDERCURRENTS OF MODERN MEDICINE.[1]

THE ANNUAL DISCOURSE DELIVERED BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 9, 1886.

BY RICHARD M. HODGES, M.D.

The knowledge accumulated by medical science has far outrun the capabilities of remedial art, in its adaptation to practical use. When we venture into the domain of medical and surgical treatment, the foreboding signs of ignorance and inexactitude are betrayed. The discouraging absence of sure measures of relief, when the hope of alleviation is strongest, only reveals the disproportion between the stimulus to action which is instinctively aroused by the presence of sickness and suffering, and the means to act efficiently. The impulse and provocation to "do something" are too apt to instigate a pretence of knowledge, or to prompt an audacious, irrational, or trifling interference, which subverts comfort but does not cure disease. This anxiety incites us to unavailing prescriptions and modes of procedure, which, worthless as they are, pass into such general use that even the conservative sometimes accept them as articles of faith, scarcely admitting of question.

Therapeutics, when not guided by an intelligent and definite purpose, are superfluous and meddlesome. Surgical operations, which, from the outset, it is known cannot be completed, and into which every surgeon remembers with regret that he has been drawn by some vague expectation of benefit,— the infiltrating epitheliomata, the adherent and fatally located tumors, the malignant growths sure to return, the limbs crushed in railroad accidents, from which he has not withheld his hand,— have certainly contributed nothing to the self-satisfaction of the operator, or helped to advance even the purely mechanical part of surgery.[10]

Prurigo secandi is a malady as obsolete as its designation; and the anxiety to attach one's name to a new instrument, or to identify it with some ingenious surgical device, is not a proclivity of the present generation. It was formerly thought the height of anatomical and operative skill to reach the almost inaccessible foci of certain cranial neuralgias. The undeveloped and atrophied muscles of cleft palates were once, with infinite pains, unrequitedly sewed together. Varices of the legs, and varicoceles, were operated on. Tonsils were cut off with fabulous frequency. Tenotomy was uselessly practiced. Diseased joints, which time and immobility would have cured, were amputated or excised. The operation for cancer of the breast was as habitual as it is now exceptional,— or, at least, as it soon will be.[11]

The aim and endeavor of the present day is to perfect preventive and prohibitory measures, which shall exclude or annihilate disease; which shall render many surgical operations unnecessary, or, when inevitable, shall eliminate from them the extraneous and accidental complications, which not only check the processes of recovery, but imperil life itself. The success of these efforts has rescued our labors from the domain of chance; and favorable results are ensured, in medicine as well as in surgery, under circumstances which were, heretofore, invariably attended by failure.

It seems incredible that members of the profession should have been cautioned, as they were when I was a student, against being "dazzled" by the alleged success of ovariotomy;" or that a distinguished editor should have declared, "a fundamental principle of medical morality was outraged whenever an operation so fearful in its nature is performed."[12]

The intimation that many causes of disease are to be found in the air, the water, the soil, or the food we eat, and the assurance that they are therefore controllable has given activity to the study of hygiene, has made Health a department of the State, and has called into existence a new profession, that of the Sanitary Engineer. The novel problems presented for investigation by these multifarious suggestions are such as can be solved only by exact methods. Their intricacies are followed out in laboratories, with so much greater advantage than in hospitals and sick-rooms, that almost all modern medical knowledge, of which we are so justly proud, owes its existence to purely scientific workers.

The guesses of genius are said to be sometimes more valuable than the demonstrations of mediocrity. "Preconceived ideas, submitted to and controlled by severe experiment, are the vital flame of scientific observation."[13] They give purpose and direction to one's pursuit, and are the working hypotheses essential to the practical application of our knowledge.

One of the earliest verifications of the suspicion that living organisms might be a cause of infective disease, was the result of Pasteur's elaborate study of fermentation. This inquiry led the distinguished savant to surmise, and finally to determine absolutely, the microbial nature of a contagious malady of the silkworm, known by the name *pébrine*, which threatened to extinguish the entire silk-industry of Europe. The practical importance of these investigations, and their economic success, gave a great impetus to microscopic researches into the bacterial character of a large class of diseases, and led to the crucial method of their study by the artificial culture of micro-organisms. The significant issues of these experiments we are only now beginning to appreciate.

The whole order and sequence of facts in any discovery is rarely arrived at. Explanations are only partial, and danger lies in their acceptance as final. In the records of human investigation, however, it would not be easy to indicate measures of more promise,— even in their present state of incompleteness,— than the suggestions for the prevention and cure of disease, which the Germ-Theory has prompted in regard to tuberculosis, cholera, various zymoses, and malarias, as well as in connection with widespread and destructive affections of agricultural and industrial interests. It would be difficult, also, to name an expedient that has proved more humanely useful than antiseptic surgery, which saves life and limb through the, now, almost universal adoption of rigid hygienic precautions, strict cleanliness, and thorough drainage.

It should not be forgotten that these contributions to human welfare have mostly come, as they only could come, from experiments on living animals. Neither should it pass unnoticed, that the knowledge

[1] Concluded from page 534.

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[10] "Of one hundred possible operations, twenty are imperatively necessary; twenty are absolutely inadmissible; and the remaining sixty may be performed or not, according to the circumstances; and surgeons may and do err in each of these classes of cases." Professor Verneuil, quoted in New York Medical Record, Jan. 9, 1886, p. 56.

[11] Lancet, March 21, 1885, p. 527. Jan. 9, 1886, p. 72.

[12] British and Foreign Medical Review, Oct. 1843, p. 402.

[13] Histoire d'un Savant par un Ignorant, p. 284.

of two remarkable facts in the economy of nature,— the invisible but perpetual ploughing of the soil by its living tenants, and the relation of germs to disease,— has been derived from the study of creatures seemingly so unimportant as the earthworm and the silkworm.

The success of intelligent effort to avert disease would not be fairly stated, without a distinct recognition of the fact that the alleviation of suffering,— in its restricted and individual sense,— is one of the constant accompaniments of this endeavor.

Pain has its uses. It obliges rest. To prevent pain, or to cure pain which exists, additional pain must not be caused. Infrequent handling and inspection are essential conditions of surgical antisepsis. Rest, physiological as well as mechanical,— which, always excepting anodynes and anæsthetics, implies a masterly inactivity so far as drugs are concerned,— constitutes an immense therapeutic power, fortunately extending itself, by the agency of more and more rational methods of treatment, throughout the whole field of moderm medicine and surgery.

So long as the belief existed that pain was Divinely intended to be a chastening or an improving agent, harmonious and vigorous efforts for its permanent diminution, or for its complete removal, were not to be looked for. The introduction of anæsthesia, by the inhalation of ether, was retarded by such a superstition. The conviction was reached very slowly, especially in certain communities, that the time had come when it was the paramount duty of physicians,— always and everywhere,— to avail themselves of this agency for the prevention of suffering. The logic which converted sectarians to the use of anæsthetics during child-birth, must force the acknowledgment that it applies equally to their employment under all circumstances of severe pain. There can be no longer a doubt of the abstract right to procure insensibility by the use of every accessible resource, whenever pain is constant or acute, and especially when it is associated with hopeless disease. Few medical men, few patients or their friends, now shrink from the responsibility of such a procedure.

Recall the mortal injuries,— which so many of those here present have witnessed on the battlefield,— from wounds received under circumstances rendering the sufferer's removal impossible! What a blessing must have been the unstinted morphine which the humane surgeon left behind him, without questioning whether in so doing he shortened the few possible hours of existence that remained! Who does not give anodynes with a lavish hand in the last stages of cancer! Who will not unhesitatingly soothe the nights made restless by the exhaustion of lingering but certain dissolution! Continuous pain exhausts the physical forces. The life of the great General of our Civil War was prolonged, not shortened by the comforting opiates which solaced the uncomplaining but limited days of his last few months.

If an individual suffers from incurable pain, except while under the influence of anæsthetics, it has been argued that,— with the concerted action of himself and friends, and the concurrence of two or three medical advisers,— and with the adoption of precautions similar to those provided for putting a lunatic under restraint,— it should be allowable to make such an anæsthesia complete and enduring. It is even claimed that a change in our laws which would permit this premature extinction of life,— in cases certain to terminate fatally, and liable to be accompanied to the end with agony,— would produce "benefits simply enormous," and that nursing the hopelessly sick ought to be looked upon as a "nuisance and a danger." We are reminded that suicide, under the conditions assumed, is very leniently regarded by many, and perhaps encounters more sympathy than reprobation. As an escape from certain forms of shame and dishonor, — moral pains,— suicide has been defended as in the highest degree heroic. It is contended that this "cure for incurables" in nowise conflicts with the sanctity of human life.[14]

The impossibility of attaching any importance to the personal consent of a sufferer, or to the request of his friends under the circumstances supposed, need hardly be pointed out. The last stages of painful illness are, as a rule, less painful than those which precede. In itself the act of dying is probably painless. In terrible injuries, which are so often spoken of as illustrations of extreme suffering, shock benumbs the sensibility, and it is not always in our power to distinguish between those cases which are hopeless and those which are not. Recoveries, unexpected by experienced surgeons, follow the most extraordinary mutilations.

I entertain no fear,— because of the presumptive right to evade pain whenever evasion is possible, and endurance can do no good,— that physicians will, therefore, accept the sophistry which claims it equally a right and privilege to deliberately relieve suffering by the permanent anæsthesia of death. It is a matter of fact that we can secure euthanasia without shortening life. The resources for the alleviation of pain are many and efficient. Their practical or successful employment is no longer a question of uncertainty. The universality of their adoption therefore turns, not upon a point of morals, but upon considerations of public safety. These may safely be left to the wisdom, the integrity, and the conscience of the medical profession.[15]

Among the predominant causes of preventable disease in our own community there are two, exercising an influence in youthful life, and particularly among females, which are as universal as those of specific micro-organisms, and scarcely less pernicious. These are insufficient nourishment, and insufficient rest and repose, or, expressed in briefer terms, famishment and fatigue. To counteract these inimical influences, is to control, to a great extent, the conditions of life,— especially of city life. It is an ambitious aim, but one which certainly comes within the scope of a physician's personal effort, if not within his professional province.

It is only of late years that the diet of those not actually sick has received the attention it deserved, either in its bearings upon the healthy growth of the human body, or its defensive power in relation to disease. The data supplied by physiology, the dietetic customs of social classes, the likes or dislikes of a physician's own palate, were, until recently, the guiding principles by which the alimental needs of physical economy have been regulated. The conflicting advice of medical men still betrays the absence of any unanimity of opinion on this question, considered from a therapeutic point of view, and there is no subject in which personal experience is more fallacious as a guide.[16]

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[14] The "Birmingham Speculative Club" formulates the relation of the office of the physician to euthanasia, as follows:—"That in all cases of hopeless and painful illness it should be the recognized duty of the medical attendant, whenever so desired by the patient, to administer chloroform, or other anæsthetic, so as to destroy consciousness at once, and put the sufferer to a quick and easy death; all needful precautions being adopted to prevent any possible abuse of such duty, and means being taken to establish beyond the possibility of a doubt that the remedy was applied at the express wish of the patient." New York Medical Record, September 19, 1885, p. 322.

[15] Appendix VI.

It is a common remark that young people of the present day have poorer health than their fathers and mothers, and especially their remoter ancestors. At the period of adolescence, or before, many live at a rate, and under a pressure, the wear and tear of which parents fail to appreciate; nor do they think of comparing the life which their children lead, with the calm and unexciting conventionalism of their own youthful days, or with what they may have heard described as the routine of their own parents. The "good old stock" of certain sleepy and quiet towns is often alluded to. Some of us, to a degree which another generation will never enjoy, are endowed with a vitality transmitted by the simple habits of the dwellers in the tranquil and well-to-do homesteads of an earlier day.

They grew up with no opportunity of being fastidious. They knew absolutely nothing about luxury, and had not too much of what we call "mere comfort." They had the "reg'lar" and solid meals at "noontime," which are said to be the foundation of true stability of character, and they enjoyed at least nine hours of sleep every day. They developed into men who were rarely sick, and into women with strength enough to bear and rear large families. These women often possessed an intellectual vigor which inclined them to acquire a masculine education, as well as to devote themselves generously to social, charitable, and other womanly pleasures and duties.

Modern mothers little realize the "brain work" in amusements which, under the thin guise of their possible educational tendency, are made to justify late hours and stinted sleep for growing girls during their school-life; in their practice of music for which they have little capacity, and in which they take but a half-hearted interest; in studies at home, which go so against the intellectual grain, that lessons are imperfectly learned, and forgotten almost immediately; in irregular, prolonged, and motiveless walks, which, as Scott's Antiquary says, "none but a fool or a fox-hunter could require." The effect of this prodigal use of physical energy is to arrest the growth of their forces and faculties, to "knock out" of them the vital functions of eating, drinking and defecating, and to induce an amenorrhœa, whose redeeming feature is that it spares them the waste involved in a monthly loss of blood. It is fatal if girls do too little, and it is disastrous if they do too much. To steer between these two opposing perils is so difficult a task, that the majority of parents end by letting go the helm, leaving the fragile vessel to guide itself, satisfied if they can secure a merely negative condition of health.

A justly distinguished master of the Girl's High and Normal School in this city is reported to have said, that a principal qualification for the office he held should be a good medical education. The first hour of his school day was spent in going from room to room, at the call of teachers, to see pupils who had fainted or vomited, or were in "spasms," in hysterics, or, in some other way, had come to a pass which alarmed the inexperienced. These phenomena he clearly recognized as due to fatigue, insufficient sleep, and the want of an adequate breakfast,— a meal which these girls were too tired to eat; or which they did not think worth wasting time upon, when home duties demanded their coöperation, a morning lesson was waiting to be looked over, or a neglected task to be made up, and a long walk intervened between their homes and the school.

The report of Sir James Crichton Browne, which attracted such universal attention two years ago, states that out of 6580 school-children examined, 3034, or more than 46 per cent., suffered from headache. He attributes this state of things largely to innutritious and insufficient food, and takes pains to say that partial and occasional starvation is not confined to children of the lowest class.[17]

The inference from these statistical facts, or from a single teacher's experience, is not necessarily that school-taxes should be devoted to dispensing new milk rather than education, though they seem to hint that a part of the public money might thus be judiciously appropriated. Alleged overpressure in schools is, in the main, a fallacious assumption. Sound study is an advantage, if the general rules of health are attended to, and for one youthful person injured by excessive application, there are a hundred whose mental condition is deteriorated by want of wholesome physical influences.

The special provocatives of "delicate health" in young females, are in great part social. The deleterious potency of a multiplicity of engagements, of the exacting demands of ambition, fashion and gayety,— and not unfrequently of an early betrothal.— are intensified by the capacity for endurance which belongs to the so-called weaker sex. A girl can tire out her partners in the "German," one after another, and a feeble wife can carry her baby twice as long as her athletic husband. The more strain there is upon the strength of women, the more completely do they forget themselves and their material wants. They submit and give no signs of their emotions, to the depressing influences of misfortune or an unhappy home. They suffer and are silent, with what have been called "bad-husband headaches." They stifle a wounded pride which is deep in proportion to the smallness of the family income, and yield to the aggressive attacks of neurotic influences (the least wearing of which may be the mental), only when the limited energy their bodies possess is exhausted, and which, when once lost, they rarely have the physical capacity, or power of mechanism, to replace.

The bodies and brains of young women, in the wealthiest and most luxurious circles of society, constantly reveal their imperfect nutrition. Refined emaciation, fair anæmic complexions, eyes made brilliant by dilated pupils, decorous concealment of undeveloped busts and slender arms, excitable and restless temperaments, — wanting sometimes in self-control, but oftener sobered by over-conscientiousness, — are the retributive symptoms which betray a lack of food, sleep, fresh air, and repose. Some of those who embody these conditions delight to think that Providence has distinguished them from the common herd by certain peculiarities of constitution, and they cherish with great self satisfaction their supposed idiosyncrasies in regard to what they eat, and in reference to various habits of life. The tyranny of prevalent styles of dress sustains them in their vanity. The displaced livers and spleens, furrowed by overlapping ribs, portrayed in dress-reform tracts, and on which the imagination of young women is invited to dwell, should not be half so much of a warning as the compressed stomachs, and the diminished room for their distension, which make tight clothes a common cause of inanition, of functional derangements, and of passive congestions, which show themselves in the mottled arms and red noses of half the belles in a ball room.

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[16] Those who have read Sir Henry Thompson's interesting essays on food must not forget that his Lenten views have reference, chiefly to the proper diet for advanced life, not for the growing years of youth. It is obvious that less nutriment is needed as vitality and activity diminish. It should also be borne in mind that the distinguished lithotritist, artist, and æsthete, is himself a Vegetarian. Notwithstanding this, he has a London reputation as the giver of exquisite dinners "graced by sound wine, judiciously chosen dishes, and easily amalgamating guests," always strictly limited in number to eight; and though absolutely a tee-totaller, he takes "the same sort of pride in his cellar which a scientific floriculturist might in his green-houses, though their contents never have a place in his drawing-room vases." Nineteenth Century, 1885, p. 777. Society in London, p. 175.

[17] Westminster Review, January, 1885, p. 12.

It is useless to humor, or to tease with restrictions, the capricious digestions of those who argue over every mouthful of their food, instead of swallowing it, and whose gastric neuralgias and low level of health are dependent on the defective general condition of their bodies. An eminent modern physician has declared that "he never knew a dyspeptic to get well who undertook to regulate his diet;" and the stomach, we are told,— like a schoolboy, — is sure to get into mischief unless constantly occupied. If it behaves perversely, therefore, the doctor must conquer the stomach, and not the stomach the doctor.

We talk and write about "functional diseases," in people such as I have described. It would be more correct to call them "nutritional diseases." Function depends upon nutrition, and nutrition equally depends upon function. No functional condition can exist for a moment, without entailing a change in nutrition; and the extent to which this may be carried, short of organic detriment, is an important practical question in pathology. Any change which the microscope detects,— such as a most trifling variation of aspect or behavior in the presence of reagents,— is simply enormous considered as a modification of molecular nutrition. That visible alteration,— structural disease, in fact,— may have its ultimate origin in pure disturbance of function, is hardly to be regarded as a mere speculative suggestion.[18]

It is not to be denied that New England women, here and there, are improving in outward form. Adipose is being deposited where once would have been only the outlines of a lank and weedy figure. Fashion is quick to embrace the change, and in plastic jerseys generously displays the rounded arms and matron-like figures of those who possess them; or, by aid of thin clinging material, in *robes collantes*, suggests, if she does not reveal, the ample contour of shapely hips and limbs. The world would be the better for a generation or two of healthy and happy, even if unschooled and commonplace mothers. Roundness and plumpness are indications of spare bodily power available for future use, and without them young women cannot be in high health and in condition readily to resist or recover from disease. Happiness goes only with health. Cheerfulness is one of its most visible signs, and the woman who is not cheerful falls short of her vocation in life.

The most superficial observer will perceive that the principal field for therapeutic advance, in the near future, is most likely to be found in the regulation of food, habits, and the incidents of life. Daily and continuous in their operation, these must be of vastly more importance than drugs and "treatment," which are but transient in their influence. We may speculate about ptomaines, leucomaines, and auto-infection, or, with unshaken faith, adhere to the doctrines of bacteriology: but it is still true that the conditions of disease are increasingly traceable to avoidable violations of hygienic law. The care of health, even more than the care of disease, is recognized as the office of physicians. Their duty in this direction has already become the largest and most vital responsibility of the medical office. It is estimated that the annual loss, in the United States, from one single cause, — the preventable typhoid fever,— is twenty-five millions of dollars, in money value.

The average age of the generation is increasing; the general death-rate is decreasing, and there are fewer days of sickness, *per capita*, than when observers began to keep record of such matters. The possession of wealth, with its resultant exemption from privation, lengthens the average of life nearly ten years,[19] and good nutrition is said to be at the bottom of longevity. The saying of the cynic that, in addition to a benign stomach, a bad heart is also essential to health, may, perhaps, be open to doubt, despite the fact that insensibility and indifference must neutralize much of the mental anxiety which undermines physical strength, and weakens self-control.[20]

The attempt to carry on, simultaneously, diverse occupations, and the quick and rushing methods — intensified by the disturbing accessories of the post-office, the telegraph, and the telephone — which shape the entire organization of American life, are attended by such an amount of mental and bodily friction, that Recreation, as a remedy for the trials and cares of all vocations, has identified itself with the resources for preventing disease, not less than the demand for ample nourishment. The business assiduity of the medical profession renders the exaction of this therapeutic precaution an absolute necessity for its active workers, not merely on personal grounds, but on account of the example it sets to others.

Its never-ending labor, which allows no repose day or night, is the great drawback of our calling. Medical men are apt to feel that they have no right, for the sake of personal ease and enjoyment, to lose sight of their appointed stewardship. As a result, they too often degenerate into mere professional machines, and become the slaves of an occupation, rather than its masters. There are men so equably constituted, that, metaphorically speaking, they can "shut up shop" at a moment's notice. Many, if not most physicians, live under a different dispensation. When not pursuing their occupations, their occupations are pursuing them; and they are habitually so busy, that they cannot even pause long enough to take their daily bread with comfortable deliberation. Irregular life, and the meagre care which they take of their own health, make the death rate, especially from suicide, higher among them than in the general male population, or in either of the other principal professions.[21]

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[18] Lancet, Nov. 7, 1885, p. 841.

[19] Science, July 10, 1885, p. 37.

[20] Appendix VII.

[21] Lancet, January 30, 1886, p. 203.

The custom of all cultivated and energetic communities, which, during one month out of twelve, calls for some other than the habitual employment, even though it may be physically more fatiguing, goes to prove that diversion and change are forms of rest, recognized as among the imperative demands of health and well-being. They are not weaknesses to be resisted, at any rate, by professional men. The utility of vacation, in stimulating the capacity and refreshing the inclination for active duty, goes far beyond the mere pleasure it affords, or the social relations it cultivates. Respite from labor is a safeguard against those vexations and adversities which sour the temper and shorten the lease of life.

The thought of being able some day to lay down one's burdens is always alluring. At our last Annual Meeting, it was said — not by one of the oldest members — that after fifteen years of practice, a physician had passed the days of his usefulness — he was too old for laboratory work. If the graduating age is to go on increasing, this will not, perhaps, be early for retirement. At all events, it is generally conceded that when he is sixty, a medical man has, as a rule, completed the active period of life; that his ideas have become hardened and stereotyped; that he has accomplished his effective mission, and must leave the path open for other and more youthful spirits.

There are those who have a vague presentiment that, if the harness ceases to brace them up, they shall fall down by the wayside and die; but it hardly speaks well for educated men to become so wedded to routine, that no resources and no pleasures can attract them beyond those within the immediate range of professional occupation. They ought surely to find use for their powers of observation elsewhere than at the bedside. "Successful men may have gained much to retire *upon*, but nothing to retire *to*, if literature, social ties, philanthropic interests, nature itself, have been lost sight of during the rush and struggle of their thirty years of active life."[22]

I have indicated a few of the undercurrent agencies which, within the last thirty-five years, have modified the general condition of professional interests, as they affect medical men and the community, individually and collectively. So imperceptibly and insidiously have innovations become established, that we scarcely realize the change they have occasioned.[23] The retrospect impresses us with the rapid rate at which medical knowledge progresses, and the vigorous life with which its pursuit is followed. The public profit by this general advance, but the actual gain is discernible only to the initiated.

In this Commonwealth, the Massachusetts General Hospital has been a great element of scientific, professional, and social influence — and, perhaps, equally so throughout the whole of New England, for whose extensive water-shed of patients it was, during many years, the only public medical resource. Always in readiness, by wise and liberal expenditures, to adopt improvements, or to be the originator of new designs, it has promoted in many ways the art of caring for the sick in hospitals, and has long been willingly accepted as a typical institution in structural, economic, and sanitary points of view. Much of the reputation and of the popular interest which this hospital has acquired is distinctly due to the wise judgment of its Trustees, and to the independence of their financial and executive management.

It is a satisfaction to remind you of the fact that the resources of the Massachusetts General Hospital have never been perverted to the direct pecuniary advantage of its Medical and Surgical Staff, whose services have always been gratuitous. There are querulous laments about unremunerative devotion to the community, in medical journals and by individual physicians, who complain of too much time bestowed in charity, and deprecate the skill lavished on the poor "without money and without price." These facts have been urged as a reason why "pay-patients," in private rooms or wards, should be either compelled or allowed to remunerate their attending physicians and surgeons; but they have never had weight in the minds of those whose solicitude has guarded the interests of the Hospital in question. On the contrary, from the outset of its history, it has been realized that such a practice might lead to an objectionable appropriation of its beds by the clients of some designing or prominent official, and that it would be inconsistent with the large benevolence of those by whom it was founded and is still sustained. The office of physician or surgeon is more than its own reward. In any great hospital, it is an indirect road to general success in practice; in short, the privileges it involves are so considerable, that these positions would be promptly bought for money, if they were for sale. They are gladly accepted, on the conditions posted in every private room and ward of the Massachusetts General Hospital, that, by his appointment, the physician or surgeon "waives all claim for compensation in money, and performs his duty as a charity to the sick and disabled patients under his care, and for the advancement of medical and surgical science."

It is also a condition, on the part of every patient accepting the services of its physicians and surgeons, "that no payment shall be made for them, and that no claim of any nature, consequent upon such service, can obtain outside of the Hospital, from any member of the staff upon any patient or from any patient upon any member of the staff who has attended him or her in the Hospital." If a patient desires to express his obligation and indebtedness for professional services received, he is invited to contribute to the charitable funds of the Hospital. This invitation is not unfrequently accepted.

To dispense charity, without injustice on the one hand, and without being imposed upon on the other, is so difficult, that societies have been organized for the sole purpose of discriminating between fraudulent and honest claims. The benevolent and unrestricted dispensation of medical assistance does not escape imposition. Admission to hospital-wards, either with or without payment of board, is, undoubtedly, an often abused privilege, so far as the hospital itself is concerned. As a matter of fact, however, instances must be few and far between, in which an attending or a non-attending physician is robbed by an out-patient department, or a dispensary, of the small fees he would be glad to earn: or in which the comfortable honorarium of a specialist is diverted from him by wards or private rooms. Jealousy and distrust are likely to be generated whenever the members of its professional staff have any participation in the financial affairs of a hospital; and pecuniary losses, if they happen, in consequence of this divestment, are fairly offset by the gain in self-respect, the protection from dissension and from individual avarice, and selfishness, which it offers to those who are associated in the common interests of a charitable institution. That unpaid medical relief exempts such large numbers of people from a necessity for forethought and thrift in regard to prospective sickness, and encourages mendicancy, is another, and, indeed, much graver consideration. Neither the sagacity of individuals, nor the discussions of Social Science assemblages, have yet been able to suggest a method, satisfactory even to themselves, for the prevention of this contingency.

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[22] Dr. Roose. Appendix VIII.

[23] New York Medical Record, October 17, 1885, p. 427.

The general public are year by year better instructed; they grow more and more able to appreciate the qualifications of men, and the result of their labors. There is therefore an interest, outside our own fraternity, in the subjects to which I have directed your attention, in this brief hour of discursive talk.

Medicine and hygiene are among the favorite topics of magazines and newspapers. Diagrams of drainage, temperature charts,— even illustrations of bacilli, and of microscopic sections of malignant growth,— are familiar and attractive features of modern journalism. Elementary physiology and hygiene are taught in the public schools. Instruction in "rendering first aid to the wounded" is given to young ladies, as well as to members of the Police and Fire Departments. Diet-kitchens, dispensaries, hospitals, and sanitary-aid societies are managed by laymen. There is scarcely a reading person who has not heard something of the germ theory. A cow-boy in Arizona was recently shot dead in the saddle for the insult implied in calling his partner "a bloody *microbe*."

Much of this popular zeal is the expression of a most laudable desire to diminish the evils of personal and collective environment. The energy and the activity which are directed toward the improvement of public health, and to the beneficent alleviations of sickness, impose an obligation on the community, for its own protection, to facilitate and promote sound learning, by a liberal support of thoroughly equipped schools, and other auxiliary means of medical instruction. The proof of interest in this direction will be found, not so much in moral encouragement afforded by words of approval, as in practical steps taken to furnish the guardians of human health with the best appliances for study and investigation. It is a duty of rich and generous men to supply students with every opportunity to become competent for the most profitable kind of work, by a leisurely, complete, and therefore costly training. So long as medical schools are dependent on the fees of their students for support, the highest results cannot be obtained. The report of the United States Commissioner of Education, in 1883, strongly advised that every medical school in the country should be required by law to procure forthwith an endowment of not less than $300,000.[24] In this matter the interest of professors, pupils, parents, and the public are identical. The motive is not to make schools for a class, or to create free and charitable institutions, but to provide for the permanent maintenance of first-rate education, unrestricted by the embarrassment of expense, and for the diffusion of its influence among the greatest possible number. In an earnest appeal for the endowment of the Harvard Medical School, Dr. Oliver Wendell Holmes has said: "The only way to ensure the independent action of a school which aims at teaching the whole country by example, is to endow its professorships, so that the very best and highest grade of instruction may always be given. A small number of thoroughly accomplished medical graduates will be worth more to the country than twice or thrice the number of half taught, hastily taught practitioners. In the course of a single generation they will elevate the whole professional standard, as they go forth, year after year, missionaries in the cause of health, soldiers, and, if need be, martyrs, in the unending battle of disease and its causes."

APPENDIX.

I.

The State and the Medical Profession; T. F. Huxley, Nineteenth Century Magazine, Feb. 1884, p. 228—New York Medical Record, Dec. 5, 1885, p. 633—New York Herald, Sept. 11, 1885; Letter of G. F. Eliot, Esq., Counsel for the New York Health Department—Pamphlet, On the best manner of making use of the Services of Experts in the conduct of Judicial Inquiries; Clemens Herschel. C. E. Printed by direction of the Committee of the Bar Association of the City of Boston on the Amendment of the Law, Boston, 1886 — Medical Expert Testimony; F. H. Hamilton, Popular Science Monthly, Vol. 26, p. 603.

II.

Science and Culture: T. F. Huxley; Address on Universities, Actual and Ideal; also by the same, the article already referred to, Nineteenth Century Magazine, Feb., 1884, p. 228 — The Proceedings of the British General Medical Council; London Lancet, 1885, May 16, p. 897; May 23, p. 940. Medical Times and Gazette, 1885, May 16, p. 658; May 23, p. 690; May 30, p. 720 — Prof. Humphry; London Lancet, Feb. 22, 1879 — A Report of the Committee on Government to the Overseers of Harvard University; E. P. Seaver, chairman; 1881, '82, '83—Biological Teaching in Colleges; W. G. Farlow, Popular Science Monthly, March, 1886, p. 577.

III.

Nineteenth Century Magazine; June, 1880, p. 1089, Doctors and Nursing; Octavius Sturges, Seymour J. Sharkey, Margaret Lonsdale —The same, p. 677, The present Crisis at Guy's Hospital; Margaret Lonsdale— The same, p. 884, The Nursing Crisis at Guy's Hospital; Sir W. Gull, S. O. Harbershon, A. G. Henriques— The Cornhill Magazine, Vol. 22, p. 452, Nursing as a Profession — London Lancet, Aug. 17, 1878, p. 227; Nov. 28, 1885, p. 1016—New York Medical Record, Jan. 16, 1886, p. 72.

IV.

The Plymouth Epidemic is described in the Philadelphia Medical News, 1885, May 16, p. 541; June 25, p. 681 — The Practitioner, Vol. 35, No. 3, p. 234— New York Medical Record, June 27, 1885, p. 710—The Scientific American, June 27, 1885, p. 405.

V.

Fortnightly Review, M. Mackenzie; Vol. 43, June, 1885, p. 772; Vol. 44, Aug., 1885, p. 266 — The same Review, Vol. 44, July, 1885, p. 67, H. B. Donkin — Medical Times and Gazette. 1885, April 25, p. 561; June 6, p. 752; July 4, p. 15 — New York Medical Record, Sept. 5, 1885, p. 261 — London Lancet; Gulstonian Lectures, C. Allbutt, March, 1884— British Medical Journal, Jan. 27, 1883, p. 141 — Medical Times and Gazette, Oct. 3, 1874, p. 383.

VI.

Is Pain a Mystery; I. Burney Yeo, Contemporary Review, Vol. 35, p. 646—The New Cure for Incurables; Lionel A. Tollemache, Fortnightly Review, Vol. 19, p. 218.

VII.

Female Education from a Medical Point of View, T. S. Clouston; Popular Science Monthly, Vol. 24, p. 214—The little Health of Ladies; Frances Power Cobbe, The Contemporary Review, Jan., 1878, p. 276—Dietetic Treatment of Dyspepsia; New York

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[24] The German government has rebuilt the University at Strasburg, at a cost of £711,000, with a yearly grant of £40,000, the plant being divided as follows: —Chemical Institute, £35,000; Physical Institute, £28,000; Botanical Institute, £28,000; Observatory, £28,000; Anatomy, £42,000; Clinical Surgery, £26,000; Physiological Chemistry, £16,000; Physiological Institute, £14,500. (London Lancet, Sept. 19, 1885, p. 535).

A National University was recommended in the annual report (1885,) of Mr. Lamar, Secretary of the Interior. The above figures, as a suggestive estimate of cost, would probably startle Congress, unless it were well assured that the privilege of appointing professors, as well as of dictating their resignation, should rest with Senators and Representatives.

Medical Record, Nov. 22, 1884, p. 567 — Feeding the Sick; New York Medical Record, Aug. 1, 1885, p. 115 — Out-door Papers; T. W. Higginson, p. 201—Health and Sex in Higher Education; John Drury, Ph.D., Popular Science Monthly, March, 1886, p. 606.

VIII.

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Original Article.

CASES OF MALIGNANT DISEASE OF VERTEBRÆ, WITH "PARAPLEGIA DOLOROSA."

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Case I. On beginning my hospital service last October, I found in one of my beds a somewhat emaciated man, who, however, represented himself as improving, and in whose case no satisfactory diagnosis had been made. He was a German, aged fifty-one, whose history was that of a cough, with muco-purulent expectoration, dating back to the preceding June. There had been no hæmoptysis.

He complained chiefly of a pain in his back, which had lasted several weeks, and which seemed to have its maximum of intensity on the right side just below the ribs, and at first radiated in various directions, though afterward stationary. He had pain on a full inspiration, but moving or sitting up in bed gave him much more. His micturition was scanty and frequent and the urine contained nothing decisive, though somewhat later it was found to contain a very slight trace of albumen and a few hyaline casts, with some granular and fatty ones and uric acid. With a good deal of care and deliberation he was set up in bed and a hasty physical examination made.

At the bottom of the right thorax the line of dulness ran from the nipple a little upward in the axilla, and about an inch below the angle of the scapula. There was some variation in this line with his position. Over this region the respiration was feeble and expiration somewhat prolonged, but not bronchial. There were fine moist râles over both backs. There was tenderness on percussion of the spine opposite the lower end of the scapula.

On the 12th of October, he was brought to the amphitheatre to illustrate the presence of a small effusion at the base of the right pleural cavity, but on moving him from one chair to another he suffered so severe an attack of pain that no thorough examination could be made. From this time the pain on movement became greater.

Percussion, while he was lying in bed, always gave dulness in the lower axilla.

Careful and repeated palpation of the abdomen failed to reveal any tumor or point of tenderness, but it was very evident from his general condition that something more than a moderate pleurisy was present.

On the 21st of October he had several dejections, containing considerable amounts of clotted blood and dark brownish masses. This confirmed the impression which had been growing in our minds, of a cancer connected with the vertebræ, which had ulcerated through into the intestines.

This, however, was not repeated, but he grew steadily weaker, became almost absolutely motionless in bed, his cough increased, the expectoration became abundant, muco-purulent, and at last bloody.

The day before he died, October 23, there was said to be no pain on pressure over the vertebræ, but the same severe pain on motion.

There had been at no time any enlargement of the lymphatic glands or spleen.

The autopsy showed that the liver was situated higher up than usual in the abdomen, a cavity corresponding to the dulness found during life. There was no pleurisy and no pulmonary lesion but bronchitis. There was no fluid in the abdomen, and for a time the autopsy seemed likely to be entirely negative.

On the side of the vertebral column, on the bodies of some of the middle dorsal vertebræ, were two or three flattened gelatinous masses, the largest as large as a quarter of a dollar. The lower ribs were found to be soft and fragile near their heads, and a knife could easily be thrust into the bodies of the vertebræ. A piece of the vertebræ column, including five dorsal and three lumbar vertebræ, was removed, and a section made by Dr. Whitney. The bodies of the vertebræ were found to be softened, many of the spaces being filled with a grayish, gelatinous material which, at some points, formed distinct rounded tumors as large as small peas, clearly marked off from the surrounding cancellated tissues. The same material evidently invaded the laminæ and spinous processes. In some places it had penetrated the wall of denser bone and communicated with the spinal canal, but the membranes were intact and nowhere had they been pressed upon or inflamed.

Dr. Whitney, from his preliminary examination, judged the new growth to be a large round-celled sarcoma.

Case II. I. M., aged fifty-five, carpenter, had good health until June, 1879, although he had lost some flesh previously. He then began to have pain in his legs, both anteriorly and posteriorly, most severely in the right. At the time of his entering the hospital he had been unable to walk for three months, and he could not turn in bed. There was no distinct paralysis but general loss of strength in the legs. There was great pain in the hips but no difficulty about passive motion of the legs. There was great emaciation. The temperature was 98°, pulse 80. Nothing in the thorax by auscultation or percussion, except a moderate systolic murmur in the fifth intercostal space. The urine was of specific gravity 1022 with a trace of albumen, a very few blood corpuscles, a few small hyaline casts, and oxalate of lime.

Nothing by palpation in the abdomen.

A few piles, a rectal ulcer, and a short sinus not opening into the bowel were found to have no connection with his other troubles.

No minute examination was made of the condition of his legs for obvious reasons, and little was done except to relieve his pain.

At the autopsy, the body of the second lumbar vertebra was found to be replaced by a new growth projecting but little anteriorly, though rather more to the right than to the left of the median line. The intervertebral cartilages were implicated in the new growth, as were also a portion of the first and third vertebræ. The transverse process and laminæ of the second were but slightly diseased. In the right psoas muscle was a growth the size of the fist, implicating the muscle and infiltrating its fibres. There were several small secondary nodules in the liver. The new growth was gray in color, soft, rich in bloodvessels and contained one or two hæmorrhages.

The microscope showed the disease to be round-celled sarcoma with numerous giant cells.

Case III. In April, 1884, I saw, with Dr. Worcester, of Waltham, a woman, aged thirty-five, who had had two children, had been in the Adams' Nervine Asylum, and had suffered from so-called "rheumatism," which seemed to prevail in her family. Her first attack was in October, 1882, and her back had not been well since. In the winter of 1883 she had a fall which made her very lame for a few days. About this time, though apparently not as a result of the accident, she had to pull herself up by the arms from the bed or a chair.

In June, 1883, she was very lame and went to bed for a rest, having "sciatica." Was in bed all summer but in the autumn was able to go down stairs, and occasionally up, by pulling with her arms.

I found her in bed, crouched down, with neck much bent forward, giving the impression almost of spinal caries, though there was no definite angularity.

When at rest she had steady pains in her legs from the feet up to the small of the back, though worse below the knee. Sometimes one side and sometimes the other was more painful.

On rising complained of great pain in right leg. Flexing the head gave pain in the back of the neck, but rotation did not.

There was no prominence or tenderness of the spinous processes.

She could move her feet quite well, but there was no patella reflex, nor ankle clonus.

Nothing could be found by physical examination of thorax or abdomen, except a slight systolic souffle, and the opthalmoscope revealed nothing. Several months before I saw her, her urine was noticed to be increased and she passed four quarts, more or less, per diem. It was of low specific gravity, pale, and contained occasionally a slight trace of albumen and a few hyaline and granular casts.

The patient died about a month afterward with an attack of dyspnœa.

The diagnosis in this case lay between an interstitial nephritis, and some affection of the spinal cord, perhaps dependent on disease of the vertebral column itself. Although the character of the urine seemed to favor the former, the absence of cardiac hypertrophy, of dropsy, of persistent headache, or vomiting, and albuminous retinitis excluded it as the essential disease.

The autopsy was made by Dr. Mead of Watertown. The spleen was four times its normal size, full of hard nodules, of the average size of a pea, but some both larger and smaller than this, dark-red, some of them gray.

Kidneys of about the normal size, somewhat lobulated. Capsule adherent. Cortical substance not much thinned; uric acid infarctions.

Both ovaries enlarged and dense. Small polypus in uterus, cyst on one tube. The other thoracic and abdominal organs presented no points of interest.

Upon opening the cranium the dura mater was found firmly attached to the parietal bones, on both of which were found firm elastic elevations of one line from the level of the inner surface over a space of one or two square inches. A section showed the whole bone to be vascular and in patches distinctly marked off from the healthy bone, a soft and pink structure. Over each orbit a tumor, the size of a filbert, in the dura mater.

The brain was normal. Upon cutting into the vertebræ to remove the spinal cord, they were found very soft, so that the saw penetrated with great ease.

A small portion of the spinous processes removed for this purpose, shows an extensive infiltration of the bony structure with a new growth, leaving in some places only a thin shell of bone. It had not, in the fragment removed, penetrated the spinal canal, though it may have done so at some other point.

The microscope shows the new growth to be true cancer. I have no record of the condition of the bodies of the vertebræ, but they were undoubtedly softened.

The ovaries were cancerous. The spinal cord showed some grayish patches in the posterior columns and possibly, by the microscope, a slight sclerosis in the same region.

In the pons was an oval cavity with a slight capsule filled with small rounded or polygonal cells with one nucleus. This extended from a little on one side of the median line, somewhere about the middle level of the pons, to the upper border in about the median line.

Case IV. I. T., aged forty-eight. Two years ago, and again six months ago, "rheumatic" pains in arms and shoulders. Present illness began two or three months ago with pain, numbness, and gradual loss of power in his legs. The pains were situated in the back and legs and were of a sharp, shooting character, lasting four or five days. He worked up to two weeks ago, but for the last week has been unable to use his legs. Involuntary and nearly unconscious micturition.

December 11. There is a prominence over the sternum which he says has been present a year. He is unable to move legs in bed. Sensation is somewhat diminished in both legs up to about the middle of the thigh. There is some pain in the back but not very severe, and no girdle sensation. Plantar and patellar reflexes present.

December 15. Decided anæsthesia from middle of leg down. Plantar and patellar reflexes absent. No motion.

December 22. Total anæsthesia of soles of feet. Reflexes absent. The complexion was very white without a trace of yellow, the skin thin and finely wrinkled. Bed-sores.

January 2. Anæsthesia extends above hips. No reflex until region of hypochondrium is reached.

January 8. Has been mildly delirious for some time. Thinks he can get up and walk.

January 17. Died.

The temperature throughout his stay in the hospital was not very far from normal, on two occasions rising to between 100° and 101°. Pulse 70 to 120. There was but little complaint of pain anywhere and the tumor over the sternum was never alluded to in the presence of the attending physician either by the patient or attendants.

The diagnosis was, consequently, myelitis involving the lumbar enlargement of the spinal cord, its origin as a compressive myelitis not being suspected.

Autopsy twenty-six hours after death by Dr. Gannett. Over the sternum from first to fifth ribs nodulated mass lying beneath the skin, twelve c. vertically nine c. transversely and elevated three c. m. above sternum. Another somewhat smaller mass corresponded to this upon the under side of the sternum and the anterior mediastinum contained a similar nodule, larger than an English walnut, adherent to the pericardium and right lung. In the vertebral column the bodies of the eleventh and twelfth dorsal and first and second lumbar vertebræ were occupied by a yellowish gray material, in part translucent, in part opaque. The tissues lying to the outside of the bodies of the vertebræ contained nodules of similar character. The tumors previously described as attached to the sternum and occupying its substance were composed of similar material. The vertebral canal corresponding to the diseased vertebræ was diminished to about one-third of its usual size. At this neighborhood an elongated, grayish tumor was attached to the dura mater. The spinal cord was here considerably flattened antero-posteriorly, its substance soft, the distinction between gray and white matter lost. In the dorsal region the consistency was diminished. The ninth rib on the left, and fourth and eleventh on the right, contained nodules of the new growth. There was secondary cancer of the liver. The bladder was in a condition of hæmorrhage and catarrhal inflammation. The other organs presented no points of special interest.

The microscopic examination of the cord was difficult on account of the extreme softness. Granular corpuscles were, however, found in the lumbar enlargement, and after such hardening as was possible, the structure was found to be much changed. The new growth was said by Dr. Gannett to be a sarcoma.

Case V. I find in the hospital records the following, which presents interesting points of resemblance and dissimilarity to the foregoing.

C. B., aged forty-three, was in the surgical side of the hospital for schirrus of right mamma. She suddenly lost power in her legs and was transferred to the nervous department. She had also pains in her shoulders, and her arms were painful on motion. There was a partial paralysis of the arms and anæsthesia of the lower part of the body. Retention of urine. The bodies of the three lower cervical and first dorsal vertebræ were in a state of cancerous degeneration.

After assembling the first three of this interesting group of cases, I came by chance upon some remarks of Charcot[1] of which I present an abridgment, and two cases reported by Cotard.[2]

Charcot says that his predecessor at the Salpêtrière, Cazalis, was in the habit of remarking that in patients dying with cancer of the breast one very frequently found secondary deposits, usually multiple, in the bodies of the vertebræ, especially in the lumbar region. Charcot himself has had an opportunity to confirm the observation, but has found, in addition, that, while the vertebral cancer usually remains latent, it is sometimes betrayed during life by a train of symptoms to which he gives the name of "*paraplegia dolorosa.*"

These are pains of which the principal seat is in the lumbar region but which radiate through the whole extent of the lower limbs, not however localized in the trunks of one or several nerves. A painful sense of constriction in the lower part of the abdomen is sometimes present. The pains are lancinating in character, worse at night, often accompanied by a sensation of heat or cold. There is always formication, especially in the extremities. There is, however, no loss of sensation, but, on the contrary, slight contact is clearly perceived and may even cause severe pain. There is no appreciable disturbance of the muscular sense. (This was written in 1865, before the importance of patellar reflex was known, and its condition was not noted.)

There seems to be no complete paralysis, but walking becomes more and more difficult and muscular atrophy takes place, so that after a time, it is impossible. The functions of the rectum and bladder are unaffected, nor is there a tendency to rapid formation of bed-sores. These symptoms have been noted six times in thirty-five cases of cancer of the breast; may come on at various periods of its development, and are just as likely to occur in cases which have been operated on, as in those left to themselves. In three cases, post-mortem observation has shown cancer in the lumbar vertebræ. Twice the neoplasm formed more or less distinct tumors imbedded in the spongy structure; in the third, it was more generally infiltrated. There had been some compression of the cord, either by the tumors themselves, or by a curvature due to weakening of the spine. Charcot mentions Trousseau, Velpeau and Nélaton, as having seen similar cases, but thinks that he is the first to call special attention to the facts.

Cotard reports two cases as follows:

B., aged seventy-nine; pains in kidneys and lower limbs, with weakness of the latter; diarrhœa; death. Colloid cancer of breast; little cancerous masses in the lungs; cancerous tumor attached to the body of the third lumbar vertebra, projecting into abdominal cavity; body of the vertebra itself cancerous and collapsed; some cancerous nodules in the fourth lumbar vertebra. These tumors were constituted by a large quantity of finely-granular, spherical nuclei and laminated tissue. There were no cancer cells found; (small-celled sarcoma (?) E.).

V., aged sixty-nine; ulcerated cancer of breast, beginning six years previously. For one year, pains in the breast and in the lower limbs. Six months ago, the pains came into the back and upper limbs, with swelling of the fingers. At the same time, the pains of the lower limbs disappeared. Diarrhœa; death. The vertebral column presented a considerable lateral deviation, with sinking in of the bodies of the vertebræ at the level of the twelfth dorsal, first and second lumbar. The twelfth dorsal and first lumbar are collapsed. Cancerous masses may be observed in the whole extent of the dorsal and lumbar regions. The body of the first dorsal (lumbar?) is almost entirely cancerous. These tumors present, under the microscope, many cells with large nuclei, and some cells with multiple nuclei and of various forms. Atrophy, with increase of connective tissue in the nerves of the lumbar plexus. No appreciable alteration of the nerve tubes. Secondary cancer of the liver.

In a short search, with the aid of the Index Catalogue, I find the following cases and remarks:

Terrier[3] says he has often spoken of the sciatic pains in cases of cancer of the breast. There may be paraplegia, but the cord is not necessarily attacked. These symptoms are often observed in women, but he gives the case of a man who had cancer of the breast.

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[1] Comptes rendus de la Société de Biologie, 1865, p. 28.

[2] Id., p. 140.

[3] Journ. de Med. et Chir. Pratiques 1874, XLV., 250.

who had there severe pains, but no paraplegia. He could not, however, walk. There was no deformity of the vertebral column, but pressure in the sacral region was painful. The third, fourth, and fifth lumbar vertebræ, and part of the sacrum, were invaded by cancerous degeneration. The laminæ, transverse apophyses, and spinous processes were replaced by tissue of a whitish, cartilaginous appearance, crying under the knife, but easy to cut.

Jeaffreson[4] narrates a case which began with severe pain in the right hip-joint. Then a tumor appeared in the abdomen, which was not tender, and seemed to have no special connection with the pain. Afterwards, there was severe pain darting down the right thigh and the course of the crural nerves, followed by similar symptoms in the left. This was succeeded by aching pain in the lumbar region, and the appearance of a soft, pulsatile swelling. There was no paralysis of the lower limbs, but loss of power to stand, on account of pain. There was no paralysis of bladder or sphincters. Hæmaturia.

At the autopsy was found cancer of the left kidney, and right supra-renal capsule and lumbar glands. The bodies and arches of the first and third lumbar vertebræ were infiltrated with soft cancer. The vertebral canal was not encroached upon, and the spinal cord was not altered, but the nerves were involved in the infiltration. The lungs were cancerous, and there were calculi in the kidneys.

A case of painful paraplegia, with sarcoma of the vertebræ, is reported by G. W. H. Kemper.[5] Another is given in the *New York Medical Journal*, January 30, 1886, by Dr. A. F. Currier.

Hughlings Jackson[6] reports a case of cancer, with sudden loss of sensation and motion, where he thinks the cord was infringed upon by cancerous deposit pressing in *between* the laminæ.

These cases need no extended comment, but the following points may be noticed:

The symptoms appear to be nearly the same, whether the cancerous invasion of the vertebræ be primary or secondary, from sarcoma or carcinoma. Pain on pressure, on standing, or sitting up quickly or turning over in bed, is often noticeable. This seems to be due to the disease in the bones themselves, without reference to pressure or irritation of cord or nerves. Pain in the nerves of the lower limbs (in Case IV, of the arms,) is an early symptom, which may disappear more or less completely at a later period. Case I, *may* have been an exception. Pain in the limbs in this case is not distinctly described, though it is said to have radiated from the painful spot in his back. This pain is due to pressure or irritation either of the nerves or cord. If the cord is pressed upon, it may be disorganized, and complete paraplegia result.

In Case IV, the rapid disappearance of the reflexes is of interest, as probably dependent upon the progress downward of the disorganization of the cord, whereby the small portion of the lumbar enlargement, sufficient to maintain the integrity of the reflex circuit for a time, was later destroyed.

— Two Boston firms of wholesale grocers have been arraigned by the State Board of Health on the charge of selling molasses adulterated with salts of tin.

Reports of Societies.

THE ONE HUNDRED AND FIFTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, June 8th and 9th.

Nature, the guide of the members of the Massachusetts Medical Society, according to its motto, smiled blandly, with bright skies and clear air, upon her followers upon the occasion of the annual meeting in Boston; and, in harmony with the enlivening weather, the attendance was good and the interest continuous. For the day before that of the annual meeting, the ordinary provisions had been made by the committee of arrangements, who also selected Huntington Hall, in the Institute of Technology Building, for the place of assembling.

AT THE HOSPITALS.

Tuesday morning, June 8, was given up to hospital visits, and a variety of operations were afforded by the various surgical amphitheatres.

At the Massachusetts General Hospital, the following operations were done: Removal of fatty tumor of back, amputation of breast, litholopaxy, radical cure for hydrocele, removal of hæmorrhoids, stricture, excision of cervical glands, by Dr. H. H. A. Beach; radical cure for varicocele, Dr. C. B. Porter; excision of knee, removal of cervical glands, Dr. M. H. Richardson. The same surgeons showed a number of cases exhibiting good results from operation.

At the City Hospital, the operations included a trephining of the skull, on account of the symptoms of a depressed fracture, and removal of enlarged inguinal glands, by Dr. C. D. Homans; operation by suture of the ring for the radical cure of a hernia of seven years' standing, removal of mammary cancer, removal of a sarcomatous tumor of both groins, united by a band across the pubes, succeeding an operation a year previous for sarcoma of the scrotum, exploration for, and removal of a bullet which had struck the jaw and glanced into the posterior part of the neck, by Dr. George W. Gay. These were performed antiseptically, using the method of irrigation. Dr. H. W. Williams also performed a painless operation with the use of a two per cent. solution of cocaine, dividing the capsule of the lens for the relief of secondary cataract. Dr. Gay showed a case in which a part of the jaw, and nearly all of the tongue, had been excised two years ago for cancer, in which there had been no recurrence of the disease, and the patient could talk so as to be understood; also, the result of a rhinoplastic operation for lupus.

At the Children's Hospital, Dr. E. H. Bradford and Dr. A. T. Cabot operated on cases of club-foot, webbed knees, and bow-legs, (with osteotomy and osteoclasis). In the wards were shown cases of a similar nature, and also cases illustrating various stages of hip disease and spinal caries.

FIRST SESSION.

The first session began at 2 o'clock, a later hour than usual, the President, Dr. Charles D. Homans, in the Chair, and by the time the proceedings were well under way, a large audience was present.

The first paper was entitled

ABUSE OF MEDICAL CHARITY: A REMEDY APPLIED IN 3,000 CASES OF OUT-DOOR PATIENTS: RESULTS,

by Dr. Fredbrick F. Doggett, of Boston.

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[4] Trans. Path. Soc., 1868, 426.

[5] Journal of Nervous and Mental Disease, Vol. XII, p. 9.

[6] Medical Times and Gazette, February 1, 1862.

The reader gave statistics as to the reception of free medical treatment by unworthy persons in large cities, and proposed a regular system of inquiry into the circumstances of charity patients.

Dr. Hastings, of Boston, commended the plan, but suggested difficulties in the way of its general adoption.

Dr. Morong, of Boston, advocated investigation by an agent appointed by the Trustees of the Associated Charities.

Dr. John L. Hildreth then read a paper upon

DOES THE LAW RECENTLY ENACTED BY THE LEGISLATURE PREVENT THE SPREAD OF SCARLET FEVER?

taking the ground that the present requirements do not go far enough, and claiming that separation and isolation were absolutely necessary, in which he was sustained by Dr. Abbott and Dr. Durgin, who took part in the discussion.

The next paper was upon

THE PRESENT STATUS OF BACTERIAL PATHOLOGY AND ITS RELATION TO THERAPEUTICS,

by Dr. Albert N. Blodgett, of Boston.

The reader accepted the germ theory of disease, but doubted that thus far it had advanced therapeutics.

Dr. Ernst claimed that it made an earlier diagnosis possible, and therefore was a gain to preventive medicine.

Dr. William E. Boardman, of Boston, followed with a paper upon

THE MANAGEMENT OF CASES OF RIGIDITY OF THE OS UTERI IN LABOR,

suggesting the wisdom of earlier interference.

A paper upon

A NOT WELL-RECOGNIZED SOURCE OF DOMESTIC POISONING, WITH CASES,

was then read by Dr. Charles Harrington, of Boston, the poisonous article being the bichromate of potassium, now largely used as a mordant in dyeing, but whose deleterious effects had but recently come into notice. Several cases of poisoning from this source were detailed.

The afternoon exercises closed with a paper upon

ABDOMINAL CELLULITIS,

by Dr. Julian A. Mead, of Watertown, an exhaustive *résumé* of the subject.

BACTERIOLOGICAL EXHIBIT.

At the new building of the Harvard Medical School, Dr. H. C. Ernst, the Instructor in Bacteriology, had arranged a very instructive and interesting exhibit of the material and apparatus employed in the study of germs, which he was himself present to explain to a large number of inquiring visitors. These included the apparatus for the sterilization of gelatine and argar-argar ("Japanese isinglass,") air, water, test-tubes, etc.; a large number of specimens of pathogenic and non-pathogenic bacteria, preserved in gelatine and argar-argar, and showing plainly how certain bacteria produce pigment in the latter, and not in the former; specimens of mould and fungus; sections of viscera, showing, under the microscope, the tubercle-bacillus and the bacteria of actinomycosis; and an apparatus containing sterilized gelatine, through which the air of the room had been drawn, showing the bacteria present; in short, all of the apparatus needful for the general processes of cultivation, preservation, and examination of bacteria.

CONFERENCE OF CENSORS.

The conference of the Censors of the various district societies, which has now become associated with the Annual Meeting, was held at half-past two Tuesday, at the Medical Library. There was a good attendance, nearly every district being represented; and from nearly every quarter, there was reported a gratifying tendency towards a higher standard in the examination of candidates for admission to the Society. It was regarded that there was a steady approach towards a uniform standard of requirements in the various districts.

SECOND SESSION.

The annual meeting proper was called to order at 9 A.M. on Wednesday, by the President, Charles D. Homans, M.D. The records of the last annual meeting were read by the recording secretary, Francis W. Goss, M.D., of Roxbury, and were approved by the meeting. There have been seventy-eight new fellows admitted to the society during the last year, and thirty-one have died. The treasurer, Frank W. Draper, M.D., of Boston, presented his report, from which the following figures are gleaned: Last year's balance, $1,710.73; total receipts, $10,452.40; total expenditures, $8,685.03; balance this year, $1,767.37; total balance, $3,478.10. The invested funds are $32,420.17, bearing interest at the rate of 4 per cent. Thirteen members of the society have forfeited their membership by removal from the State. The names of three fellows have been dropped from the rolls on account of delinquency in payment of fees. There are now 1,605 fellows in the society.

The following papers were then read:

AN EPIDEMIC OF MALARIA IN EASTERN MASSACHUSETTS IN 1885,

by Zabdiel B. Adams, M.D., of Framingham;

THE CAUSATION AND TREATMENT OF LATERAL CURVATURE,

by Edward H. Bradford, M.D., of Boston;

SOME OF THE RESULTS OF FRACTURES,

by Joseph E. Garland, M.D., of Gloucester;

THE ETIOLOGY AND TREATMENT OF SUMMER DIARRHŒA OF INFANTS,

by Henry C. Haven, M.D., of Boston.

The following delegates were then introduced; John H. Cutler, M.D., Peterborough, N. H.; Christopher A. Sanborn, M.D., Newport, N. H.; Frederic H. Gerrish, M.D., Portland, Me.; W. F. Morrison, Providence, R. I.; Robert Westcott, M.D., Elizabeth, N. J.

Succeeding this came a short intermission, during which there was opportunity for the renewal of old acquaintances and the formation of new, or for inspection of the vast variety of pharmaceutical products which the industrious venders displayed in the lower rooms, and at the hotel across the street.

THE ANNUAL DISCOURSE.

At 12 o'clock, the Fellows were again called to order to listen to the annual address, delivered by Richard M. Hodges, M.D., of Boston, upon "Undercurrents of Modern Medicine," and which is printed in full in the Journal.

At the conclusion of Dr. Hodges' address, which was warmly received and frequently interrupted by applause, the president-elect, Thomas Hovey Gage, M.D., of Worcester, was escorted to the platform and said: I was unfortunately unable to attend the meetings of the society yesterday, and that of this morning. I have but just arrived in the city, and did not know until this morning the very distinguished and entirely unexpected honor which the councillors have conferred upon me by choosing me to the presidency of the Massachusetts Medical Society. I can only say that I trust I appreciate duly the honor, and I hope I appreciate, also, the responsibility which it has brought. To preside over the deliberations of a large and enthusiastic body of scientific Fellows like this, is a task not to be lightly assumed or unadvisedly taken. If I attempt it, I shall need your constant coöperation to make my operations successful. I shall, perhaps, many times need your indulgence; I may require your forbearance, but I trust that these favors, when required, will not be denied me. I shall accept the position to which I have been assigned, and give you the best service of which I am capable. I can only add an honest hope that the acquaintance we are about to form in entirely new relations may prove to be mutually agreeable and profitable.

A vote of thanks was passed to the orator of the day, and the meeting of the society was then adjourned.

THE ANNUAL DINNER.

After the annual fashion, the Fellows were marshalled in order of seniority of membership and proceeded to the skating rink on Clarendon Street for dinner. The arrangements of the spacious room were about on the same plan as last year. Music was provided by the Germania orchestra, and the dinner by the proprietors of Hotel Brunswick. The tables were well filled, the large predominance of younger men being a matter of comment. There was an increased number of the gentler sex. The Fellows were called to order by the anniversary chairman, Dr. E. B. Harvey, of Westboro', and grace was said by the Rev. Minot J. Savage of the Church of the Unity, Boston.

The platform was occupied by the following men of prominence, among others, besides the officers of the Society and delegates from other societies: President Pillsbury of the State Senate, Surgeon General A. F. Holt, Professor Hartwell of Johns Hopkins, the Rev. M. J. Savage, Drs. H. P. Walcott and F. W. Draper, of the State Board of Health, Drs. H. W. Williams, B. E. Cotting, C. J. Blake, C. F. Folsom, G. H. Lyman, W. L. Richardson, H. I. Bowditch, S. H. Durgin, Alfred Hosmer, F. K. Paddock, J. G. Blake, G. H. M. Rowe, D. W. Cheever and G. W. Gay.

When cigars were reached Dr. Harvey began the post-prandial exercises with the following introduction: —

Fellows of the Massachusetts Medical Society, — To these closing festivities of our Annual Meeting, it is my official duty to welcome you. On this rare June day we are assembled from all parts of the Commonwealth, from the Cape to the Berkshire Hills, a thousand strong, to join in friendly greetings, to exchange kindly salutations, to utter new vows of loyalty to our profession, and, in honor of those illustrious philanthropists who, more than a century ago, laid, firm and strong, the foundations of our organization, to contribute another chapter to our magnificent history of a hundred years of medical progress.

We are especially honored to-day by the presence of distinguished guests, men eminent in the other professions, representatives of the press, the forum and the pulpit, halls of legislation and institutions of learning. Distinguished gentlemen, too, of our own profession, from other State societies and State institutions, honor us in like manner. We gladly extend to them the hand of fraternal greeting, and welcome them to this festal occasion.

Several of these gentlemen will be formally presented to you this afternoon, whom I know you will regard it a privilege, and find it a pleasure, to hear.

Fellows, wisely you have not made it the duty of your presiding officer on this occasion, to offer any remark, or suggestion even, touching the interests or concerns of our society work; but you will permit me, I trust, in a word or two, to congratulate you on the high order of the discussions, and the interest manifested, throughout this anniversary, so indicative of the continued prosperity of the oldest and largest and best known of the State medical societies in this country. I further congratulate you on the fact that everywhere in the medical world, membership of this time-honored society is regarded as a mark of high attainments, and of honor to him who bears it. As from its beginning, the Massachusetts Medical Society is the steadfast patron of scientific research, untrammelled by creeds and dogmatic formula, ever conservative and yet in the highest degree always progressive. The advancement of medical science for the welfare of the race is its great purpose. I therefore offer you this sentiment:

"The Massachusetts Medical Society," — ever active and foremost in promoting the great objects of the medical profession.

The president-elect, Dr. Thomas H. Gage of Worcester, was called upon to respond, and spoke as follows:

Mr. Chairman, — It is an agreeable official duty, however unworthily or inadequately it may be performed, to acknowledge, in behalf of the Massachusetts Medical Society and this vast concourse of its Fellows, so complimentary a sentiment as that you have just uttered. It is especially agreeable to me because I know the sentiment to be an expression of your sincere belief, and not a merely polite and meaningless formality. And it is agreeable also, because I know the compliment to be justly deserved.

But, Mr. Chairman, if my understanding of the matter is correct, the Massachusetts Medical Society was not founded by our fathers for the particular purpose of promoting the interests of the medical profession. It was founded in recognition of a simple but imperishable truth, namely, "that health is essential to the happiness of society;" and its express object was the protection of society from quacks and impostors whose practices endanger public health. It was, sir, more to promote the highest interests of society than those of the medical profession that it was incorporated; and to this great corporate duty it has been never for a moment unfaithful. And yet it is a fact, and a fortunate fact, too, that, through the wisdom and foresight of those who have managed its affairs, the scope and meaning of protection to society have been in theory and practice so broadened out as to make the promotion of medical science and the elevation of the medical profession the principal object, of its solicitude and care. And it has, to the accomplishment of these objects, invited and encouraged on the part of its Fellows independent and original medical inquiry. It has gathered together the results of such inquiry, and has attempted to gather also (to some extent, at least, so that all should not be lost) the vast experience of its members; and the knowledge so gathered it has diffused again and scattered abroad for the general good. It has made it an object of especial care that each of its Fellows should have annually in his hands an epitome of current medical literature, to suggest, at least, the wonderful activities and progress of medical science. It has surveyed, from time to time, under the light of general discussion and mutual reflection, the positions attained in the experience of its Fellows, thus seeking to give a sound guidance in the application of newly presented knowledge and principles to practical duties. It has contributed its full share to the awakening of the present remarkable and auspicious interest among both profession and laity in sanitary science and preventive medicine, and has done much, not only to develop but to direct that interest. It has influenced and controlled the legislation of the Commonwealth in regard to matters pertaining to the public health, and in regard to the relations of medicine and the medical profession to criminal investigations. It has encouraged, by every means in its power, higher medical education and a better preliminary preparation than formerly on the part of the medical pupil, and it has steadily advanced the standard of its requirements for membership. And finally, sir, it has gathered into one vast social organization the members of the medical profession from every part of the Commonwealth, and made of one brotherhood, if not one blood, all who, according to the faith and purpose of the fathers, "worship in this mountain."

Such, Mr. Chairman, are a few, a very few, of the accomplishments and attempts of the Massachusetts Medical Society which entitle it to be alluded to as ever active and foremost in promoting the great interests of the medical profession. The mere mention of these will suggest to the minds of my audience a hundred others of greater importance still.

And now what will be the future of the relations of this society to the profession? Why, sir, it will be just what we and those who come after us shall make it. It lies with us and them. And yet I have no doubt whatever that it will be growing year by year still more honorable to the wisdom and the acquirements of those who manage and control this organization, still more useful to the scientific constituency of which the society is composed, and still more advantageous to the community.

I give you, sir, and the Society this thought: *Fellowship in the Massachusetts Medical Society*,— now and always an honor,— it may become in the future the proudest distinction attainable in the medical profession.

In the unavoidable absence of Governor Robinson, the Hon. Albert E. Pillsbury, president of the State Senate, was called upon to represent the Commonwealth, and spoke substantially as follows:

Ladies and Gentlemen, — Who would have thought even five years ago that I might say to-day *ladies* and gentlemen? Who would have expected to see millinery in this assembly? I congratulate you upon that liberal spirit which has enabled you to include in your membership that sex without which, even I, a bachelor, may be permitted to say, all human arrangements are imperfect. I congratulate also these (misnamed) Fellows upon their presence at this dinner, even at the expense of being smoked out. What an industry, by the way, this business of dinner giving is becoming! To all of them the State officials are invited, and it has become one of our chief duties to attend them.

We may live without books — what is knowledge but grieving?
We may live without hope — what is hope but deceiving?
We may live without love — what is passion but pining?
But where is the man that can live without dining?

Your numbers here are proof enough that you neither need nor take your own medicine, and in the seat of the chairman I see a gentleman whom I judge from his name and appearance to be the original discoverer of the circulation of the blood. Governor Robinson cannot be here, and, by an application of the rule of similia similibus, that I should not have expected from you, I have been invited to take his place. It is well known, however, that we of the Senate make no mistake. There is always good reason for all that we do. We have no eye at the State House for the main chance, no thought of votes or the next election. There were some things in 1879, however, that may not have been exactly right. The creation of the Board of Health, Lunacy and Charity has been alluded to. I do not suppose that a single member of the legislature which enacted that law, or the governor who signed the bill, ever really believed in it. You may entertain a faint recollection that, in or about 1879, a very distinguished citizen of Massachusetts, then recently removed from Gloucester to Lowell, was of the opinion that there was a great deal of extravagance in the conduct of the State government of Massachusetts; and he succeeded in inducing a large number of newspapers to subscribe to that opinion. And the legislature of 1879 went up to the State House fully imbued with the idea that they must cut down some salaries, and abolish others if possible. That jumble of conflicting — or of diverse, if not conflicting — interests known as the Board of Health, Lunacy, and Charity, was a sacrifice upon that altar. It was in pursuance of a policy of economy, not a policy of wisdom, that that Board was created. I do not intend to criticise the gentlemen of the legislature who were concerned in its creation. They doubtless honestly believed that they were doing what must be done under the circumstances. But I do not believe that you, gentlemen, or the people of Massachusetts, have ever approved that act. If I may travesty Lincoln's illustrious address, it might be said that that Board of 1879 was created "with lunacy toward all, and with charity for none."

The results achieved were just about what you might suppose they would be under the circumstances. Gentlemen of diverse pursuits, of entirely different training, some of them not in the least adapted to handle, and not professing to be able to handle, some of the subjects which were committed to their charge, were tumbled together into that Board, to look after the health, lunacy, and charity of Massachusetts; and the mixture, so far as I have been able to learn, was not a fortunate one. Some interest, or interests, out of these three had necessarily to go to the wall; and you probably know which one finally did go to the wall. The canon which governed that Board seems to have been: "Now abideth health, lunacy and charity, and the greatest of these, by a large majority, is charity." I am told that one of the results of the war of 1879 was that the interests of the Health Department were, and had to be, subordinated to the interests of the department of charities. It remained for the Legislature of 1886, which can do no wrong, to set that right; and that we have done it, I trust you agree. We have divorced that unnatural union of health, lunacy and charity, and established what I trust will prove in fact, as well as in name, a State Board of Health. The selections which his Excellency, the Governor, has made to fill the positions so created, have been made with his usual good judgment. And it gives me particular pleasure, as it does you also, I have no doubt, who are associated with him in this Society, to see that accomplished and faithful servant restored to that service at the head of the new Board. And I take particular pleasure in saying this to you, members of the Massachusetts Medical Society, because I once, as a member of the Legislature, had occasion to criticise some of that gentleman's official acts which seemed to me indiscreet; and I am glad to say here, that, notwithstanding some trivial mistakes, from which human frailty is never exempt, I believe the universal judgment of the people of the Commonwealth, at least of those having any familiarity with the subject, approves the restoration of that gentleman to the head of the State Board of Health.

The Board is armed with great powers, but none too great. And I am sure that when we look over the constitution of it, we shall agree that such a Board may be safely trusted with such powers, however extensive. You have there not only the highest professional skill and training, but the ripest wisdom from the ranks of the lay citizens of the State; and you have introduced into the lump even the homœopathic leaven. I observe, Mr. Chairman, that this is received in chilling silence. Whether it will leaven the whole lump; whether it will work as our Dr. Holmes says jalap works, "not wisely, but too well"; or whether it will work, as most of you probably have been accustomed to regard it, "neither well nor wisely," remains to be seen. We will hope for the best.

The interests committed to the hands of the new Board of Health are of the most complex and important character. In these times, the office of a Board of Health is no sinecure. The great accretions of population in our cities and towns, the new movements of population which are contantly going on in Massachusetts, the changes incidental to modern habits and methods of life, especially in thickly-populated communities, are presenting every day, for the consideration of that Board, questions of the most important and delicate character. That they will deal with them wisely and well, I have no doubt; nor have I any doubt that it will be the pleasure of the members of the Massachusetts Medical Society, as of all other good citizens of the Commonwealth, to uphold and strengthen the hands of the new Board in the discharge of its duties.

The Rev. M. J. Savage was then called upon to respond for the clergy, and spoke in substance as follows:

Mr. Chairman and Gentlemen, — I find no fault with those who are obliged to leave the hall; I would go too if I could, since I am in no condition to speak. It is far easier for men to say sharp things about the medical and clerical professions than to do without them. It has become a habit to have a sly dig at the doctor, the minister, and the lawyer, perhaps because men like to have their revenge on those who deal with their frailties and faults. I was looking over a book this morning, more or less familiar to me, though I don't know how familiar it is to the members of the Massachusetts Medical Society (I refer to the Old Testament), in which it is related how in his trouble Asa sought not to the Lord but to his physicians, and the next verse states that "Asa slept with his fathers." This may, however, have been written by a priest who had been actuated by professional jealousy. I recall another venerable joke (all our newspaper jokes are as old as Greece and Rome, and are resurrected for New York and Chicago) about a doctor who came home empty-handed from hunting. "I have been gone all day and killed nothing," he said to his wife. "You might have stayed at home and attended to business," said she.

They have their thrust at the minister, too. In the Garden of Eden the Lord cast Adam into a deep sleep, and it is said that that part of the Lord's business has been delegated to clergymen ever since. You remember, too, the old lady who had not slept for three nights, and then begged her pastor to relieve her by coming up and reading one of his nice old sermons. Yet it is easier to make fun of us than to do without us. It is the doctor who first welcomes us when, as George Macdonald says, "we come out of the everywhere into the here;" to whom we are introduced before we are to our mothers; who guards us through infancy, youth, middle life, and old age; to whom we go when we drink other people's healths to the ruin of our own. And at the last it is always a blessed consolation to have the presence of the kindly, patient, experienced man smoothing the pathway to sleep. And it is there that the doctor and the minister meet. "Is papa the doctor for dead folks?" my little girl asked the other day, with a mingling of wisdom and humor and pathos. The minister is wanted at the christening, the wedding, and the funeral, at least. I wonder sometimes at the extent of my parish when I am called to attend the dying, though to all such the minister willingly goes. For myself, however, I say that if I could do without the minister all my life, I'd finish up without him too.

There are certain parallels between the two professions. The doctor and minister both live on the faults and sins of society. If all of us were wise and self-controlled, your business would be largely reduced; and if all of us tried to do well, to live religion, there would be small need for the minister. And it should be the business of both of us to make ourselves useless by the instruction and uplifting of the world. But there need be no fear, so far as you and I are concerned, of any sudden coming of the millennium. There are strikes, boycotts, depressions, but the work of making fools of ourselves, in body and soul, goes steadily on. You and I, however, ought to enable the next generation to get along with fewer doctors and ministers. Again, both of us are apt to get in love with our sects, systems, methods. There are sects in the church, and are said to be in the medical profession. Each of us is apt to regard our way as infallible, and to prefer it rather than the healing and saving of men. Let us rather subordinate methods to health and good-ness. Again, most people do not want to be taught the laws of health or how to behave. We want a doctor to let us live as we please, and give us immunity from the consequences. And we all want to be saved, too, after the fashion of the colored brother at the revival meeting: "What we want here, massa, is religion. To allude to chickens or the Ten Commandments would throw a coldness over the whole meeting." And, also, the doctor who throws the greatest mystery around his work will have the largest clientage of people who don't think. And so will the same sort of ministers have among such people the largest following. And here is the field for the mind cure. I suppose there is nothing about this that has not been always known. "What is new in it is not true, and what is true is not new." No doubt there have been good results, but the process is old and simple, and I am amazed that sensible people should give it their countenance, when we are told that there are no bodies and no such thing as pain. It reminds me of what Byron said of Berkeley —

> "When Bishop Berkeley says there is no matter,
> It is no matter what he says."

But the medical and clerical professions have the grandest work the world has ever seen — to diminish the sum of grief and pain, and to increase that of joy and hope. I always wish I was a doctor when I stand by the bedside of pain. There is no nobler thing than to be the welcomed confidential guest of a household, to earn the deep gratitude of troubled parents. So I, when I have helped some one to live by kindling hope, feel that I am repaid for years of toil. There should be a hearty coöperation between every doctor and every sensible minister in the world. We need to unite our work, for, if both the body and the soul are healthy, then we are ready to go out of the world hand in hand together.

Dr. George W. Gay was then called for, and read the following poem, written for the occasion by the wife of one of the distinguished members of the profession in Boston, Dr. John G. Blake, and which was greeted with applause.

In that time of the year when the world is in tune
With the breath of the rose and the music of June,
Comes a day of delight, may its mem'ry be blest,
When the Medical Man gets his chance with the rest.

Then the drudge who must toil out of reason and rhyme,
Who must always be ready for calls upon time,
Who must keep himself smiling and wholesome and gay
Through the twenty-six hours of each calendar day,
Who must sleep like a cyclops, with one eye awake
Lest some amiable fiend should imagine an ache,
Who is wedded to science but widowed of pelf,—
Gets a single day off, to take care of himself.

Then wild grows the tumult of laughter and noise,
As if men's pulses throbbed with the hot blood of boys;
Then names long forgotten come back with a shout,
From the hearts of old comrades rung cheerily out;
And the swift wheel of wit turns its scintillant spokes
In postprandial speech and professional jokes;
All chestnuts? well, that leaves no cause to repine;
When shall we have chestnuts if not when we dine?

Who envies their glee? Not the poor they have nursed
When the hand of disease marked its plague-spot accursed;
Not the rich they have guided to havens of health
Through the shoals and the rocks and the quicksands of wealth;
Not the maid they have snatched from the pale grasp of death,
Nor the child they have fostered with life-giving breath,
Nor the soldier who fights in humanity's field,
Whose soul they have strengthened, whose wounds they have healed!

Take the sense of the meeting; look round as you sit,
At the shrewd kindly faces all wisdom and wit,
See the straightforward eyes with their glance strong and tense,
And that polish that learning rubs deep into sense.
How changed, since the days when a knave or a flat,
In a full-bottomed wig and a three-cornered hat,
With a cane in his hand and bold brass in his cheek
Could impose on the world seven days in a week.

How changed, since the sole light of wisdom and skill
Was a pale ignis-fatuus shining at will
Over quagmire, and stubble, and pitfall of wrath;
And sometimes — by chance — on a safe, honest path;
Since simples were culled by the light of the stars,
And prescriptions were mixed up with Venus and Mars,
'Til one scarcely knows whether to frown or to laugh
At one portion of reason to nine parts of chaff;

And yet how unchanged,— save in vantages won,
Where the regular army fights valiantly on
Against Malice and Error, who stand hand and glove
To strike back at conscience and wisdom and love;
Save in effort that recked not of praise or of blame,
That grasped not at fortune, that cared not for fame,
'Til it wrested life's secrets from rock and from sod,
And the Healer of man was made High Priest of God!

Alas how unchanged! with the skirmishing host
Who make ignorance fashion, and folly a boast:
Look at Mind Cure at work without physic or steel
And healing with nothing, the nothing to heal;
Look at Scientists dubbed as the "Christian" to-day,
Who can aim at a fever ten good leagues away,
And bid it avaunt at their voiceless commands
By a new imposition, not even of hands!

Look at Hahnemann feeding his sugar-plums sweet
To a world that insists it has outgrown deceit,
Yet believes in the paradox, startling if true,
That the weaker a force is, the more it can do;
And accepts a teaspoonful of tonic or salts
In which one drop has flavored twelve millions of quarts!
How such gullible nonsense the old fooling mocks
That gave horseshoes for gout, and red paint for small-pox!

Eclectics, Electrics, Clairvoyants, and Quacks,
Patent-medicine venders with nostrums in packs,
Herb-doctors, Bone-setters, and Naturopaths,
Cures by fruit and by fancies, by mud and by baths,
Men of Magnets and Mesmer, each vaunting his skill,—
What a long list of evil to add to earth's ill!
Well, better the strife than the stiffness of rust;
And the car-wheels of progress must still create dust.

. . . .

True shepherds that watch at the gates of the fold,
Call the wanderers in from the dark and the cold!
Bid them enter at will through the wide open door,
Set the clear light of reason their dim sight before,
Give them logic for nonsense, and honor for lies,
Let them see naked truth without shame or disguise,
Who knows but the soul from its bondage may start
And the training of hand prove a training of heart?

Now a last word in wishes: may health and good cheer
Be your maxim of life every day of the year;
May the honor of toil make its hardship amends,
And your firesides be rich in wife, children and friends;
May each patient who lives send a check for his bill
And the odd one who dies write your name in his will;
And the God of the Doctor grant this little boon,—
One other day off for a dinner next June.

Dr. E. M. Hartwell, Associate in Physical Culture at Johns Hopkins University, was then called upon, and spoke substantially as follows:

Mr. Chairman and Gentlemen, — I need not say that I feel highly honored by a seat at your table and the opportunity to speak of the interest I represent — that of personal hygiene for students. I bespeak for it your attention and interest, knowing that you have shown great and efficient interest in educational institutions. I believe the time is near at hand to bring about sounder methods of education. The earliest interest exhibited in Massachusetts was in 1647, when the apostle Eliot wrote to Parson Shepard at Cambridge, urging the founding of a school in which "anatomies and things that way" should be taught to the Indians. It is desirable that the educators of educated people should be taught what the laws of the

Lord of life are; to know the advantages of the cultivation of physical hygiene in the education of youth. Ignorance of the laws of health is one reason for the lack of it in students. The head of the department of philology in one of our universities thought he was accounting for an attack of vertigo by saying that he supposed "the fumes of the gall came up from his liver to his head, and stunned him." Another eminent educator saw no objection to putting the whole charge of the gymnasium upon one of the firemen. Now when able men take hold of the matter, they are still met with opposition; and this condition cannot be bettered until our courses of instruction are overhauled, disinfected and reformed. And to whom should we look for intelligent aid but to medical societies and medical schools?

There has already been a great revival in the departments of hygiene in our medical colleges, but there is room for still greater improvement. In 1781, when Dr. John Warren began his lectures to medical students, and in 1784, when the Harvard Medical School was founded at Cambridge, the rest of the university students were admitted to the exercises. When it was removed to Boston in 1810, there was still a course of lectures to undergraduates and to resident graduates, given by James Jackson and John C. Warren; and to them is due the establishment of the Tremont Gymnasiasm, the first in Boston. They tried to get the father of the German *turning* to come over as superintendent. Hygienic education was carried on elsewhere, too, notably at Round Hill School at Northampton. I am indebted to Dr. George C. Shattuck, then a boy there, for an account of the work at that time. By the good obtained there, a Round Hill boy who established St. Paul's School at Concord, N. H., was influenced to make the inculcation of hygienic rules a condition of the deed of gift, and the result is that the St. Paul boys are famous for athletic acquirements. Already $500,000 has been expended by colleges in the construction of gymnasiums, but there is still much work to be done. There is need of proper instruction of the teachers themselves. Let us have the experiment tried farther yet, and let us have the influence of the medical profession. The boys who come to our colleges have to be taught the A B C of physical education, and they should have learned it long before.

This concluded the speech-making, and about four o'clock the Fellows dispersed.

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THE CONNECTICUT MEDICAL SOCIETY.

NINETY-SIXTH ANNUAL MEETING, MAY 26 AND 27.

This Society, as most of your readers know, holds its meetings alternately at New Haven and Hartford. Formerly the meetings were held at other places throughout the State, and two years ago an attempt was made to revive the ancient custom, in part at least, by proposing that the Society should meet every *third* year at Bridgeport, a thriving and energetic city of some 30,000 population, and the headquarters of the Fairfield County Medical Society, one of the most active of the local organizations, numbering about seventy-five members. It was thought, however, that, in a State so small as Connecticut and so thoroughly interpenetrated by railroads, there was no necessity for multiplying meeting places on the score of inconvenience by reason of distance, and the proposition was laid aside without causing the disaffection among the Fairfield County members that was predicted by some croakers during the discussion.

This year the Society met at New Haven in the Common Council Chamber of the City Hall, which was generously placed at their disposal by the authorities. It is a large, well-lighted and well-ventilated room, almost too large, as the extra space at the rear was injudiciously allowed to be occupied by some of the peripatetic, pharmaceutical hangers-on of Medical Conventions, whose presence was certainly far from desirable when upon the second day, some of them began the vending of some beverages in the room when the reading of the scientific papers was in progress. They were summarily stopped, but the disturbance had already taken place, and caused a jar in the proceedings.

The first day's proceedings are entirely of a business order, and are in fact exactly what go on in the Councillors' meetings of the Massachusetts Medical Society with the difference that with us, members who are not councillors (we call Councillors Fellows) are invited to be present, to take part in discussions, offer resolutions, and in short, do everything but vote. The President makes an address to the "Fellows," usually very brief, calling their attention to needful legislation, and making such recommendations as he sees fit.

The interest of the "Fellows" meeting centered about the report of a special committee appointed at the last annual meeting to obtain an expression of opinion from every member of the Society upon the question of changing the organization of the Society.

It is an admitted fact that the interest of the profession of the State in the proceedings of the State Society is not what it ought to be, and various reasons have been assigned for this. In the first place we are unfortunate in not having some metropolitan city whose attractions, medical and otherwise, might supplement those of the Society's proceeding in drawing the members out of their daily ruts. In the second place we are, in one sense, unfortunate in being placed between Boston and New York, for it is very handy for our country members to slip off to one or other place, and thus use up all the time they feel that they can spare away from their daily duties. It is true that both these conditions have existed from the time of the Society's foundation, and yet as regards the second, there is now a radical difference in one respect, namely, the multiplication of railroads and better passenger service have made it vastly easier for the country practitioner to go to Boston or New York, and the establishment of Post-Graduate Schools has led many to do so, and the State Medical Society has been the victim thereof.

Two or three members of the Society, however, seem to have been impressed with the conviction that the trouble was with the *organization* of the Society. There were usually present at the business meeting, several members who, not being among the business delegates for the year could not *vote*, and these members were supposed to be in a state of suppressed indignation at this curtailment of the privileges of free and independent citizens in much the same way as they might be supposed to be righteously indignant at not being allowed to vote on a question before the Legislature of the State, when their towns had invidiously selected some one else to represent them for that year.

In a lengthy article upon this question read before the New Haven County Society a year ago, and printed in the proceedings of the State Society for last year, the author charges that the organization of the Society causes "rings" and "cliques," and insinuates that these agencies control the election of "Fellows" and have often controlled the election of officers. The solitary fact which he adduces in support of this startling charge is that from 1801 till 1856, no New Haven County man was chosen President. By his own figures it would seem that the abuse of which he complains ceased thirty years ago without any change in the organization of the Society.

The sovereign remedy for this deplorable condition, according to this author, lies in the adoption of the proposed New Charter, which your readers may remember was fully discussed last year after having been made the subject of a special meeting some months before and referred to the County Medical Societies. The only change of importance in the New Charter lies in the clause by which every member of the Society becomes a "Fellow," or in Massachusetts parlance, every "Fellow" becomes a Councillor. Representation of Delegates from County Societies is thus done away with, and the whole Society does the work which our Fellows have done, and which your Councillors do. Last year the opposition was very pronounced, and there being no chance for a favorable vote upon it, its sponsors succeeded in getting action postponed till this year, and a special committee of three appointed "to obtain an expression of opinion upon the subject from every member." This committee sent a circular to every member, asking for an answer to certain questions, the main one being whether the signer desired that every member should become a Fellow, thus to change the form of organization.

The Report of this Committee was read by the Chairman, Dr. White, to the effect that three hundred and twenty-three replies were received, of which two hundred and fifty-eight were in the affirmative and sixty-five in the negative, and recommending that in view of this overwhelming preponderance in favor of the measure it be "Resolved that a committee be appointed to present the subject to the Legislature and secure necessary action." One of the Committee disowned any responsibility for this resolution, not believing that the figures given represented the true opinion of the signers.

Dr. Carmalt followed with an argument showing that the Committee which was appointed to obtain an expression of opinion only, had sent out a circular of which a large part was an *argument* for the New Charter containing copious references to the article referred to, published in last year's Proceedings, and closing by requesting an affirmative or negative answer with the word "affirmative" in italics, by which special direction was given to the method in which it was desired that the answer be given. The most powerful part of Dr. Carmalt's speech was the setting forth the fact that the circular was not only argumentative, but absolutely conveyed misinformation in stating that all the other New England State Medical Societies made every member of the Society on an equality with every other one, all participating directly in the election of officers and transaction of business. This, Dr. Carmalt showed by extracts from the official documents, By-Laws, etc., was not the case in the Massachusetts Medical Society, any more than in our own, and the statements to the contrary both direct and by implication scattered through the article to which the circular made reference, as well as in the circular itself, were therefore misleading, not to call it by any harsher name.

It was difficult to conceive how a man writing with the documents before him, could be so misled as the author of the article has been, in assuming that, because the term "Fellow" in Connecticut, meant a member of the governing body, it must mean the same in Massachusetts, and that when in 1803, the Massachusetts Medical Society made every member a Fellow it meant that a governing body was dispensed with, thus ignoring entirely the fact that the transaction of all ordinary routine business, the admission of new members, dismissal of members, election of officers, appointment of committees, etc., was all done in Massachusetts exactly as they are done with us, by a delegate body elected by local societies.

Dr. Carmalt also instanced the case of the Michigan Medical Society, organized some twenty years ago on the mass-meeting principle, but which appears to have become dissatisfied with its workings, for year before last a Committee on Reorganization was appointed, whose report Dr. Carmalt quotes, to the effect that too much time was consumed in non-professional matters and too much attention given to purposes and schemes other than scientific (apparently there has been "log-rolling" or machinations of cliques, though they have not been afflicted with a governing body). This Committee recommend reorganization on the basis of three classes of members. 1st, Delegate members to be chosen by the local societies in the State, the right to *vote*, and consequently the government of the Society to be vested *exclusively* in them. 2d, Elective members. 3d, Permanent members. The latter two classes to have all rights and privileges of delegate members except the right to vote. If the Michigan Committee had copied our Charter and By-Laws, it would not have differed in any essential particular from the one they recommended, action on which was postponed till next year.

The discussion was maintained in a lively fashion, crowding the usual business of the session into a few hurried minutes at the close of the afternoon. The advocates of the New Charter expended their efforts in emphasizing the fact that two hundred and fifty-one signed votes had been obtained by the Committee in its favor and as this was a majority of the members, the membership reported last year being four hundred and ninety-five, the minority ought to yield. No serious attempt was made to answer Dr. Carmalt's charges that the vote was obtained by an electioneering circular containing misinformation, which, if true, would deprive the vote of all significance. An attempt to postpone action for another year was promptly voted down, the Society evidently thinking that it was time the question was settled definitely, and a yea and nay vote on the question resulted in twenty-five votes for the present organization, against eight for the proposed New Charter.

It is earnestly hoped that this project will not appear, like Banquo's ghost, to disturb the Society again and draw off our energies from the true work of the organization.

The whole discussion was very flattering to the Massachusetts Medical Society. Both sides brought that Society forward as a model, an illustration of what a Medical Society might do, and admitted the truth of Dr. Warren's encomiums upon its form of organization in his centennial address. It does seem absurd that with the Constitutions and By-Laws of both Societies before them, a body of scientific educated men could so long discuss a question that ought to have been settled in half an hour.

The conviction is growing upon many of our members that the real cause of the indifference to the scientific papers lies in the comparatively short session, one session, of five hours at most, is all that we now have. One, and sometimes two hours, are consumed by the Secretary's Report, President's Address, Reception of Delegates and Reports of delegates. Thus it happens sometimes that even essayists appointed to read papers have been prevented from reading, to say nothing of others with voluntary communications.

We ought to have another session, and if the time of the Fellows' Meeting had not been so much occupied with the settlement of the Charter question, an amendment would have been offered to that effect, and could have been acted on next year. The present custom is to have a social reception at some member's house on Wednesday night, between the Fellows' Meeting and the Mass Meeting. This, many think, should be done away with, and the time utilized in a session. Others think the dinner should come in the evening, and be preceded by a short scientific session to be continued the next day.

THE MASS MEETING

was held on Thursday, at the same place. The Secretary's Report showed an accession of 34 new members; 10 removals, and 9 deaths, leaving a total membership of 510.

Among the deaths was the name of a former President, Ashbel Woodward, a man of wide repute and a practising physician for upwards of fifty years. He died at the ripe old age of eighty-one, and his vigor is shown by the fact that when nearly sixty he went to the war as surgeon of the 26th Connecticut. For the first time in very many years the Society loses a Vice-President (Samuel Hutchins) by death, during his term of office. By the established custom he would have been its next President, and out of courtesy the President for the next year was elected from the same county. The President read his Annual Address to the Society, taking as a theme,

A STUDY OF DIABETES MELLITUS.

It was certainly an exhaustive *résumé* of the history of the disease from the time of Galen to the present and evidenced an immense amount of reading upon the subject. To the history was added a synopsis of the pathology of the disorder so far as it is known. In the matter of treatment nothing positively new was offered, except the exclusion from the dietary of oysters, which are usually allowed. Although not a hereditary disease, yet he thought the possible transmitted tendency to it strong enough to render necessary extra care in restraining brain work in the children of a diabetic parent. The *skim*-milk had no advantage over ordinary milk with modern methods of preparation (peptonizing, etc.) Special stress was laid upon fresh air *at night*, and the use of Bethesda mineral water was highly recommended, in relieving dryness of tongue. Cataract occurring as a complication should be operated on early. The alkaline bisulphites and sulpho-carbolate of soda had served the author well. He believed the disease to be on the increase, and to affect the most valuable members of the community as its victims.

Drs. Browning and Palmer, delegates from the Rhode Island Society, and Dr. Hubbard, from the New York Medical Association, were introduced to the Society and made short addresses.

Dr. Beckwith, of New Haven, read a Dissertation on

THE TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

Laceration of the cervix, he believed not to be the invariable rule in multiparæ, as is stated in so many text-books, and he gave nineteen cases in which he had made careful examination and found no laceration, some of the women having borne eight or nine children. The time for examination was at the end of two months. Until recently lacerations had passed for ulcerations. He made three classes: those complicated with eversion and granular erosion; those with no decided eversion or erosion; but there is nervous exhaustion and spinal irritation, anæmia, and sterility. Third, those having no symptoms, except sterility, for which the patient applies to the physician. For the first class he recommends astringents, rest, vaginal douches, and repeated puncture of degenerated follicles, and surgically in proper cases, tracheloraphy. For the second class he does not advise operation, as Emmett does, but rather Weir Mitchell's treatment for nervous exhaustion. In the third class he considers tracheloraphy justifiable if sterility is a source of unhappiness, though he does not consider that it holds out much hope of relief. The paper was supplemented by brief histories of twenty-six cases.

Dr. Wright read an interesting paper on

THE MICROSCOPE IN ITS RELATION TO DISEASE,

being in the main a *résumé* of the discoveries of Koch and his followers in the domain of bacteriology. Though admitting that as yet the German theorists had not evolved any very practical points, he thought they had proved that the bacteria were often the cause of disease, and that it was a "great step in advance to have found our enemies, though we have not yet overcome them."

Dr. Stanton's essay, entitled:

"O TEMPORA, O MORES!"

was a protest against the indifference displayed towards the unprincipled quacks with whom the country is flooded, and called forth considerable discussion, which ended by appointing a committee to confer with a committee from the other two chartered medical organizations of the State (Homœopaths and Eclectics) to see what legislation can be had which will result in preventing unlicensed and ignorant men from practising.

Dr. Wright's paper on

MORBUS BRIGHTII,

was not a study of the disease itself, but of its influences on other diseases, especially pneumonia and heart disease.

Dr. Gilbert's paper on

PNEUMONIA,

stated that six per cent. of the deaths in Connecticut during 1884 were due to this disease. He advocated bleeding in sthenic cases, moderate rather than large doses of quinine, and above all, fresh air. No allusion was made in this paper to the modern theory of pneumonia as a "germ disease."

Dr. White showed a plaster cast of the brain of an epileptic, showing a marked depression of the skull. The Society then adjourned and the members sat down to a collation at the New Haven House.

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THE AMERICAN LARYNGOLOGICAL ASSOCIATION.[1]

THIRD DAY. — AFTERNOON SESSION.

THE LARYNGEAL IMAGE AS SEEN IN PHOTOGRAPHS TAKEN DURING THE PRODUCTION OF TONES IN THE SINGING VOICE,

by **Dr. Thomas R. French**, of Brooklyn.

The speaker had made numerous investigations on this subject, and his observations failed to confirm the statements of most authorities in regard to the position of the vocal cords during the production of different notes. Different individuals evidently use different mechanisms in the production of different tones. The general result of his investigations seemed to indicate that in the production of low notes the vocal cords are separated to a greater extent posteriorly than anteriorly; in the production of the middle tones, the vocal cords are parallel and in the production of high notes the opening is widest in front.

The paper was illustrated by numerous photographs thrown upon the screen.

The following papers were then read by title.

CLINICAL NOTES ON PROLAPSE OF THE LARYNGEAL VENTRICLES,

by **Dr. George W. Major**, of Montreal.

THREE CASES OF THYROTOMY, RECOVERY IN EACH CASE WITH GOOD VOICE,

by **Dr. Clinton Wagner**, of New York.

ALARMING HÆMORRHAGE AFTER TONSILLAR EXCISION, ARRESTED BY TORSION OF THE ARTERY,

by the same author.

A NOVEL PROCEDURE FOR THE REMOVAL OF SUB-GLOTTIC LARYNGEAL GROWTHS,

by **Dr. William C. Jarvis**, of New York.

J. C., aged thirty-five years, consulted me on March 22, 1882, for the relief of a difficulty of speech and of breathing. The trouble with the voice was noticed two years before, the difficulty in speech appeared one year before coming under observation. The laryngoscope showed a mass of papillomatous tissue occupying the cavity of the larynx. The vocal cords and ventricular bands were not involved, the attempt was made to seize them during phonation, with the Mackenzie forceps. Only a few pieces were removed. The ecraseur was then tried, but it was found impossible to use this instrument on account of the wire being seized by the spasmodic contraction of the vocal bands and displaced. Chromic-acid applications were then tried, but although the growth was touched, it was found impossible to limit the application to the diseased structures. The patient then disappeared and did not return for a year. His condition was then much worse and the difficulty of breathing greatly increased.

I then determined to try the following plan, and if this failed, to remove the growth through an opening in the wind-pipe. Forceps similar to the Mackenzie instrument, but heavier, was secured. Through the tips of the blades, holes were drilled and through these was passed a piece of No. 00 piano wire which was conducted through a second opening at the angle of the blades and out to the handles where it terminated in a loop into which the extremity of the index finger could be placed. When the blades were separated this wire formed a cross-bar uniting their extremities. When the blades were closed, the loop of wire could be drawn up by the finger. The operation was performed without an anæsthetic. The tongue was depressed and with the aid of the mirror the forceps were introduced into the cavity of the larynx. The mirror was then removed and the forceps carried down to the glottis, through which the tip of the instrument was forced with considerable trouble on account of the spasm. The instrument was carried into the trachea sufficiently far to be sure that it was below the attachment of the growth. The blades were then separated and pressing against the anterior wall of the larynx, the instrument was gradually raised until the wire was caught. The blades were then closed and clamped, the loop of wire drawn in and the forceps removed, bringing with it a growth. The laryngoscope showed a second growth which was removed in the same way. Breathing was at once rendered easy and the speech became natural. The patient said that the presence of the forceps caused no pain, although uncomfortable. This is the only case on record of the removal of a sub-glottic tumor without anæsthetization and without an opening into the larynx.

CASES OF LARYNGEAL ŒDEMA,

by **T. Amory de Blois, M.D.**, of Boston.

The author had been led to write the paper by reading of several fatal cases of this affection reported during the past few months. He gave brief details of fourteen cases of laryngeal œdema coming under his observation. All of these cases recovered, six under the use of astringents, eight after scarification.

DISCUSSION.

Dr. Frank Donaldson, of Baltimore. I would suggest that in these cases intubation of the larynx, after the O'Dwyer method might be applicable.

Dr. E. Carroll Morgan, of Washington. My experience with this condition has been limited, and the cases have been mild. I have usually employed active purgation with vesiculation over the larynx and various local measures.

Dr. W. C. Jarvis, of New York. I should like to say a word with reference to the constitutional treatment of œdema of the larynx. Some time ago I used in a case of marked œdema, the fluid extract of jaborandi. In forty-eight hours the œdema had greatly diminished. I have since seen reported several cases in which pilocarpin was used with advantage.

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[1] Concluded from page 546.

I have never seen good results from scarification. In a case of attempted suicide followed by œdema of the larynx, a tube was introduced and in this case, although plenty of time could be taken, no benefit followed scarification. It seemed as though the fluid were contained in numerous small sacs. The opening of a few of these did no good.

A paper by Dr. Charles H. Knight, of New York, describing

A CASE OF PERICHONDRITIS OF THE LARYNX,

was read by title.

A CASE OF GUMMATOUS DISEASE OF THE LARYNX WITH SPONTANEOUS REOPENING OF THE LARYNX AFTER THYROID LARYNGOTOMY,

by Dr. Edgar Holden, M.D., of Newark.

L. D., aged thirty-five, presented himself May 20, 1885, with dyspnœa and aphonia. Examination showed a cicatrix on the epiglottis, and the left side of the larynx presented a rounded mass of dull appearance. He denied syphilitic infection. After a careful consideration of the case, the probabilities were thought to favor syphilis, and he was given iodide of potassium in large doses. There was improvement for a short time, but he soon became intolerant to the drug. Thyroid laryngotomy was considered necessary and was performed. The tumor was removed with the ecraseur, no ulceration was visible. Tracheotomy was then performed and the upper incision closed with sutures. The patient did well and the tube was removed on the tenth day. The external wound healed. He insisted on returning to his home, where the surroundings were very unfavorable, and his health deteriorated. On the fortieth day after the healing of the wound, the laryngeal incision was torn open by a severe cough. He refused to return to the hospital. Examination of the larynx showed no disease. Under the surroundings it was impossible to get the wound to heal. His health continued to run down, and six months and fourteen days after the operation, the patient died of exhaustion. The patient had lived five months with an opening in the larynx.

Dr. U. G. Hitchcock, of New York, read a paper on

GUMMATOUS INFILTRATION OF THE BASE OF THE TONGUE,

giving the details of four cases coming under his observation. In none of these cases was the fibrous septum the exclusive seat of the disease, and in three cases, the deposit did not approach this structure. In these cases the degree of dysphagia was in direct proportion to the proximity of the deposit to the base of the tongue.

Adjourned.

SATURDAY. — THIRD DAY. — MORNING SESSION.

A paper on

A CASE OF HYSTERICAL SNEEZING, APPARENTLY CURED BY APPLICATION TO THE NASAL PASSAGES OF THE CONTINUOUS BATTERY CURRENT,

by Dr. S. Solis Cohen, of Philadelphia, was read by title.

A CONTRIBUTION TO THE PATHOLOGY AND TREATMENT OF THE RESPIRATORY VASO-MOTOR NEUROSES,

by John N. Mackenzie, of Baltimore.

The naso-bronchial tract is frequently the seat of periodical vascular disturbance, in which explosions of nerve force play a conspicuous part. These probably depend upon some form of sympathetic or vaso-motor irritation. In the production of such conditions, two elements enter, a depraved state of the nerve centres, and an abnormal excitability of certain portions of the naso-bronchial tract. In regard to the hyperæsthetic condition of the nasal mucous membrane, the hyperæsthesia characteristic of the paroxysm is like the vaso-motor phenomena which accompany it, purely secondary, and occurs as a result of central irritation or paresis. This may pass away with the subsidence of the other symptoms, or be more or less constant, but in either case, there are certain areas in which the hyperæsthesia is more pronounced. The lower, posterior parts are the portions of the tracts usually affected. In hay fever, we are dealing with a neurosis. In this connection, he called attention to a neurosis of the aural cavity, which was closely allied to vaso-motor coryza, and also to a similar condition of the conjunctiva. These cases are a further evidence of the sympathetic nature of these affections. With reference to asthma in connection with nasal disease, it was stated that the ancients had frequently noted the expulsion of mucus from the nostril accompanying or following an attack of asthma. The older writers were evidently familiar with hay fever, but they confounded it with the bronchial asthma of the present day. Asthma is looked upon as a disease *per se*, but like many other disturbances of respiration, it has no particular lesion and is common to many pathological states. It, like cough, is most commonly symptomatic of some disorder of the respiratory tract. An interesting feature in a certain proportion of cases, is the association of urticaria with coryza. This is a familiar observation. The speaker then considered the relations between the skin and the respiratory tract. He regarded the skin as having a function similar to that of the lungs, and on the principles which he explained, he based the treatment of hay fever or periodical vaso-motor neurosis of the respiratory tract. From sixty to eighty cases had been treated after this plan. In the greater number of cases, the nasal passages were the seat of the vascular disturbance. Next in frequency, came the larynx ; occasionally, it was localized in the laryngeal cavity. In whatever portion the vaso-motor neurosis is situated, the general principles are the same. The treatment of one of these affections is essentially the treatment of the others. Hay fever and asthma may be classed as symptoms, owing their origin to the same cause.

In the treatment of hay fever, the chief indications are to remove any existing local respiratory disease, to so alter the nutrition of the nerve centres that they may not respond so easily to irritation, and to carefully search for pathological conditions, and adopt appropriate treatment for their removal when found.

These chronic neuroses require chronic treatment. The peculiarity of the sympathetic is with the patient all the time, by night and by day, and at any moment, may give evidence of its presence by a paroxysm. Any treatment which is practised simply during the attack, or immediately before, is simply palliative. In reference to the use of cocaine, he had found that it increased the irritability of these structures, and its application to the erectile tissue may ultimately weaken the cell walls. He, however, did not question the excellent virtues of this remedy in certain acute affections. In hay fever, he had failed to find improvement after its use. For a short time, amelioration was produced, but in the course of an hour the symptoms recurred. His custom is to treat hay fever as any other chronic disease of the nervous system. He insisted upon a prolonged tonic course of treatment during the intervals. This may, at first, fail, but if persisted in, the time will come, when, if there is no incurable lesion, the paroxysms will diminish in severity and frequency. The great mistake is made in the suspension of the treatment upon the termination of the attack. Among the remedies for the constitutional management of this class of cases, he recommended phosphide of zinc, quinine, and nux vomica. These may be given in combination in the following proportions:

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Zinci Phosphide	gr. 1-16
Quininæ Sulphat.	gr. ij
Ex Nucis Vomiæ	gr. 1-4

M. et ft. Pil No. 1.
Sig. To be taken before meals.

After meals, he directs that from three to five drops of liquor arsenici et hydrargeri iodidi be taken in a wine-glassful of water. A similar line of treatment had been employed for several years by the speaker in simple inflammatory conditions of the nose and throat with good results. He had also employed bromide of potassium with advantage. A constant current of from ten to fifteen cells, with one pole over the nape of the neck, and the other over the region of the superior cervical ganglia or in the nasal passages, had, in a few cases, been beneficial. In one case, improvement followed the obliteration of vessels on the posterior wall of the pharynx.

In regard to topical applications to the existing nasal conditions, these accomplish one result only: they close one door to irritation of the nerve centres. In many cases, this is of itself sufficient; there are other cases in which such a course will fail. In these neuroses, we cannot expect to thoroughly eradicate the disease until the sympathetic nerve irritation is overcome.

DISCUSSION.

Dr. William H. Daly, of Pittsburg. I have had considerable experience in the therapeutics of this condition. The iodide of sodium has given me better results than any other single remedy. I give it in small doses, long continued. I administer it in hot water on an empty stomach. I want also to insist that all cases of this kind be subjected to a thorough inspection. The upper air-passages should be carefully examined, and upon the slightest suspicion of local disease, the condition should be remedied. If this be done, I believe that the disappointments will be few. The constitutional treatment should, I think, be secondary, and the local treatment should occupy the first place.

Dr. E. Carroll Morgan, of Washington. The galvano-cautery has been highly recommended as a successful remedy for hay fever, but my experience with it has not been so satisfactory as that of some other operators. In considering these cases of hay fever, I have been struck with the apparent immunity from this affection experienced by those suffering from anosmia. I have never seen essential anosmia in a subject of hay fever. I would ask the experience of the Fellows in regard to the efficacy of the galvano-cautery treatment as a preventitive or a cure for hay fever.

Dr. C. E. Sajous, of Philadelphia. In the early part of my experience with the galvano-cautery, I obtained excellent results. I had a number of favorable cases. Last year I met with a number of unsatisfactory cases. What it depended on I do not know, but the results were not by any means as good as those of the preceding year; it was certainly not from want of attention on my part. Although all the cases were benefitted, I think I did not obtain absolute relief in more than forty-five per cent. Some of the cases treated two years ago, and which escaped the attack the following year, had a recurrence last year. This is a matter of great importance, because, in my work, I advanced the opinion that these cases were absolutely cured. Some of the cases have entirely escaped. One case treated in 1881 with glacial acetic acid has had no recurrence.

Dr. Carl Seiler, of Philadelphia. The failures of the treatment of hay fever may, I think, be explained by the suggestion thrown out in the paper read. The Schneiderian membrane is not the only source of irritation of the vaso-motor nerves. The source of irritation may be situated in the pharynx or in the larynx. If the case does not yield to treatment of the nasal membrane we should look further. Two years ago a case of hay fever presented itself to me. Glacial acetic acid was applied, and the following summer he was free from hay fever, but suffered with asthma. Examination showed a large posterior hypertrophy. This was removed, and since then he has had neither hay fever or asthma.

Dr. J. N. Mackenzie. As I have stated in my paper, if the trouble depends upon affection of the nasal membrane, the removal of the cause with the physiological rest of the nerve-centres will be sufficient to effect the cure. There are other cases, however, in which there is a general condition of the nervous system which must be removed. I have had cases in which the cure was effected simply by the above plan of treatment without any local applications whatever.

Dr. Samuel Johnston, of Baltimore, read a paper entitled

A CASE OF NASO-PHARYNGEAL GROWTH.

A child was brought to him on account of difficulty in breathing through one nostril. Examination showed that there was a tumor filling up the posterior part of the right nostril. After a short preliminary treatment, the attempt was made to remove the growth with the ecraseur. A spray of a four per cent. solution of cocaine was employed. A cord was first passed through the nostril and brought out of the mouth so that if necessary, the nostril could be plugged without delay. The wire of the ecraseur was applied without difficulty. When the growth had been cut through about two-thirds, the shaft of the instrument broke, leaving the wire and about three-fourths of an inch of the instrument attached to the growth. An attempt was made to apply a second ecraseur, but this failed. After trying to remove the portion of instrument broken off, it was decided to wait a short time and allow the growth to slough off. Four days later the attempt to apply an ecraseur was again made and succeeded without difficulty. The tumor measured one and one-half inches in diameter and was fibroid in character.

WHAT CASES OF NASAL CATARRH REQUIRE SURGICAL TREATMENT?

by Dr. C. C. Rice, of New York.

Almost every nasal chamber will exhibit irregularities and abnormalities of some kind. The introduction of more improved methods of determining the locality of inflammation has led to a more frequent resort to surgical measures. With the galvano-cautery, almost any effect from a slight stimulation to destruction of tissue can be obtained. Those who condemn this instrument should state what use of it they object to. Not every case of anterior hypertrophy should be operated upon. The erectile tissue in this situation serves a valuable physiological function in swelling up and excluding irritating particles from the lungs. In determining whether or not an operation is required, the sensations of the patient should be taken into consideration, with the results of the examination. If after the use of a four per cent. solution of cocaine, sufficient hypertrophy to interfere with breathing is still apparent, it should be removed.

Dr. F. H. Bosworth, of New York. The speaker has referred to the swelling up of the erectile tissue of the nose as a physiological function. I consider that this tissue is not a true erectile tissue. It assumes the erect position only as a morbid condition. It is simply an enlarged conglomerate mass of bloodvessels. There is no physiological function observed by its swelling up.

He also states that all persons will present abnormalities of the nose. It is a mistake to suppose that we have morbid conditions in every nose. The healthy nasal cavities present a typical appearance.

Dr. J. N. Mackensie, of Baltimore. The microscope shows that the erectile tissue of the nose corresponds with the erectile tissue in other portions of the body. I believe that these bodies serve the physiological purpose of excluding irritating bodies from the lower respiratory tract. Experiments with horses driven through a cloud of dust have shown that while the anterior portion of the nose was filled with dust, none passed into the larynx.

The President, Dr. Harrison Allen. The question of the erectile tissue of the nose should be treated on a broader basis. In man, the nasal chambers are exceedingly degenerate. There is no animal in which the nose is so small in comparison with the rest of the face, as in man. It is well known that structures which are passing through a process of degeneration are exceedingly variable. So it is with the human nasal chambers.

Remembering this fact we come to another of great interest, that all animals with short faces, as the rabbit and cat, have on the nasal septum, erectile bodies. I have always held that the object of these bodies was obstructive and that by swelling up they protected the portions behind. If that is the case, I do not see why we cannot claim that erectile tissue exists in man. It is my opinion that erectile tissue does exist and is protective and obstructive.

The following papers were read by title:

INFLAMMATION OF THE ANTRUM,

by Dr. Beverly Robinson, of New York.

ADDITIONAL NOTES ON A CASE OF ERYSIPELAS OF THE LARYNX,

by William Porter, M.D., of St. Louis.

A vote of thanks was then tendered the Philadelphia College of Physicians, the Union League Club, the University Club, and the Managers of the Pennsylvania Hospital, for courtesies extended.

The association then adjourned, to meet in New York at the call of the council.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, RECORDING SECRETARY.

The ninth annual meeting was held June 8, 1886, at the rooms of the Boston Medical Library Association, and was called to order at 11.20 A. M. by President Winsor. Present, twenty-five members. Records of the last meeting were read and approved.

Medical Examiner Tower, Treasurer, made his report, which was approved. *Voted*, that the assessment for the current year be two dollars.

On balloting for officers for the ensuing year, the following gentlemen were elected: President, F. Winsor, M.D., of Winchester; Vice-President, J. G. Pinkham, M.D., of Lynn; Treasurer, C. C. Tower, M.D., of South Weymouth; Corresponding Secretary, B. H. Hartwell, M.D., of Ayer; Recording Secretary, W. H. Taylor, M.D., of New Bedford. The President appointed the following gentlemen as Standing Committee: Medical Examiners, F. W. Draper, of Boston; S. D. Presbrey, of Taunton; and A. F. Holt, of Cambridge.

Voted, on motion of Medical Examiner Draper, that the Standing Committee be instructed to publish, in the usual manner, the Transactions of this Society for the current year, and that a copy of the present law relating to medical examiners be printed in the pamphlet.

Medical Examiner Draper read a communication from Clark Bell, Esq., of the *New York Medico-Legal Journal*, soliciting subscriptions.

Voted, on motion of Medical Examiner Holt, that this Society subscribe for three copies of the *New York Medico-Legal Journal.*

Medical Examiner Taylor read a paper on

A CASE OF HOMICIDE.

The paper was discussed by members Holt, Eller, and Harris.

On recommendation of the Executive Board, Medical Examiner F. J. Canedy, of Shelburne Falls, was unanimously elected a member of this Society.

Recent Literature.

Quiz-Compend of Pharmacy. By F. E. Stewart, Ph. G. Based upon Prof. J. P. Remington's "Text-Book of Pharmacy." viii, 196. Philadelphia: P. Blakiston, Son & Co. 1886.

This manual claims for itself not to teach new facts, but to present facts already well known to science in a form easy to comprehend, and to aid students in memorizing Professor Remington's lectures and textbook, and thus to pass their examinations in a creditable manner. This it undertakes to do by a system of questions and answers of a very elementary character, of which the following is a sample, opened at random: "What is a furnace? a species of stove for generating heat. What are the elements of a furnace? the air-flue, combustion-chamber, and vent or chimney. What is the best fuel for generating heat? anthracite coal."

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283 Washington Street, Boston, Mass.

MEDICINE OF THE FUTURE.

It is inevitable that more than ordinary interest should attach to the last printed words of any man who through a long life-time has contributed largely to the instruction of his fellows in a department of learning in which he is a recognized authority. The late Dr. Austin Flint, of New York, had been invited to give the address in Medicine at the annual meeting of the British Medical Association, the approaching summer. The high honor paid to any foreigner who might be selected to make such an address would naturally stimulate its recipient to his best endeavor, and though the writer probably had no thought that this task would prove his last, that fact has given it a fortuitous interest in addition to its intrinsic value.

The manuscript of the address was found completed among Dr. Flint's papers after his death, and it has been printed by his son in a neat and attractive little volume, prefixed with an excellent photograph of its author. The subject is "Medicine of the Future." After referring to the various advances and discoveries which have marked epochs in the evolution of medical science, the writer says that the next half century must be destined to produce similar pivotal discoveries, and if we may judge of the future from the past that the frequency of their occurrence will be greater than in the preceding interval of equal length.

Fifty years ago when Horner discovered the little lachrymal muscle, it might have been thought that this would be about the last thing to be learned in anatomy. But other facts were learned and since then the whole great subject of microscopical anatomy has shown the dim outlines which permit us to judge of its enormous extent. Of course, to particularize the epochs that are to take place would be equivalent to making them, and hence is impossible. But conjecture regarding the means by which, and the paths in which these discoveries are to be made is not devoid of interest or profit.

Microscopical investigation, with dyes to make visible what otherwise would elude vision, is a path recently opened and in which great advances in the immediate future may be hoped for. Yet though histology is now in the ascendant, the writer predicts that there will be a light thrown by organic chemistry which will penetrate dark recesses that histology cannot reach. He believes that the micro-organisms which now are the supreme objects of study in pathology are pathogenetic, not directly, but indirectly, by means of the toxical products of their activity. This link in the chain can only be reached through the agency of organic chemistry as applied both to healthy and diseased, to living and dead, tissues.

The recent advances in electricity and acoustics, as exemplified by the telegraph, telephone, microphone, and phonograph, lead the writer to look for results from the application of the same principles to the normal and abnormal actions taking place within the body. It seems to him certain that the principle of the telephone will by and by be applied to intra-thoracic respiratory and heart sounds. The clinical teacher may even be able to demonstrate auscultatory signs to a lecture-room full of students.

The prediction of Robert Hook, an eminent Englishman of science, early in the last century, that we might some time "discover the works performed in the several offices and shops of a man's body by the sounds they make," gives, in the light of the achievements of auscultation, some ground for Dr. Flint's extension of the prophecy to the possibility of studying through "the sounds they make," the processes of secretion and excretion, of nutrition and of morbid growths.

The discoveries in bacterial etiology which lead us to the belief that there is a specific organism for every infectious disease, the discovery of which is simply a question of time, leads to the admission that while we possess in quinine a specific parasiticide for the as yet incompletely known germ of intermittent fever, it is after all in the destruction of germs outside rather than inside the human body, that medical science is likely to gain its chief victories for the present.

Many of the great glandular organs of the body whose processes are as yet little understood are doubtless subject to derangements whose nature is as yet equally unknown, such as the spleen, the glands of the stomach and of Lieberkühn, the thyroid body, the lymphatic glands, the suprarenal capsule. Who is to do for them what Bright did for the kidneys?

We have left ourselves little space to speak of the other important matters touched upon by Dr. Flint,— of questions of medical literature and education, of the destined supercedure of works covering the whole range of practice by monographs and separate treatises: of the discontinuance of didactic instruction in favor of clinical and the replacement of the former by recitations from text-books; of the dangers of unlimited specialism,— these and other matters he views in the light of a personal recollection of the changes of the last half century. If some of the predictions are imaginative yet none are idle. They have a basis in what has already been accomplished. When a man like Dr. Flint has been so fortunate as to live through such a period of professional growth, in him it is true that

> "Old experience doth attain,
> To something like prophetic strain."

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THE MOVEMENT CURE IN CHINA.

The Swedish movement cure or hygienic gymnastics developed by Ling, the promoter of health-gymnastics as practised in all the Swedish schools and gymnastic clubs, is thoroughly systematized, consists of a great variety of movements and is possessed of a considerable literature of its own. A gymnastic institute is maintained by the government in Stockholm, in which gymnastic instructors and doctors of hygienic gymnastics are trained and educated. The system is based upon sound physiological principles, and the value of the active movements for the maintenance of health and of the passive movements as a therapeutic measure in dealing with disease are generally recognized at home and abroad. In grotesque contrast to a movement cure as thus practised and developed from a correct physiology is the movement cure as expounded and practised in China, which is an amusing example of the consequences of correct reasoning from wrong premises. The twenty-ninth issue of the "Medical Reports of the Chinese Customs" contains an illustrated sketch by Dr. Macgowan, of the history and practise of this cure among the Chinese. Its literature and antiquity are most respectable even for that country, and are traced back to a legendary personage who had attained the age of twelve centuries, when the Yellow Emperor (B. C. 2697) sought instruction from him in the art of prolonging life. The most learned expositor of the subject at the present time is the Governor of Hupeh, by name P'an Wei, whose writings on the movement cure gained him such celebrity that he was summoned to Pekin from a remote part of the empire on the occasion of the fatal illness of the late Empress.

Swallowing air was regarded as one of the main points in the movement cure. Life depending on the existence of a primary aura, death cannot occur so long as a particle of it is retained in the system; a deficient supply is the cause of disease; when it duly permeates the system every ailment is averted. The object of the postures, motions and frictions is to promote the due circulation of that vital air. The air starts in its circulatory movement from the "little heart," which is situated in the pubic region; is conveyed thence by air vessels anteriorly upward to the forehead, and is returned posteriorly to the "little heart."

In this standard treatise edited by the learned Governor, the period of air-swallowing and friction exercises is divided into three parts of 100 days each, and for each of these periods quaint and elaborate instructions are given for air-swallowing, frictions and massage; but the sceptic finds the pith of the whole thing and the main secret of the benefits which the patients are supposed to receive in the closing injunction that continence is to be maintained during the whole 300 days except once between the 100-day periods, and ever afterwards except once in fifty days. The Chinese scientists seem to understand human nature better than anatomy, and in this respect could probably learn nothing even at a German Spa.

On completing the 300 days, muscular movements are commenced, of which there are twelve kinds represented in Dr. Macgowan's article by as many woodcuts. The operations are to be performed three times daily for an indefinite period. In going through the exercises there is to be no thinking, the mind must be absolutely quiescent. Among other similar exercises which may be resorted to either for prophylactic or therapeutic purposes a certain variety is allowed and the following are recommended:

> "Squat with the sole of the foot brought against the scrotum; elevate the knees; rise slowly and gradually; relax the rigidity of the arms. When seated sit erect. Fillip the back of the head with both hands, pressing them against the occiput, the index finger being free to slip with force from the ring finger, causing a "heavenly drum-noise"; clasp the neck with both hands and turn the head 36 times; rub the hands until they become warm, then rub the face. Get on all fours, with head turned back, five times. Mouth to be closed when performing the exercises; when it is parched and bitter, open it and gasp several times, and fillip the occiput nine times, and wag the tongue till saliva is secreted when it will become cool. Before going to sleep sniff four times; expel air from the mouth the first thing on rising, and inhale by the nostrils. Sleep with closed mouth (enjoined on children, who are told that otherwise they will not escape rat's droppings.) Shut the teeth firmly 36 times; in urinating keep them closed. Beat the shoulders with clenched fists seven times. Squatting, rub the soles of the feet until they become warm; sit kicking out one foot after another. Swing the arm in its socket 24 times. Get again on all fours 13 times raising and depressing the back. Walk 100 steps, rubbing the abdomen with both hands, concentrating the mind on the "little stomach" in the pubic region. Hold the scrotum with one hand and the belly with the other; change hands 81 times. Rub the renal region."

Here is certainly a pretty mess of sense and nonsense all carefully reasoned out. Although unable to endorse the Chinese physiology, and doubting the existence of the "little heart" in the pubic region, we do still heartily commend the principle of "air-swallowing" to political demagogues and labor reformers in America.

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THE BOYLSTON MEDICAL PRIZE.

We have, on more than one occasion, been obliged to lament the departure of the above-named prize from the vicinity of the University which may be said to foster it. It has led us to suspect a degeneration either in ability or in industry. Local pride will be gratified to know that the award has, this year, been secured by a Boston man, the premium of two hundred dollars for an essay on the "Relation of Hospitals to Medical Education," having been awarded to Dr. Charles F. Withington, of Boston.

MEDICAL NOTES.

—"Labor among Primitive Peoples" will be remembered as the title of the interesting contribution to the history of midwifery, by Dr. Engelmann, of St. Louis. It is a significant comment on the character of the questions now before the public mind, to say that an order having been sent to one of our largest book stores for the above volume, the entire available force of the establishment was engaged for half a day, in an ineffectual search for it throughout the department of political economy. We are reminded, in this same connection, to mention the remark of a parent whose experience of offspring had been chiefly that of twins, that he considered the double births an improvement over the more general custom, as a "labor-saving institution."

— The results of a curious but very important test as to the accuracy with which chemists, druggists and others make up prescriptions committed to their care has, as we learn from *Chambers's Journal*, recently been presented to one of the London vestries. Fifty prescriptions were sent out to ordinary druggists, to coöperative stores, to "doctors' shops," and to certain traders styling themselves drug companies. The mixtures made were afterward analyzed, to find out how nearly they agreed with the prescriptions they represented; but in order to give a liberal margin for error, it was resolved not to put a black mark against any one if the chief constituent were within ten per cent. of the right amount. Notwithstanding this margin, no fewer than seventeen out of the fifty mixtures were incorrectly dispensed. In one case the principal drug was less by eighty-five per cent. than the amount ordered, while in another it was fifty-seven per cent. in excess. The chemists and druggists came out best in this strange competition, as only six per cent. of their prescriptions had to be called in question. Next came the coöperative stores with twenty per cent. of error; then the "doctors' shops" with fifty per cent., and lastly the drug companies, who are credited, or rather discredited, with seventy-five per cent. of errors.

NEW YORK.

— Typhus fever, which appeared several weeks ago in the Deborah Nursery, a Jewish institution, in East Broadway, has now broken out afresh, and on June 7th, eight children suffering from the disease were removed to the fever hospital on North Brother Island. Thirty of the inmates in all have been attacked since its first appearance. On the 10th, it was deemed advisable to remove all the remaining children, and have the building thoroughly disinfected.

— The annual meeting of the New Jersey State Medical Society was held at Sea Girt, on the New Jersey coast below Long Branch, June 8th and 9th. The address of the President, Dr. Joseph Parrish, of Burlington, was on the "Geography of Malaria," and the Committee on Business announced that the subject of the next annual address would be "What is the Personal Experience in the Use of Antipyrine; Does it permanently reduce temperature, or modify the course of disease?" A number of papers were read and discussed, and a resolution was adopted approving of vivisections and expressing disapproval of the action of societies or persons who, on the ground of prevention of cruelty to animals would throw obstacles in the way of experiments having for their object the relief of human life. The following officers were elected; President, Dr. Charles J. Kipp: Vice-Presidents, Drs. H. G. Taylor, John W. Ward, and B. A. Watson; Corresponding Secretary, Dr. William Elmer, Jr.; Recording Secretary, Dr. Wm. Pierson, Jr.; Treasurer, Dr. W. W. L. Philips.

— Dr. Horace Putnam Farnham, a most highly esteemed practitioner, died June 9th, after a long and painful illness. He was born in Salem, Mass., in 1822, and graduated from Harvard College in 1843, after which he began the study of law in the office of Rufus Choate. He also went through the course at the Dana Law School, and was admitted to the Bar; but never practised. Later he decided to study medicine, and was graduated from the Jefferson Medical College, of Philadelphia, in 1860; since which time he has resided and practised in New York. He was a member of a number of medical societies, and for several years was treasurer of the New York Academy of Medicine, a position the resignation of which was received with great reluctance by the Academy. He had an extensive practice, and his genial manners made him a general favorite.

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Miscellany.

A FIRST-CLASS IMPOSTOR.

A correspondent writes us, warning physicians against a man calling himself John Redley, and representing himself as agent of Belknap & Company, of Boston, manufacturers of rubber stamps, etc. This man, who is a first-class swindler and "dead-beat," has already gulled physicians of Essex and other counties out of hundreds of dollars — in small sums — for goods which, of course, are never delivered as promised.

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TWO RARE VARIETIES OF RUPTURE OF THE BLADDER.

The following summary is given in the "Annals of Surgery, "April, 1886, of a paper, on the above subject, by Dr. A. Pousson, which appeared in the *Révue de Chirurgie*, No. 11, 1885. The question is raised of the possibility of an absolutely spontaneous rupture of the bladder, that is, rupture without pathological alteration in its walls, and without traumatism. The author adduces testimony to show that the tear may result from either the contraction of the abdominal walls on a full bladder, or the contractions of the walls of the bladder itself.

In support of the first explanation of the accident, cases are cited in which men lifting great weights felt a sudden pain in the hypogastrium, and could not urinate afterwards. Death speedily ensued, and rupture of the bladder was found at the necropsy. The violent straining with the abdominal muscles on a full bladder was the cause of the injury. The sphincters are held with peculiar firmness during muscular efforts, and thus the overload of urine cannot escape through the urethra. If there happens to be a stricture of the urethra, the danger is so much the greater.

The theory of the causation of rupture by the second method is upheld by a new view of the physiology of that viscus. It is maintained that the hypertrophied bladder-walls are as capable of spontaneous rupture as those of the heart and gravid uterus. In experiments on the heart, it is shown that the thinner-walled cavities rupture most easily from external violence, but the thicker from their own contractions. The hypertrophy of the bladder on account of stricture, may justly be compared to the hypertrophy of the heart arising from valvular lesion. Desnos has demonstrated that the contractions of an inflamed bladder are as sudden as those of striated muscles, and occur very frequently. Distention invites contraction; and when there is an obstacle to the discharge of urine, by way of the urethra, rupture occurs. Even for a long time after anæsthetization, these spasmodic and irregular contractions do not cease. Numerous cases are reported bearing upon this theory, notably one in the hands of Verneuil, where a gentle injection of only 125 grams was immediately followed by the bursting of the bladder; and one in which Guyon was preparing to perform hypogastric lithotomy. The latter had thrown 200 grams of boric solution into the bladder, and 300 grams of fluid into the rectal balloon, but the vesicle globe did not appear. A little more fluid was injected into the bladder, and the hypogastrium was distended for a moment, but then suddenly became flat. Death occurred in twenty-two hours, and the necropsy showed the walls of the bladder to be eight mm. thick, with an anterior perforation twelve mm. long.

The following classification is suggested: —

- Rupture healthy bladder.
  - Traumatic.
    - From direct cause.
    - From indirect cause.
  - By effort.
- Rupture diseased bladder.
  - By perforation.
  - By contraction of its walls.

The term "spontaneous rupture" should be discarded, as it explains nothing and satisfies nobody. "Rupture from idio-muscular contraction" is suggested as a suitable substitute.

Rupture by the action of the muscular walls cannot be prevented by the surgeon in ordinary cases; but, by emptying their bladders, he can protect his patients against the danger of sudden contractions in the excitement period of anæsthetization. If there is a tight stricture and the bladder is full, hypogastric aspiration should first be practised. No careful surgeon will puncture a bladder with the beak of a catheter; but it is possible for a bladder to contract upon the instrument, and thus be perforated. That an irritable bladder can rupture itself should warn us against an approved surgical procedure — the distention of small and irritable bladders by forcible injections. Anæsthesia should be complete before any operation on the bladder, so that the liability to contraction may be reduced to a minimum. It is better to do lithotrity almost dry, and to replace supra-pubic lithotomy with perineal, than to subject a patient to much risk of rupture by distending an irritable bladder.

The prognosis is far less grave in extra than in intraperitoneal rupture. In the former case, if a free perineal opening is made in the bladder, the chance of recovery is greatly augmented.

A CASE OF DELIRIUM TREMENS CAUSED BY CHEWING TEA.

Dr. W. B. Slayter writes in the *Lancet*, April 24, of a somewhat remarkable case, which he thus describes: —

"On November 10th, 1879, I was summoned by a lady to see her female servant. The girl complained of sleeplessness, nervousness, and repeated twitchings of the muscles of the face and extremities, which would continue for several minutes at a time. These symptoms had been present for several months previously. Her mistress informed me that the girl had been acting strangely for several days. She was wandering in her mind at times, and imagined people and evil spirits were about her seeking to do her harm. She had not slept for several nights, and on one or two occasions had been found at night wandering about the house. Pulse 96 and small; tongue dry and brown; eyes suffused; irregular action of the heart; weight at præcordia; sallow complexion. A dose of bromide of potassium and hydrate of chloral gave her a good rest for the night, and next morning she was sent home to her mother.

"At 4.30 a.m. on the 13th, I was again summoned to see her. Some men had found her walking about one of the wharves of our city, in the neighborhood of her mother's house. They tried to persuade her to go home, but she broke away from them and endeavored to jump off the end of the wharf, when she was caught and taken to her home. I found her with a pulse of 110°, and a very dry and brown tongue, suffused eyes, no marked increase of temperature, violent delirium, and tremulous hands and arms — in short, the well-marked symptoms of delirium tremens. Her mother informed me that she had complained of a good deal of pain in the abdomen, and on examination I found a smooth, quite hard tumor in the right iliac region, half as large again as an ordinary orange. Owing to the violent delirium I was unable to find out whether it was tender to the touch or not. A hypodermic injection of morphia somewhat relieved the nervous symptoms. A brisk cathartic brought away a mass of hardened fæces, followed by a large quantity of thickish tarry-looking excreta, which seemed to be made up of tea-leaves in different stages of maceration, quite a large proportion, probably a third, being tea-leaves quite unchanged in appearance or color. Bromide of potassium and chloral in a few days quieted the nerve-centres; good nursing, proper diet, and tonics soon restored the patient to her usual health. After the action of the cathartic I found the abdominal swelling somewhat lessened in size, but it was not until several doses at intervals had been administered that the tumor entirely disappead. After each dose a quantity of tea-leaves were expelled. In about three weeks the evacuations were normal in appearance, and her general health was fairly restored."

After an interval of some years, the writer again saw this patient. The same well-marked symptoms of delirium tremens were present; there was no tumor to be found, but the evacuations contained a plentiful supply of tea-leaves. The same course of treatment soon restored her to health. The patient then informed him that when about seventeen years of age she went to one of the New England towns to work in a factory, and there contracted the habit of chewing tea — a habit, she stated, quite common amongst the factory girls. [Of the general existence of this habit, we, in the more immediate neighborhood of where it is said to have been common, confess to having been ignorant.] She thought she chewed on an average about half a pound of tea daily, and some days more. It made her feel better able to work. Of course, as to quantity her estimate may not be depended on. She had never been addicted to alcoholism, and ascribed her attacks solely to tea-chewing. She tried to give it up, but felt so nervous and fidgety as to be compelled to return to the old habit. The chief points of importance in this case are the *cause* and the *repeated and continuous muscular twitchings*. Of course most physicians have met with many cases of great nervousness and fidgetiness occasioned by excessive tea-drinking, but few cases if any are recorded in any of the works on medicine or materia medica of such severe symptoms being induced by tea-chewing.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 5, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Whoopi'g Cough.
New York	1,439,039	577	222	17.17	17.85	3.40	7.05	1.53
Philadelphia	971,363	344	111	12.00	15.00	1.80	3.30	1.20
Brooklyn	690,000	249	88	12.80	12.80	.40	10.00	1.20
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	144	52	9.66	18.60	4.83	2.07	2.07
St. Louis	400,000	147	57	16.32	14.28	4.08	.68	.68
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	141	61	22.72	17.04	13.49	.71	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	69	32	21.75	10.15	8.70	7.25	2.90
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	43	—	16.31	11.66	6.99	6.99	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	7	27.30	18.20	9.10	4.55	—
Charleston	60,145	65	35	29.26	16.16	18.48	—	—
Worcester	68,383	24	9	8.32	20.80	—	—	—
Lowell	64,051	16	—	12.50	30.75	—	—	—
Cambridge	59,660	14	5	14.28	14.28	—	14.28	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	14	6	14.28	35.70	—	7.14	—
Lawrence	38,825	13	2	15.38	23.07	7.69	—	—
Springfield	37,577	16	3	—	—	—	—	—
New Bedford	33,393	11	2	9.09	9.09	—	9.09	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	—	8.00	—	—	—
Holyoke	27,894	12	5	8.33	16.66	8.13	—	—
Chelsea	25,709	12	3	8.33	16.66	—	8.33	—
Taunton	23,674	3	—	—	100.0	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	—	50.00	—	—	—
Brockton	20,783	2	—	—	—	—	—	—
Newton	19,759	4	2	—	25.00	—	—	—
Malden	16,407	7	1	28.56	14.28	—	14.28	—
Fitchburg	15,375	2	2	50.00	—	50.00	—	—
Waltham	14,609	2	1	—	—	—	—	—
Newburyport	13,716	5	—	20.00	20.00	20.00	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,964: under five years of age 709: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 314, diphtheria and croup 101, consumption 412, lung diseases 191, diarrhœal diseases 91, whooping-cough 25, measles 21, scarlet fever 20, typhoid fever 18, malarial fever 14, cerebro-spinal meningitis 13, erysipelas six, puerperal fever four, small-pox (New York) one. From measles, Baltimore 10, New York five, Charleston four, Nashville two. From scarlet fever, New York, seven, Brooklyn six, Philadelphia four, New Orleans, Pittsburgh and Providence one each. From typhoid fever, Philadelphia 10, Baltimore two. New Orleans and Brooklyn one each. From malarial fevers, New Orleans six, New York four, Philadelphia two, Brooklyn and Baltimore one each. From cerebro-spinal meningitis, New York eight, Worcester two, Boston, Baltimore and Nashville one each. From erysipelas, New York two, Philadelphia, Brooklyn, Baltimore and Springfield one each. From puerperal fever, Philadelphia two, Baltimore and Pittsburgh one each.

Cases reported in Boston: scarlet fever 20, diphtheria 17, measles 17, and typhoid fever seven.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 22d the death-rate was 18.7. Deaths reported 3,254: infants under one year of age 767; acute diseases of the respiratory organs (London) 282; measles 108, whooping-cough 87, fever 27, diarrhœa 27, scarlet fever 21, diphtheria 15, small-pox (Liverpool) one.

The death-rates ranged from 12.5 in Derby to 34.0 in Preston; Birmingham 18.9; Blackburn 18.7; Brighton 13.0; Hull 16.1; Leeds 20.2; Leicester 19.1; London 17.3; Liverpool 22.4; Manchester 25.2; Sheffield 18.3; Sunderland 16.8.

In Edinburgh 21.1; Glasgow 25.5; Dublin 28.7.

For the week ending May 22d, in the Swiss towns, there were 45 deaths from consumption, lung diseases 40, diarrhœal diseases 13, measles eight, whooping-cough seven typhoid fever, diphtheria and croup, each three, small-pox two.

The death-rates were: at Zurich 14.1; Geneva 36.3; Basle 22.2; Berne 23.5.

The meteorological record for week ending June 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 5, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...30	29.790	61.0	85.0	59.0	57.0	31.0	70.0	53.0	W.	W.	W.	8	16	14	C.	C.	O.	—	—
Monday,.. 31	29.933	63.0	68.0	58.0	81.0	63.0	79.0	79.0	N.E.	S.E.	W.	10	11	4	O.	F.	C.	—	—
Tuesday,.. 1	30.109	60.0	66.0	54.0	53.0	58.0	78.0	63.0	N.E.	E.	W.	7	10	8	C.	O.	C.	—	—
Wednes., 2	29.998	66.0	76.0	54.0	62.0	57.0	90.0	70.0	W.	S.W.	S.W.	4	16	14	F.	F.	O.	—	—
Thursday, 3	29.843	63.0	69.0	59.0	84.0	60.0	60.0	69.0	S.W.	W.	N.W.	18	17	16	O.	F.	C.	—	—
Friday, ... 4	30.069	58.0	66.0	51.0	64.0	65.0	62.0	59.0	N.	E.	S.W.	9	12	16	C.	F.	C.	—	—
Saturday,. 5	30.061	62.0	75.0	52.0	66.0	37.0	58.0	54.0	W.	S.W.	S.W.	5	12	5	F.	C.	C.	.6½	0.54
Mean, the Week.																			

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 5, 1886, TO JUNE 11, 1886.

Baxter, J.H., colonel and chief medical purveyor. Ordered to proceed to New York City on public business, and on the completion thereof to return to his station. S. O. 128, A. G. O., June 3, 1886.

Page, Charles, lieutenant colonel and surgeon. Granted leave of absence for one month, with permission to apply for ten days extension. S. O. 55, Department of Missouri, June 1, 1886.

Fryer, Blencowe E., major and surgeon. Sick leave of absence still further extended six months on surgeon's certificate of disability. S. O. 131, A. G. O., June 7, 1886.

Tilton, Henry R., major and surgeon. Ordered for duty as post-surgeon, Presidio of San Francisco, Cal. S. O. 38, Department of California, June 1, 1886.

Adair, G. W., captain and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared. S. O. 128, A. G. O, June 3, 1886.

Carter, W. F., captain and assistant surgeon. Ordered for duty (temporary) at Fort Concho, Texas.

Paragraph 2, S. O. 55, Department of Texas, c. s., granting assistant surgeon Carter leave of absence for one month, is revoked. S. O. 64, Department of Texas, June 1, 1886.

Black, first lieutenant and assistant surgeon. Ordered for duty at Fort Stockton, Tex. S. O. 64, Department of Texas, June 1, 1886.

NOTICE.

Bowdoin Medical Alumni Association.—The third annual meeting will be held in Memorial Hall, Brunswick, at twelve o'clock, noon, Wednesday, June 23, 1886. At the close of the business meeting, a banquet will be served in the lower hall.

CORRECTION.

Our remarks in a recent editorial regarding the place given in the advertising columns of a scientific contemporary to compound oxygen should not be understood as having reference to the *Journal of Chemistry*, which published an analysis exposing the negative value of that preparation.

BOOKS AND PAMPHLETS RECEIVED.

Reports of the Trustees and Treasurer of the Lynn Hospital for 1885.

The Student's Manual of Venereal Diseases. Being a Concise Description of those Affections and of their Treatment. By Berkeley Hill, M.D., and Arthur Cooper, M.D. Fourth Edition. Revised. Philadelphia: P. Blakiston, Son & Co. 1886.

Nineteenth Report of the Medical Staff of St. John's Hospital submitted at the Annual Meeting, April 5, 1886. Lowell, Mass. 1886.

On the Limitations of the Contagious Stage of Syphilis, especially in its Relations to Marriage. By F. N. Otis, M.D., New York. (Reprinted from Journal of Cutaneous and Venereal Diseases. Vol. IV. March and April, 1886. New York: Wm. Wood & Co. 1886.

The Elements of Chemical Arithmetic, with a Short System of Elementary Qualitative Analysis. By J. Milnor Coit, Ph. D., Master in St. Paul's School, Concord, N.H. Boston: D. C. Heath & Co. 1886.

Haschisch. A Novel by Thorald King. Chicago: A. C. McClurg & Co. 1886.

Diseases of the Spinal Cord. By Byrom Bramwell, M.D., F.R.C.P. (Edin.), Lecturer on the Principles and Practice of Medicine, and on Medical Diagnosis, in the Extra Academical School of Medicine, Edinburgh, etc. 53 colored plates and 102 fine wood engravings. Second Edition. New York. Wm. Wood & Co. 1886.

The Genuine Works of Hippocrates. Translated from the Greek with a Preliminary Discourse and Annotations. By Francis Adams, LL D., Surgeon. In two Volumes. Vol. I. New York: Wm. Wood & Co. 1886.

Insanity and its Treatment. Lectures on the Treatment, Medical and Legal, of Insane Patients. By G. Fielding Blandford, M.D., Oxon, F.R C.P., London, etc. Third Edition. Together with Types of Insanity, an Illustrated Guide in the Physical Diagnosis of Mental Disease. By Allan McLane Hamilton, M.D. New York: Wm. Wood & Co. 1886.

Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics, and Director of the University Medical Clinic in Zurich. Vol. I. Diseases of the Circulatory and Respiratory Apparatus. 103 Wood engravings. New York: Wm. Wood & Co. 1886.

Résumé of the Retiring Address of Prest. Prof. R. O. Doremus, M.D., LL.D. Before the Medico-Legal Society, January 20, 1886.

Report of the Year 1884–85. Presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

China. Imperial Maritime Customs, II. Special Series: No. 2. Medical Reports, for the Half-Year ended March 31, 1885. Twenty-Ninth Issue. Published by order of the Inspector General of Customs. Shanghai. 1885.

First Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1885. Augusta: Printers to the State. 1886.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association. Washington, D.C., December 10, 1885, with an Appendix. Concord, N.H.: Republican Press Association. 1886.

Transactions of the Obstetrical Society of London. Vol. xxviii. For the Year 1886. Part I. for January and February. London: Published by the Society. 1886.

A Contribution to the Pathology of Hemianopsia of Central Origin (Cortex Hemianopsia.) By E. C. Seguin, M.D. (Reprint from the Journal of Nervous and Mental Disease, Vol. xiii, No. 1. January, 1886.)

On the Presence of the Tubercle Bacillus in old Specimens of Diseased Lung. By Vincent D. Harris, M.D., F.R C.P. (Reprint from St. Bartholomew Hospital Reports, Vol xxi. London. 1886.)

The Sixty-Second Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1886.

Ethics of Female Sterility. By A. Reeves Jackson, A.M., M. D., Professor of Gynæcology in the College of Physicians and Surgeons of Chicago, etc. (Reprint. The Physician's Magazine, Vol. I, No. 3. Philadelphia.)

Lectures.

CHRONIC CATARRHAL GASTRITIS.

INAUGURAL ADDRESS DELIVERED BEFORE THE ASSOCIATION OF AMERICAN PHYSICIANS, WASHINGTON, JUNE 17.

BY FRANCIS DELAFIELD, M.D., OF NEW YORK.

Gentlemen:— At the inauguration of a new Medical Association it would seem proper for the presiding officer to say some words concerning the objects of the Association and the best methods of carrying those objects into effect.

And it was my intention to do this. But, when I considered the character and attainments of those whom I was about to address, such a plan seemed to me to be unnecessary and even impertinent.

We all of us know why we are assembled here to-day. It is because we want an Association in which there will be no medical politics, and no medical ethics; an association in which no one will care who are the officers and who are not; in which we will not ask from what part of the country a man comes, but whether he has done good work and will do more, whether he has something to say worth hearing, and can say it. We want an association composed of members, each one of whom is able to contribute something real to the common stock of knowledge: and where he who reads such a contribution feels sure of a discriminating audience.

We are all busy men, working men, ambitious men. We all like to give instruction and to gain reputation, and both of these we can do in the societies already existing. But we also want a society in which we can *learn* something. And this, I take it, is the real object of the enterprise which we inaugurate to-day: to form an Association of Physicians and Pathologists to which we may come year after year with the well-founded hope that at each meeting we will find something to *learn*.

Without further preface I will ask your attention to a subject of much practical importance:

CHRONIC CATARRHAL GASTRITIS.

The fact that the lining membrane of the stomach is both a mucous membrane and an organ of digestion does, in a measure, confuse our appreciation of the inflammations of this membrane. We are apt to notice especially the disturbances of digestion, and to include all the cases in the general class of Gastric Dyspepsia.

But the lining membrane of the stomach is, in part, a mucous membrane. It is frequently the seat of chronic catarrhal inflammation, and it then behaves as do the other mucous membranes under the same circumstances.

The mucous membranes which are commonly affected by chronic catarrhal inflammation are those of the eye, the nose and throat, the air passages, the stomach and the intestines. In all of these the same general laws seem to govern the lesions, the causes, the symptoms, the treatment, and the results of the treatment.

I. The Lesions. We find regularly, changes in the function and structure of the mucous glands; changes in the epithelium and in the connective tissue stroma, and changes in the tissues underlying the stroma.

So long as there are only changes in the function and size of the mucous glands, it is possible for the mucous membrane to return to its natural condition. But when there is a new growth of connective tissue in the stroma, a destruction of the mucous glands and changes in the underlying tissues, then the membrane is permanently damaged, it can never return to its normal state. It is important, however, to remember that long continued and severe symptoms often belong to the curable form of the inflammation.

II. The Causes. The ordinary causes of chronic catarrhal inflammation seem to be as follows:

1. One or more attacks of acute catarrhal inflammation which terminate not in recovery but in the supervention of chronic inflammation. Often enough, however, an interval of weeks or months will intervene between the subsidence of the acute and the development of the chronic symptoms.
2. Chronic venous congestion, of which the ordinary cause is organic disease of the heart.
3. Climate, atmospheric influences and modes of life.
4. Inherited or acquired diatheses, especially gout, rheumatism and syphilis.
5. Chronic pulmonary phthisis and chronic Bright's disease.
6. The acute infectious diseases.
7. The poisons.
8. Local irritants.

III. The Symptoms. These are regularly:

1. A change in the function of the mucous glands. They produce too much mucus, or too little, or mucus of altered quality.
2. Pain or abnormal sensations.
3. Local symptoms peculiar to the special membrane, which is inflamed. Here it is to be noted that there is no necessary relation between the severity of the symptoms and the extent of the lesions. Very marked symptoms may be associated with trifling lesions; and the most extensive lesions may be accompanied with hardly any symptoms.
4. The course of such inflammations is chronic and long continued, but not necessarily continuous. On the contrary, the symptoms are more frequently developed in successive attacks, which become more frequent, more severe and of longer duration as the disease goes on.

IV. The Treatment. The methods of treatment may be thus stated in the order of their value:

1. Climate and mode of life.
2. Applications made directly to the inflamed membrane.
3. The internal administration of drugs.

V. The Results of Treatment depend upon:

a. The degree of structural change in the affected membrane.

b. The absence or presence of complicating diseases.

c. The possibility of removing the exciting causes of the inflammation.

d. The character of the treatment.

Now let us turn to the consideration of Chronic Catarrhal Gastritis.

I. THE LESIONS.

Whether we consider the cases which are found at autopsy in the Hospital Dead House, or the cases seen during life in private practice, it is evident that in the majority of persons the inflammation goes no further than to affect the function of the mucous glands. They constantly produce a thick tenacious mucus which adheres in a thick layer to the surface of the mucous membrane. Less frequently the mucus is thin and fluid and is vomited. With such a change in the mucous glands, the peptic glands may also give evidence of disordered function. But it is important to remember that unimpaired gastric digestion is perfectly compatible with chronic catarrhal gastritis.

Anatomically in such a gastritis the only changes which we find are an increased quantity of mucus, sometimes congestion of the bloodvessels, sometimes pigmentation, an enlargement of the mucous glands, some swelling of the stroma with a little infiltration of pus cells.

Less frequently we find more advanced changes. The connective tissue between and beneath the mucous and peptic tubules is increased in quantity and the tubules are deformed and destroyed. Polypoid tumors may project inwards. The muscular and connective tissue coats may be thickened. There may be stenosis of the pylorus. The stomach may be contracted or dilated. Or without any increase of connective tissue the walls of the stomach may be relaxed and its cavity dilated.

Chronic Catarrhal Gastritis may, therefore, mean

1. That the mucous glands produce too much mucus.
2. That in addition, the functions of the peptic tubules are affected.
3. That the structure of the mucous membrane is so profoundly changed that its digestive functions are anatomically impossible.
4. That from relaxation of the muscular wall, or stenosis of the pylorus, the food is not entirely discharged from the stomach, but portions remain there.

ETIOLOGY.

The ideas which one has to the causes of chronic catarrhal gastritis will vary somewhat, according to the experience of the hospital autopsy room, and the character of the cases observed in private practice.

In the autopsy room, we find more of the cases associated with complicating diseases, or exhibiting the very advanced lesions of gastritis. Organic disease of the heart, emphysema of the lungs, cirrhosis of the liver, Bright's disease, phthisis, and alcoholism, are evidently, in most of the cases, the causes of the gastritis.

In private practice, on the other hand, I find most of the cases in adults between the ages of twenty and fifty, a smaller number in children and old persons.

In the majority of the cases, no cause is to be discovered but the mode of life and the character of the locality in which the patient lives. The same climatic conditions which predispose to chronic naso-pharyngeal catarrh and chronic bronchitis, have the like effect as regards chronic gastritis. In a smaller number of cases, other causes can be discovered.

An attack of acute gastritis, or of gastro-duodenitis, or of gastro-enteritis, may be followed by chronic gastritis. Typhoid fever and the malarial fevers may be accompanied by an acute gastritis, which later assumes the chronic form. In some women, the disease seems to begin during pregnancy.

Alcoholism and the abuse of drugs furnish their quota of patients. Rheumatism and gout are sometimes unquestionable causes. Cirrhosis, Bright's disease, emphysema, phthisis and cardiac disease, also furnish a certain number of cases.

THE SYMPTOMS.

First among the symptoms comes pain, varying from a mere feeling of oppression and discomfort to the most severe and agonizing pain. Most common, is the feeling of uneasiness and discomfort, either following the ingestion of food, or when the stomach is empty. It is not always easy to distinguish this from pain belonging to the small intestine or the colon. Much worse, is the severe pain due, in some cases, to the presence of food in the stomach, a pain often followed by vomiting. At first, only coming on when the stomach contains a considerable amount of food, but later, continuing even after repeated vomiting, so long as the smallest fragment is left — a pain so severe, that the unfortunate sufferer has no rest by day or by night, deprives himself of almost all nourishment, and finally falls a victim to the opium habit.

Nausea and vomiting are also regular symptoms. The nausea belongs to the early morning hours. The vomiting is most frequently a vomiting of food, either in considerable quantities, or vomiting kept up so long as the smallest particle of food is left in the stomach.

In other cases, large quantities of brownish fluid mixed with mucus and food accumulate in the stomach, and are vomited from time to time. This is especially the case when the stomach is dilated.

Vomiting of pure mucus is seen in a few cases. Vomiting of blood, usually not in large quantities, may occur. Regurgitation of acid fluid in the morning belongs especially to alcoholic gastritis.

Retention and fermentation of food in the stomach are most common with the dilated stomachs, but are by no means confined to them. They are found often enough with other cases of chronic gastritis.

Constipation seems, in some cases, to depend directly upon the gastritis, and will disappear as this improves without the use of any laxatives. In the same way, there are diarrhœas which can be cured by treatment directed to the stomach.

Headache is often a symptom. It may follow a variety of types, but perhaps the most common is that which comes on at intervals.

A general loss of health, of which emaciation and loss of muscular strength are the most prominent features, is found with the worst cases of the disease. Inflammation of the tongue, and a variety of abnormal sensations referred to the throat, mouth, and tongue, belong to some of the cases.

These are the most marked symptoms, which may be referred directly to the gastritis. In the complicated cases, of which there are many, other symptoms are added, which it is not necessary to consider at the present time.

The course of the disease is naturally prolonged over many years, and interrupted by periods of improvement. The symptoms come on in attacks, at first not severe, nor of long duration; easily relieved in a variety of ways. As the disease continues, each succeeding year marks a greater severity and longer duration of the symptoms. In some of the patients, the disease never advances further than to make them uncomfortable during a part of each year. In others, the general health is disturbed, they are unable to work, and become miserable, chronic invalids. In others, the excessive pain drives them into the morphine habit, while in a few cases, the gastritis causes death.

TREATMENT.

In attempting to establish a satisfactory treatment for chronic gastritis, it is important to state as clearly as possible the problem which is to be solved.

First, then, we must remember that all the patients who suffer from gastric symptoms do not necessarily have chronic gastritis.

Besides those who have functional disturbance of the stomach, or cancer or ulcer of the stomach, we find many others in whom gastric symptoms are due to diseases of other parts of the body. Anæmia, uterine disease, the neurotic and hysterical condition, and constipation, often behave in this way. In old people, the function of gastric digestion is often impaired simply as the result of old age. To each one of these conditions belongs its appropriate treatment, but it is not the treatment of chronic gastritis.

Still further, we must remember that in many cases of gastritis, palliation of the symptoms is all that we can hope for. This is true with the gastritis associated with heart disease, emphysema, phthisis, cirrhosis, Bright's disease, gout, rheumatism, and alcoholism. It is also true of the cases in which the inflammation has gone on to the destruction of the septic and mucus glands. After excluding all these, there remains a large and important group of cases of chronic catarrhal gastritis, in which we may hope not only to alleviate the symptoms, but to cure the disease.

It is evident, from the nature of the disease, that any treatment intended not merely to palliate, but to cure, must be of long duration, and that it must be repeated from time to time, when the inevitable relapses occur.

The different plans of treatment, then, which may be adopted are:

The curative effects of climate and mode of life.

The regulation of the diet.

The administration of drugs.

The use of local applications directly to the inflamed membrane.

I. CLIMATE AND MODE OF LIFE.

These I believe to offer the most certain means of curing chronic gastritis. It is unnecessary to lay down rules as to the sort of climate, that can be regulated by the tastes of the patient. The two points of importance are: First, the locality selected must be one where the patient can lead an out-of-door life. Second, the patient must live in this climate either for several years, or for a considerable part of each year.

Excellent as this method of treatment is, it is evident that it can be carried out only by a limited number of persons.

II. THE DIET.

The regulation of the diet is a matter which demands consideration in every case of chronic gastritis. In trying to ascertain the best way of feeding these patients, I have found only one satisfactory method, and that is to feed them experimentally with different articles of food and then after an interval of several hours wash out the stomach and see how thoroughly these articles of food have been digested and removed from the stomach. After pursuing this course for a number of years, I have arrived at the following conclusions: —

It is necessary that the patient should be well fed, a starvation diet never answers.

The stomach does not require any rest from the performance of stomach digestion; on the contrary, it is all the better for being called on to perform its natural functions.

The patients' own ideas as to what food agrees with them are usually erroneous. They are apt either to starve themselves or to select the least nutritious articles of food.

The use of artificially digested foods, or of substances such as pepsine to assist stomach digestion is unnecessary.

The starches, oatmeal, corn meal, bread, the cereals, the health foods are as a rule, bad. Portions of them remain undigested in the stomach for many hours.

Milk in adults is an uncertain article. It answers very well for some persons, not at all for others.

Meat is usually readily and well digested, but there are occasional exceptions to this rule.

Vegetables and fruits can be eaten, but the particular varieties must be selected experimentally for each patient.

I do not believe that any case of chronic gastritis is to be cured by diet alone. Even the exclusive milk diet, while it often relieves symptoms, is as a rule, only temporary in its effect, so that the patient simply loses a certain amount of time by employing this instead of more efficacious plans of treatment.

III. THE ADMINISTRATION OF DRUGS.

The advantageous use of drugs belongs to the earlier stages of chronic gastritis. At that time they often palliate symptoms and sometimes even seem to cure the inflammation. In the later stages of the disease their use becomes more and more unavailing. The reliable drugs for this purpose are not numerous: the preparations of soda, potash, and bismuth, the mineral acids, glycerine, sometimes carbolic acid, sometimes iodoform, sometimes the bitter infusions. If none of these answer, it is hardly worth while to look any further. If we can combine, with the administration of drugs, the regulation of the diet, and of the mode of life of the patient, then of course, our chances of success are much greater.

IV. THE USE OF LOCAL APPLICATIONS MADE DIRECTLY TO THE MUCOUS MEMBRANE OF THE STOMACH.

This I regard as the most efficacious plan of treatment for those patients who are not able to leave home and seek a proper climate, but ask to be relieved without interruption to their ordinary pursuits. The local applications are readily made by the introduction of a soft rubber tube thorough the œsophagus into the stomach.

Liquid applications are the best. They should be made in such quantities as to come thoroughly into contact with the entire surface of the mucus membrane, although the pyloric end of the stomach is the region where the inflammation is principally situated. They should be made at a time long enough after eating for the stomach to be as nearly empty as possible.

For many cases warm water alone in considerable quantities is the only local application needed. In some, however, there is an advantage in medicating the water, and for this purpose, I employ a variety of substances.

The alkalies, the mineral acids, bismuth, carbolic acid, the salicylates, iodoform, belladonna, ipecac, gelseminum, may each one be employed according to the particular case.

For the first week it is often necessary to put the patient on a milk diet, and this can be done even with those patients, who under ordinary circumstances cannot take milk at all.

Then, after a time, to the milk we add one solid meal composed of meat alone. Next, this single meal is increased by the gradual addition of fruits, vegetables, and bread. Then comes the giving of two solid meals a day, instead of one, then three solid meals, and now we get rid of the milk in part or altogether.

For the first week of this treatment it is wise not to expect any special improvement. Indeed even a longer time than this may try the perseverance of the physician and the confidence of the patient.

Sooner or later, however, the expected improvement begins: the nausea and vomiting cease, the constipation or diarrhœa is improved; the flatulence is no longer troublesome; the headache becomes less frequent; and of more real value than these, the improvement in the general condition of the patient becomes evident. The color, the weight, the appetite, the sleep, the spirits of the patient, all show a change for the better. Of all the symptoms, the pain is the one which is apt to persist the longest.

For two or three months, the patient has to be kept under observation, and the applications to the stomach made by the physician. After this, the patient is dismissed, but continues the treatment himself, first every other day, then twice a week, then once a week for several months. The regular relapses of the disease are managed in the same way, but are much more quickly relieved.

I have tried thus succinctly to lay before you the characteristics of a common and important disease, and yet a disease which seems to me not to meet the recognition and attention which it demands. If I can secure for the patients who are made miserable by it, a more careful and intelligent management than they are now apt to receive, the purpose of this paper will be answered.

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HOMŒOPATHY AS VIEWED BY A MEMBER OF THE MASSACHUSETTS MEDICAL SOCIETY.

A LECTURE DELIVERED APRIL 15, 1886, BEFORE THE HAHNEMANN SOCIETY OF THE BOSTON UNIVERSITY SCHOOL OF MEDICINE,

BY VINCENT Y. BOWDITCH, A.B., M.D., (HARV.),
President of Boylston Medical Society, 1884–5.

Mr. President and Gentlemen of the Hahnemann Society of the Boston University: One year ago, Dr. Conrad Wesselhoeft kindly consented to give his views upon homœopathy to the members of the Boylston Medical Society of the Harvard Medical School,[1] and to-night I appear before you, at your polite request, to state my views upon the much-vexed question of the difference between the homœopathic form of practice as now known, and that of the "old" or "regular school."

In accepting your invitation, I did so with great hesitation, solely for the reason that I felt my knowledge of the subject in question was not sufficient to warrant me in giving my views in the form of a lecture.

As I should have been unwilling to seem ungracious to your Society by a refusal to speak before you, and having the earnest desire to do my part, however small, towards creating harmony in the rank and file of the medical profession after years of unfortunate and bitter feeling, I decided to accept the invitation, and to answer the questions which you have given me to the best of my ability.

I have thought it best to begin by answering and discussing your questions separately, and in the order in which they were given, leaving my general remarks upon the subject to the end of my paper.

Question I: "What are the conditions under which it would be possible to construct a positive science of medicine?"

Gentlemen, until we, as erring human beings, become possessed of supernatural powers, I maintain that the construction of a positive science of medicine is a thing devoutly to be wished for, but an absolute impossibility. When we have a perfect knowledge of the structure of the human body, of the exact function of every nerve, muscle, and other organ, and of their relations to disease; when we know the exact nature of every drug, of its effect upon the human frame, both in health and disease, and can surely trace every effect to a certain cause; finally, when we fully understand the part which personal idiosyncrasy plays in our treatment of disease, then, and then only, can we begin to hope to construct a positive science of medicine.

You may say to this: "Why, if we have such a discouraging outlook, is it worth while to strive at all to improve upon our present knowledge of medicine?" and I reply: "Because, in every path of life, we can strive, at least, for our ideal, however unattainable it may seem to our human minds." That it would be a wretched life indeed, if, in our endeavors to look for truth, we had no hope that we were doing our part, however slight, in the moral and intellectual progress of the world. Certainly, our only hope for approaching this ideal in medicine is to cultivate our powers of observation to the utmost; to watch our cases closely; to compare different forms of the same disease; to note and compare the results of our methods of treatment with those of others, always keeping in mind that, while we should give the powers of the imagination their due place, one well-established *fact* is worth a thousand *theories* in our study of disease.

Question II: "What would your school do in a case where the symptoms were so varied that it was impossible to make a diagnosis?"

In answering a question, involving, as this does, such an infinite variety of possible conditions, it is, of course, impossible to lay down an absolute law as to the method of treatment in cases of doubtful diagnosis, but I think it safe to say that at the outset, we should inquire into the condition of the various functions of the body, and, if not acting as they should, our treatment would first be directed towards restoring them to their normal condition, if possible. Having accomplished this, and yet finding no cessation, nor even amelioration, of the morbid symptoms, our only resource would be, to *wait*, while watching the case carefully for the advent of symptoms which would assist us in our diagnosis. At the same time, we might be, and frequently are, obliged to treat the case symptomatically, by which I do not mean that each and every symptom should be attacked, as it were, by a different remedy, but that certain symptoms which seem to threaten the safety of the patient should be alleviated as far as possible by whatever means seem best to us.

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[1] A Lecture on Homœopathy before the members of the Boylston Medical Society of Harvard Medical School, by C. Wesselhoeft, M. D. Boston: Otis Clapp and Son. 1885.

To make myself more clear, possibly, let me use an example: A patient may be suffering from a variety of puzzling symptoms, and one of our first questions would probably be as to the condition of the alimentary canal; possibly we should find that there had been marked constipation, and our efforts would be directed towards clearing the bowels from obstructions, either by means of enemata, or by rapidly-acting, laxative medicines, provided there were no concomitant symptoms to contra-indicate any disturbance of the intestinal tract. Should we, moreover, after the removal of this possible cause of unusual symptoms, find, for example, excruciating headache persisting, our only course would be to alleviate, if possible, the suffering from this one symptom, and then wait for further developments. By my use of the pronoun "we," I have endeavored to express what would seem to me to be the opinion of the physicians with whom I am most thrown in contact, and yet from the very methods of teaching in our schools, there would be many, doubtless, who would differ from me, and to this point I shall refer later.

Question III: "*What are the arguments in favor of Polypharmacy by your school?*"

The wording of this question leads me to think that you are laboring under the mistake that the methods of prescription-writing of fifty years ago and of the present day are one and the same thing, and I hasten to assure you that this is by no means the case. Not that prescriptions are not very frequently written containing several ingredients still, but I think there is a growing tendency towards the use of single remedies, at the same time that the amount of dosing, although varying greatly with different physicians, has vastly decreased in less than half a century. As to the reason of these changes, I shall speak later. Certain it is, that the younger physicians of to-day hear little or nothing of the "adjuvans," the "corrigens," etc., various terms used so much in prescription-writing of former times, and look with amusement, not unmixed with horror, at the compounds which were poured down the poor sufferers' throats, while they wonder, indeed, that the mortality list was not even greater than recorded!

If arguments there be in favor of polypharmacy, they can easily be reduced to this, I think: That such combinations of drugs are recommended for use as have been shown by the experience of thousands of careful observers to have certain effects upon certain abnormal conditions of the human body.

Let us again take an example: In cases of chronic constipation, where there seems to be a lack of intestinal secretion and an atonic condition of the bowel, the combination of aloes, nux vomica, and sulphate of iron in pill form, has proved of infinite service where aloes alone seems to lose its power quickly, or to cause uncomfortable sensations.

Again, in cases of cardiac disease associated with dropsy, I think that no one who has used in such cases a simple combination of digitalis, colchicum seeds and bicarbonate of soda, a formula[2] now in use for several generations, can fail to be impressed with the beneficial effect of such a prescription. Neither can any one who has had much experience in dispensary or private practice doubt the efficacy, I will not say in all, but in the majority of cases of anæmia associated with mitral disease, of the combination of iron and digitalis either in pill or liquid form.

Bartholow constantly speaks of the "synergistic" action of some drug upon another, that is to say, the power which one drug has of increasing the action of another; for instance: alcohol increases the hypnotic effect of morphine; ipecac increases the sudorific action of opium, and the combination of bromide of sodium or potassium with chloral will often accomplish what is wished for, in smaller doses, too, than when either drug is used alone.

Quantities of instances like these could be given, but they will suffice to illustrate my meaning. I repeat, then, the arguments in favor of Polypharmacy when practised, are, that experience justifies us in concluding that a combination of drugs is often, not always by any means, more efficacious in combating disease than the use of one drug alone.

Question IV. "*In accordance with what principles does the 'old school' physician prescribe, and on what basis does he maintain that these principles are correct?*"

Gentlemen, I believe that I am correct in saying that no physician of the "regular" or "old school" is taught to practise by any set maxim, rule or principle, unless indeed it be said that to use the experience of others and ourselves, combined with as much common sense as it is our good fortune to possess *is* a principle.

Certain it is, that we believe the science of medicine cannot be reduced to mathematical exactness, and just so long as this is the case we believe it impossible to lay down an absolute law of medicine and say, "This rule is right; no other can be right, and by this rule must we practise." Possibly in the countless ages of the future as the human mind comes nearer and nearer to the state of the all-seeing and the all-knowing, what is now dark and unfathomable to our finite minds may be clear as day, and medical science may be upon a firmer basis than it now possibly can be. It is perhaps a discouraging and rather sad thought that in medical practice there is so much groping in the dark and so much scepticism as to the efficacy of our methods of treatment in many cases. Happy those who are always convinced of the useful power of their drugs and indulge themselves in the *post hoc propter hoc* argument, in the face of the more skeptical who say, "Could not this favorable result have occurred had nature been left to herself?"

From what I have just said you will know that the "regular" physician feels that he must rely largely upon the judgment and experience of those who, by their eminence in the profession to which they have devoted their lives and energies, have become immortalized, at the same time, by using his own powers of observation, endeavoring to avoid the danger of blindly following the beaten track. In so doing, he confines himself to no narrow limits by absolute belief in one or more maxims, be it the so-called principle of *contraria contrariis*, or *similia similibus*, or the power of infinitesimal doses of certain drugs; in short, he prescribes his medicines as far as possible in accordance with *experience*, experience based upon practical observations, or frequently upon the results of laboratory research in which theory has been substantiated by fact.

The term "empiricism," signifying a tendency to depend on personal experience alone in practice, was a term constantly hurled, and doubtless oftentimes with justice, at the opponents of Hahnemann. This charge is even now a favorite one among homœopathists in their criticisms of the "old school," but I have yet to be convinced that the former are free from this fault which they complain of in others, when I read certain portions of homœopathic literature.

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[2] ℞ Pulv. Digitalis, ... gr. x.
Pulv. Colch. Sem. . . . . gr. xx.
Sodæ Bicarbonat. . . . . . . gr. xxx.
Ft. pil. no. xx.
S. One pill every three or four hours.

Gentlemen, we are all of necessity "empirics" to a greater or less degree, and that any one of us should be accused of depending too much upon personal experience alone, is a fault, I believe, more of the individual than of the "school of medicine" to which he may profess to belong.

Let it not be supposed that the "old school" physician (using the term merely as a distinguishing mark from those who profess to adhere to a certain rule or set of rules in their practice) feels himself compelled to accept blindly the theories and suggestions of those whose opinions he respects, and act upon them regardless of his own results. The intelligent practitioner condemns the unimaginative, short-sighted methods of those who allow the existence of nothing beyond the reach of their special senses and who persistently make use of certain prescribed regulations, regardless of the personal idiosyncrasy of the patient and of the other innumerable reasons for making each case a special study. He considers himself justified, moreover, when prescribing, in experimenting, within reasonable limits, in whatever way shall seem best to him; above all, he considers that his methods of practice are directed towards assisting Nature in her efforts to resist disease.

Question V. "*To what doctrine of Homœopathy does the 'regular school' most object? Why are the doctrines of Homœopathy more strenuously opposed by the 'old school' than the widely varying theories constantly presented by physicians of that school?*"

In answering the first part of your question, one is embarrassed by the fact that he finds there is dissension in the ranks of homœopathists as to what maxims should be rigidly adhered to in their practice. Your critic says that he cannot possibly believe that an infinitesimal part of a grain of table salt can have the slightest effect, salutary or deleterious, upon any one, and he is confronted with the statement that such ideas have long since been exploded. Again he finds that while one homœopathist believes that there is no curative power in the fraction of a grain of some drug, beyond the tenth dilution, yet there are others who seem to have implicit faith in the salutary effect of a grain of the same substance carried to the thirtieth dilution and even higher, to say nothing of the great originator of Homœopathy, Hahnemann himself, who stated that no dose could be made too small, on the ground that, by means of proper distribution or dilution, the power or "virtue" of the drug used, increases in an inverse ratio to the smallness of the dose.

These and other differences of opinion among members of a sect in medicine who profess unbounded faith in certain set formulas for practice, must necessarily, I think you will in justice admit, bring doubt into the minds of those who look on, not only as to the infallibility of the homœopathic doctrines, which perhaps the more reasonable of your school do not claim, but also as to the great difference which the homœopaths still insist exists between their methods and those of a vast number of practitioners who acknowledge implicit allegiance to no sect or school of medicine.

For the sake of argument, however, let us suppose that every homœopathist adheres strictly to the teachings of his school, namely, the giving of simple remedies, the use of small doses, the so-called law "similia similibus curantur," and the "proving" of drugs, and I can then perhaps show you to which one of these rules the "regular school" most strenuously objects.

As to the first maxim, the giving of simple remedies, I have already said that the tendency to use single drugs, although by no means universal, is much more marked than in the practice of a generation ago, and certainly the prejudice among physicians of the present day against giving long prescriptions, is increasing; therefore this may be said to be the least objectionable of the homœopathic doctrines.

The use of small doses. Although I believe you are taught in this school that any dilution beyond the tenth is useless, you will acknowledge that there are those holding a high position among homœopathists who profess implicit faith in the curative power of drugs carried to a much higher degree of dilution than what you consider the limit, and I therefore am justified in classing them together.

Certain it is, that however skeptical many of us may be as to the curative power of any drug whether given in large or small doses, the effect of which has not been unquestionably proved, our skepticism is not lessened when we hear of the beneficial results obtained from the use of the quintillionth, the billionth, the millionth, or even the one one-hundred thousandth of a grain of some substance, and we consider that homœopathy has not yet shown by its results, facts which warrant its claim to more favorable results than what Nature could have accomplished when assisted merely by proper hygienic and dietetic care.

We believe that the homœopath, by what we deem extravagant claims on this point, is constantly falling into the error, to which to be sure we are all more or less liable, of arguing that because improvement *follows* the administration of a drug, it is therefore *in consequence of* that drug, an assumption which seems to us most unwarrantable in the vast majority of cases which experience has taught us would recover without any treatment at all.

To the implicit faith in the doctrine *similia similibus curantur* as a universal law (implying as it does, a treatment founded upon observance of symptoms only, regardless of their cause), I think I can safely say the regular physician objects more strongly than to any other of the homœopathic maxims.

That some drugs which cause certain symptoms will oftentimes check or cure similar symptoms arising from another cause is a fact not discovered by Hahnemann but acknowledged many years before his day. Ipecac, in certain doses, has for ages been known as a valuable emetic, and at the same time, its power of checking some forms of emesis is equally well-recognized. The same may be said of rhubarb which in large doses acts as a purgative, but is often used in small doses in intestinal catarrh with marked benefit. Other drugs could be mentioned, but these will suffice to show that "old school" physicians all recognize this apparently peculiar characteristic of some substances, but at the same time feel that the homœopathists have gone too far and are not justified by experience as yet, in asserting they have discovered some mysterious law of Nature which governs the whole domain of medicine, because certain drugs possess qualities which are perhaps not explained to our entire satisfaction. They believe, moreover, that the claim of the homœopaths that *symptoms* must be treated without regard to the *cause* of the disease (a method which seems to be fostered by implicit faith in the *similia similibus* doctrine and by the "provings" of drugs) is, if strictly adhered to, a dangerous source of error, even were it possible for every physician to practice in exact accordance with the classified "provings" of your text-books. When he considers the important part which personal idiosyncrasy plays, to say nothing of the innumerable outside influences which may cause a difference in any two "groups of symptoms," the "old school" physician feels that the man who places implicit reliance upon this method of treatment is walking upon most uncertain ground, and is in danger of being carried farther astray than he who at the outset searches for the *source* of the disease, while closely watching, and relieving if need be, special symptoms.

In the second part of Question V, namely,— "Why are the doctrines of Homœopathy more strenuously opposed by the "old school" than the widely varying theories constantly presented by physicians of that school?" you strike the key-note of the whole controversy, and in my answer I shall endeavor, instead of discussing details as to the difference between any two "schools of medicine" to give the chief reason for the opposition shown by the "old school" to the homœopaths since Hahnemann first claimed that he had found the new and only method of the art of healing.

Gentlemen, the "regular" physician takes this ground in his argument, and I believe it to be the broadest, the safest, and the most honest of all. He claims that medical science is not in a condition to warrant any man in professing to adhere to any school of medicine, or to any set formulas for practice; in short, to justify him in classing himself in any other than the great body of physicians who devote their lives to the advancement of medical science, who practise as reason, judgment, and experience shall dictate, with minds ever ready to seize upon whatever seems to denote progress in their profession, while contenting themselves with the unpretending name of "physician," a term which gives the educated medical practitioner the liberty to practise as seems best to him, and relieves him from the imputation of sailing under false colors, and of not practising what he preaches — an ideal picture, it may be said, and one, alas! which, owing to the faults common to us all as human beings, is rarely met with, but it, at least, expresses the standard of the "regular" physician, however far short he may fall of what he aspires to be.

I hear you say, "But you call yourself an allœopathist," and I reply, "By no means." The term is one given by Hahnemann to those of the "old school" who opposed his ideas, and in thus making two separate sets or schools of medicine. I consider that both Hahnemann and his adherents have done much harm by creating false ideas in the minds of the laity, who, in their ignorance of medical science, have been taught to consider the name of "allœopath" as synonymous with heroic treatment, and that of "homœopath" as always implying the use of small doses, and methods of treatment utterly at variance with that of "regular" physicians; statements not in keeping with facts, as can be proved day after day in the practice of any physician of even moderate experience.

Unfortunately for our cause, there are those in the "regular" profession, who, although strongly opposed to the adoption of any name other than that of "physician," in their wish not to be entitled "homœopathists," have carelessly allowed themselves to be called "allœopaths," and thus have done their part in creating confusion in the minds of the laity, among whom, unfortunately, the war is waged as furiously as in the ranks of the medical profession itself.

I trust that I have now made it clear to you, gentlemen, that the "regular school" object not so much to the "doctrines of homœopathy," as to the fact that homœopathists, as a class, profess adherence to certain methods of practice, and, you will excuse me if I say it, *do not practise always in accordance with those methods by any means*, the laity being, at the same time, misled with the idea that they are being treated homœopathically. Gentlemen, can you, in viewing the case impartially, think it strange or unjust that the "regular" physician feels indignant, when, upon being told by some one that he has been treated homœopathically, he finds, upon strict inquiry, that substances have been given in doses quite in accordance with ordinary "regular" practice? Can you blame him, when he hears that the "leading homœopathist" of a large city in a neighboring State is giving cod-liver oil and quinine, three times a day, to the child of a lady who "has implicit faith in homœopathy"— can you blame him, I say, when he accuses such a man of sailing under false colors; or again, how can he be expected to believe that there is such a vast difference between the homœopathic and "regular" methods, when he hears that the leading homœopathist of a large town in this State, treats a case of chronic pleuritic effusion with arsenicum, in doses equal to one drop of Fowler's solution, with glycerine jackets applied to the affected side, and with stimulants, the previous treatment under a "regular" physician having been three drops of Fowler's solution three times a day, and iodine applied to the side; or can he think that the homœopathic physician is adhering strictly to his principles, when, later in the same case, he alternates different medicines in the same day, rarely adhering to the same drugs for two days in succession, at the same time, making the patient take draughts of porter at meal time, sufficient to make her leave the table with a dizzy head?

Can you, I ask, wonder that we feel such practice is not fair? I could weary you with accounts of similar cases, but I desist. Perhaps, too, you may think me unjust in citing individual cases, but, gentlemen, how else are we to judge, except by taking individual cases in the practice of men apparently held in high estimation by their own colleagues, and comparing them with our own methods, to see wherein the difference consists.

Your esteemed Professor, in his address to the Boylston Society last year, makes use of this expression: "To say that a homœopath should not use an allœopathic means of treatment, or that an allœopath should, on no account, use a homœopathic remedy, is as absurd as to say that a blacksmith must, on no account, use a watchmaker's file, etc." I beg he will not consider me discourteous if I say that I deem such a sentence most misleading to those who do not understand the real cause of the controversy between the homœopaths and the "regulars." From the very wording of the sentence, he makes it appear that we are not allowed to use drugs in doses otherwise than as we have been taught from time immemorial, which is not at all the case.

We are bound to nothing, and are at liberty to use any drug in whatsoever dose we please, when experience has proved to us its beneficial action, the only provision being (I repeat it, to impress it upon you), that we take no name other than that of "physician." Thus, if convinced of its usefulness, we may use the one one-hundred-thousandth of a grain, nay, the one-millionth of a grain of any drug, if we wish, and yet no one can rightly accuse us of sailing under false colors if we do not class ourselves with one sect of special name. Can you, looking at the matter impartially, deny that this is the broader and safer ground to stand upon?

As proof of what I have said, look at the practice of any two "regular" physicians. Their theories and their methods of treatment may differ widely. Where one may believe that the less medicine given the patient, the better, another may have that implicit faith in drugs which makes him pour them down the patient's throat *ad nauseam*, and yet neither of these men is accused by others of their profession of practising otherwise than legitimately.

In thus discussing your question, gentlemen, I trust I may have expressed clearly to you what I consider the chief point of controversy between the two parties.

(To be continued.)

Original Article.

GYNÆCOLOGICAL HINTS AND HOBBIES.[1]

BY W. SYMINGTON BROWN, M.D., OF STONEHAM, MASS.

The first time that I saw a vaginal speculum used was at the Glasgow Lock Hospital, in the summer of 1841. The patient was a young prostitute. I happen to recollect the case from the circumstance that the edges of the instrument (it was a clumsy, home-made bivalve) were so sharp that its insertion caused the mucous membrane to bleed, and I took it to the cutler's shop next day to get its edges rounded.

About one year later I was present at an operation for procidentia uteri, performed in the Glasgow Royal Infirmary, where the surgeon, after replacing the womb as well as he could, scared the vaginal walls with a red-hot iron, for the purpose of producing permanent adhesion and contraction. That was the best he could do for the poor woman; and, no doubt, he thought he had done pretty well.

We all know what giant strides gynæcology has taken since 1842. It would only be a waste of your time and mine to try to enumerate them. What I propose in this paper, is to pass in review a few of the more prominent hobbies which have been ridden during the last thirty years, including an epitome of the available hints picked up in the same period. I can safely promise that the later part will not tire you by its length. Louis Agassiz is said to have remarked that he had only made two discoveries during his whole scientific career, and they could both be comprised in less than half a page.

As an aid to memory, I am in the habit, when possible, of classifying my notes under four heads, and that arrangement will suit my purpose to-night. During the last thirty years we have had, in gynæcology:

I. An Era of Cervical Ulceration.
II. One of Displacements.
III. A Surgical Era.
IV. A Constitutional Era.

I do not use the word hobby in an invidious sense, I simply mean that certain men give undue prominence to one particular symptom, and attach more importance to it than it deserves. We are all guilty of doing this occasionally. We have each our likes and dislikes, some of which would often puzzle us to give a good and sufficient reason for. When the hobby masters us, then it becomes tyrannical and mischievous. It is plainly our duty to examine facts as we find them, to be fair and candid in our interpretation of them, and not try to twist them into line with our preconceived ideas,— in a word, to recollect our fallibility. Oliver Cromwell hit the nail on the head when he said to an assembly of Scotch clergymen, "I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken." The chronic hobbyist is never mistaken: he is like the lady Franklin met in Paris, who said "I do not know how it happens, but I meet with nobody, *except myself*, that is always in the right.

I. CERVICAL ULCERATION.

Dr. James Henry Bennett, who may justly claim to be the prophet of this era, says, "I have endeavored to demonstrate the important fact that inflammation is the keystone to uterine pathology." He went much further and attempted to prove that ulceration of the cervical mucous membrane was the keystone, and caustics the remedy. This theory possessed the advantage of extreme simplicity. Nearly all needed to carry it out in practice was a glass speculum, a stick of lunar caustic and unlimited confidence: so its followers soon became numerous. Its founder was not an ignoramus; far from it. He had "the courage of his convictions," and did more than any other practitioner of his day to help forward gynæcology by insisting on the propriety of and absolute necessity for a thorough examination. He rode a hobby, it is true, but he rode it right manfully. It is also true, as he alleged, that mucous membranes all over the body, are much more liable to inflammation than serous membranes or parenchyma.

After all, however, it is difficult at present to realize that so fierce a war was waged about so small a matter as the difference between abrasion and ulceration. Dr. Macleod says, "The terms desquamation, or excoriation, or abrasion, are applied to the removal of epithelium alone, while ulceration implies a deeper penetration of the destructive action." If we accept this definition, and it seems a fair one, we would feel inclined to side with Dr. Robert Lee, who totally denied the occurrence of ulceration. Certainly the non-specific "ulcers" we find on the cervix uteri are very seldom, if ever, like ulcers on the leg or any part of the skin; they are abrasions, and do not eat into the deep tissues under the epithelium. The result is that iodine and dilute carbolic acid have taken the place of nitrate of silver, which latter salt, though generally set down by modern surgeons as only an astringent, has caused considerable mischief in the shape of pinhole os uteri. I am not at all sorry, therefore, that it has been laid on the shelf. The hot douche, scarifications, medicated woolen pessaries, and glycerine are much better agents to allay inflammation.

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[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, March 17, 1886.

II. DISPLACEMENTS.

In one sense, we might assert that the uterus has *no* permanent location. It is a sort of vagabond. When we define its position as lying between the bladder and rectum we are as precise as the facts warrant us; and indeed, under certain circumstances both of normal and abnormal development, the great bulk of the organ is not to be found even there. The truth is that the womb is prëeminently a mobile organ, shifting its position almost every hour of the day, according to the condition of the bladder, rectum and small intestines.

Dr. Graily Hewitt in England, and the late Prof. Hodge in this country, are authorities in all that relates to uterine displacements. I have carefully read and re-read their books; and the conclusion I have arrived at is, that on no other medical subject has there been so much cry and so little wool. Dr. Hewitt, in particular, is the ideal hobbyist. I think if he were to meet with a huge fibroid, his first idea would not centre so much on the nature of the tumor as on the degree of displacement. According to him, nearly all the ills that woman is heir to, depend on malposition. His argument has always appeared to me like an inverted pyramid, which I would like to reverse; for, according to my notion, very few of those ills depend on displacements. In fact, I only know of two,—prolapsus and retroversion — which produce much mischief. Flexions and anteversions occasionally exist, but the proof that they always cause dysmenorrhœa or other discomforts are lacking, and the major part of the symptoms attributed to these malpositions might fairly be classed as doubtful.

I think, however, there need be little doubt that pessaries are chargeable with hurting more patients than they help. This is especially true of those instruments which are connected with an external support, such as Cutter's, for the reason that what they attempt to achieve, namely, to fix the uterus in a certain position, is itself unnatural. The womb is normally movable, very much so. If we attempt to limit its mobility by external supports, intra-uterine stems, or otherwise, we violate the cardinal principle of its being. Indeed, many of the most serious uterine diseases depend mainly on the circumstance that they fix the womb in one position; and whether it be imprisoned by adhesions, deposits, contraction of ligaments, or a pessary, the result is the same, congestion and hypertrophy.

I hope no one will infer from this that I am opposed to pessaries *per se.* I am not. I believe that they have a limited range of usefulness, as temporary expedients, but, like opium and alcohol, they are edge tools, capable of turning out either a blessing or a curse, according to the way we handle them. With the exception of procidentia (which is really a sort of hernia, and the pessary acts as a truss) I believe that all pessaries which benefit the patient, whatever their form or material, act in one and the same way, namely, by supporting the uterus, and allowing its ligaments to recover their tone. To do this, the contrivance must itself be movable and easily removed by the patient. A pledget of fine iodized wool, changed daily, fulfils these requirements. The next best material is a block-tin ring, which can be shaped by the surgeon's fingers at the bedside, and is strong enough to retain that shape while lying in the vagina.

III. SURGICAL.

The surgical era may be fitly represented by Sir Spencer Wells and the late Sir James Simpson in Great Britain, and Dr. Thomas Addis Emmet and the late Dr. Sims, in America.

Surgery possesses one advantage over medicine: it is more palpable, so that its mistakes and shortcomings are easier detected. But surgery is not entirely free from hobbies, even in its highest sphere of triumphs. Take ovariotomy, for example: more than any other modern operation, it has passed through the severest fire of criticism, and has come out purified, glorious. One might feel disposed to think that there was scarcely any room for hobbies here. The "sober, second thought" of most experienced operators had arrived at the conclusion that it was best to wait till the disease had begun to make its mark on the general health before operating. Recently, however, we see the doctrine advocated, that it is better to operate at once, at least, as soon as we are sure of our diagnosis. Talented men, like Dr. Bantock, of London, not only urge this plea, but put it in practice. I believe that these surgeons are wrong, and, unconsciously, are riding a dangerous hobby.

A single case in my own practice will illustrate what I mean. Eleven years ago, in examining a patient, I detected an ovarian tumor not larger then a hen's egg. One year later, it had increased to the size of a new-born infant's head, and Dr. Chadwick, who saw her in consultation, concurred in the diagnosis. Six months ago, when last examined, the tumor had attained the size of an adult head. During the last eight years, the principal inconvenience suffered is prolapsus uteri, for which she wore a doughnut pessary for a long time, but at present she only wears a T-bandage. The question arises, was it our duty to have advised the removal of this tumor? I think not. Even with the encouragement offered by the marvellous success following ovariotomy (due, as some think, to Listerism, and others, to cleanliness and acquired dexterity), the most sanguine surgeon must admit that there is *some* risk of life attendant upon it. On such occasions, I say to myself, If this woman were your sister or daughter, would you operate? I freely admit that most surgical failures are fairly chargeable to delay, but such a case as this seems to me to be the exception, which proves the rule. One of the heaviest burdens a surgeon must bear, is the sense of personal responsibility, coupled with the conviction that after he has done his best, the result is so often doubtful.

Professor Simpson popularized the practice of slitting up the cervix uteri to cure dysmenorrhœa, sterility, etc. The malformations intended to be remedied by this heroic method are now known to be nearly all congenital, and the treatment has become obsolete. In our day, it is the fashion to sew up lacerations of the cervix — a more rational practice.

Dr. Marion J. Sims did more than any other surgeon in this country to ring the changes on "Uterine Surgery." His book with that title reads like a romance, and, in fact, is one. For, as Dr. Van de Warker, in his eulogy, has pointed out, Marian J. Sims was a poet, as well as a surgeon, and labored untiringly to carry out his surgical ideas from an innate love of truth, rather than from greed of fame or money. He lifted vesicovaginal fistula out of the Slough of Despond, and gave us a speculum which will never be superseded. He rode no grovelling hobbies.

Perhaps there is no instrument used in gynæcology which has furnished so large a field for hobby-riding as the invention of specula. If cutlers would only agree to designate them by numbers — say from 1 to 1,000 — instead of the inventors' names, the evil would be lessened; but I cannot agree with Mr. Lawson Tait, in a recent New York address, who proposes to abolish both speculum and uterine sound. One may ride a negative, as well as a positive hobby.

IV. CONSTITUTIONAL.

Nearly a century ago, John Abernethy pointed out the great importance of constitutional treatment in surgical diseases. He wrote a famous book on the subject, and the medical wits of that day used to say that Abernethy charged his wealthy patients a guinea for advising them to buy his book! Dr. Fordyce Barker and Dr. S. Weir Mitchell are worthy successors of the great London surgeon. But it is not every one who can afford to pay one hundred dollars per week for board and treatment; and, fortunately, every patient does not require to be put through the course of training which Dr. Mitchell enforces. Our own Dr. Field, of Newton, Mass., has also devoted a great deal of time to the elucidation of this question.

One reason why women need constitutional as much, if not more, than local treatment, is because uterine diseases are generally of an insidious, bearable nature; and, partly from false delicacy, women do not apply for assistance until the whole system has become more or less affected.

Leucorrhœa — the commonest of all female complaints — often depends on constitutional disorder or disease, and does not become local until the continuous maceration of the cervical and vaginal tissues results in abrasion, puffiness, or something worse. If we cure the abrasion, often called ulceration, we have not cured the real disease, which may depend on indigestion, imperfect aeration of the blood, starvation of ganglia, kidney disease, or some other trouble.

In young girls, amenorrhœa may follow excessive mental application at school; and the remedies would not be an intra-uterine pessary or emmenagogues, but less brain work, pure air, bathing, and gentle out-door exercise. I see such cases nearly every month.

In married women, who have borne children, one of the commonest conditions we meet with is a torpid liver, complicated with constipation. I know that the liver has long acted as a sort of scapegoat to carry off the physical sins of the people, both masculine and femine; and prominent physicians like Dr. Matthews Duncan, deny that it is so often guilty of producing or aggravating disease as it is accused of. The influence of mercury as a cholagogue has been called in question too, by recent experimenters. But I also know that I have administered hepatic pills to that class of patients with the best results. They are more alterative than laxative. If the constipation depends on retroflexion, of course that must be attended to. Ordinarily I depend on diet, massage, force of habit, and enemata, to relieve constipation. But the physician's *bête noir* lurks in the nervous system. We call it hysteria, neurasthenia, or something else, according to the prevailing fashion. As a general rule, the uterus has but little to do with it. We occasionally meet with similar symptoms in men. Hysteria attacks women more frequently than men, because the former are naturally more exposed to nervous perturbation, are more emotional, and the weaker vessel founders.

The real origin lies in the present phase of civilization — a crazy competitive race, with disease for prizes, and death for the paymaster. Our so-called civilization is the rank soil which raises so copious a crop of faith curers, homœopathic jugglers, wholesale lying druggists, and reprobate doctors, all riding one hobby — Money! But this, I fear, is forbidden ground. We must "learn to labor and to wait."

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Pharmaceutical Memoranda.

LANOLIN.

BY B. F. DAVENPORT, M.D.

Under the name of Lanolin, Prof. Liebreich, of Berlin, has recently introduced as a base for ointments, etc., the fat obtained from sheep's wool. This substance is one of the so-called cholesterin fats which are formed in the animal keratin tissues. It is much more completely and rapidly absorbed by the skin than the ordinary glycerine fats, or the paraffine. The preparation is an emulsified form of suet, or crude wool fat. It is perfectly neutral, difficult to saponify, and has not a tendency to become rancid. Its capacity for absorbing water is so great that it works up with over its own weight of it, forming there with a plastic cream-like mass. It combines freely with glycerine, forming with it an excellent basis for ointments, pomatums and cosmetic purposes. It is so rapidly absorbed by the skin as to form a very efficient means of administering remedies. A mercuric chloride ointment made up with it containing but one-thousandth of one per cent., induces the characteristic metallic taste in the mouth within a few minutes after its application upon the skin of any part of the body, and if containing ten per cent. potassium iodine, the presence of iodine in the urine can be shown in from a half to three-quarters of an hour, and after several applications it will continue to be eliminated for about a fortnight. Lanolin was used by the ancients, being mentioned by Herodotus, Pliny and Aristophales. Under the name of Œsypum it was mentioned in the Florentine Pharmacœpia of 1560. — *Pharm. Rundschan.*

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Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING.

The annual meeting of the Council was held at the Medical Library, Boston, on the evening of Tuesday, June 8, 1886. One hundred and seven Councillors were present. The meeting was called to order by President Homans at seven o'clock.

After the reading of the record of the previous meeting by the Secretary, and its acceptance, the roll of those composing the Council for the year 1886–87 was read. The Secretary announced the names of seventy-eight Fellows who had been admitted during the year, and of thirty-one who had died.

FINANCES.

The Treasurer's report showed the year's receipts — including a balance of $1,710.73 from the previous year's accounts — to be $10,452.40. The disbursements amounted to $8,685.03, leaving a balance of $1,767.37. The invested funds of the Society amount, as in the previous year, to $32,420.17. The Society now bears upon its catalogue the names of 1,605 members.

In accordance with the recommendation of the Committee on Finances, reporting through Dr. Minot, it was voted that $1,000.00 of the balance remaining in the treasury be distributed among the District Societies.

REPORTS OF COMMITTEES.

Dr. Ayer, for the Committee on Membership and Resignations, reported a list of names of those desiring to become retired members, and of those wishing to resign. The Council voted in accordance with the recommendations of the committee.

Dr. Shattuck reported for the Committee on Publications, and Dr. Presbrey, for the Committee on the By-Laws of the District Societies.

The Committee on Medical Diplomas reported through Dr. Richardson, and recommended a revised list of Medical Colleges whose diplomas are recognized for admission to the Society. It was voted to accept the Committee's report and to adopt the list as recommended.

Dr. George B. Shattuck, Chairman of the Legislative Committee on the State Board of Health, Lunacy and Charity, presented the following report:

At a meeting of the Council of the Society, held June 9th, 1885, a Committee of five (subsequently enlarged to six) was appointed for the purpose of influencing Legislative action in favor of the abolition of the existing State Board of Health, Lunacy and Charity, and of the reëstablishment of a separate and independent State Board of Health.

You will remember the unfortunate spectacle presented a year ago at this time by the late Board of Health, Lunacy and Charity. It is unnecessary to more than allude to it. You will also remember that at that time Dr. H. P. Walcott, chairman of the health department, had not received a reappointment to the Board, from the Governor of the State upon the expiration of his term of service, and the explanation given was the impossibility of maintaining harmony if he were a member of that Board to which harmony had, in truth, long been a stranger. You will remember the cordiality with which Dr. Walcott's name was received when the Anniversary Chairman called upon him to speak to the Society at its last annual dinner. If you recall these things you will remember the position of this question a year ago.

Since then your committee has labored zealously in the field assigned to it by you. A circular letter, under date of December 21st, 1885, accompanied by a statement reprinted from the *Boston Medical and Surgical Journal*, was sent through the Society's Secretary to every member, calling attention to the desirability of a separate Board of Health, and suggesting that personal influence be used with Senators and Representatives to further that end. In the same way a copy of the *Boston Herald*, in which the inefficiency and imperfections of the conjoined board were clearly shown, was sent to every member of both houses of the Legislature. The importance of the appointment from both houses on the Public Health Committee of capable men, who would interest themselves in the subject, was carefully dwelt upon in the proper quarters. The Governor in his message to the Legislature strongly recommended the separation of the health department from lunacy and charity. Petitions from various towns in the State were sent to the Legislature.

The subject was promptly referred to the Committee on Public Health, on the assembling of the Legislature, and not to the Committee on Charities.

Your committee appointed a sub-committee, consisting of Drs. A. H. Johnson, S. D. Presbrey and Emerson Warner to represent the Society at the hearing before the Public Health Committee of the Legislature. The two first named (accompanied by the chairman of your committee) were present at the hearing, and addressed the Public Health Committee. With the assistance of Mr. T. H. Tyndale (the lawyer who drafted the Medical Examiner's Bill) who gratuitously offered his time and counsel, and the employment of a young lawyer for a day or two to verify references, of which there were a large number, your committee was finally enabled to submit a draft of a bill to establish a State Board of Health (copy submitted) which eventually secured a unanimous and favorable report.

After some delay in the Committee on Appropriations in the lower house, brought about, it was thought, by homœopathic influences, the act was passed toward the end of March and became law; and the State of Massachusetts again had an independent Board of Health, which merely awaited the appointment by the Governor, of seven members.

The appointments were made, and confirmed immediately by the Council, Wednesday, June 19th, Dr. H. P. Walcott being appointed to the long term of seven years. Dr. F. W. Draper, another member of the Society, is also on the board. Dr. E. U. Jones, chairman of the Taunton Board of Health, represents the homœopathic taxpayers, some of whom were very eager that there should be such representation. Your committee was of the opinion that a Board to which such varied problems as the adulteration of food and drugs, the purity of water supplies and disposal of sewage, the presence of poisons in wall papers and textile fabrics, etc., are, or are likely to be, referred, should not be composed wholly, or even largely, of medical men. It is of the opinion that the presence upon a State Board of Health of a civil engineer, of a lawyer, of a manufacturer, of a man of business should strengthen the Board among all classes of the community, and encourage the Legislature to refer to such a Board many questions of vital importance but coming intimately within the province of men who have paid no attention to State or preventive medicine as such. Your committee believes that the Board, as now organized and made up by the Governor's appointments, will prove a strong and efficient body, and will be of service to the State.

In reciting the incidents which have led to the present happy conclusion, your committee does not desire to claim any undue credit to itself for the results accomplished, or in fact any other credit than that of doing at any cost of time or trouble what was necessary to be done or what seemed likely to contribute to a successful conclusion. It is well aware that several circumstances conspired to secure the result reported; the behavior of the Board of Health, Lunacy and Charity, itself did much, and the recommendation and countenance of the Executive did still more to favor the cause which your committee had at heart.

Dr. J. M. Harlow, of Woburn, having been appointed as Senator from Middlesex chairman of the Public Health Committee of the Legislature, was unable to act with your committee after the assembling of the Legislature; but this was, probably, not an unmixed misfortune, for his sound common sense and keen political insight and experience were placed where they could do the most good. He was always ready to make or receive suggestions, and his services to the cause of public health in this State, in this and other matters, this year demand your recognition.

The committee desires again to express its obligations to Mr. T. H. Tyndale for gratuitous legal advice and assistance. The committee presents an itemized account of its expenses (the total amounting to $51.66), and begs to be discharged.

George B. Shattuck, *Chairman.*
R. L. Hodgdon.
A. H. Johnson.
Silas D. Presbrey.
Emerson Warner.

Voted: To accept the report of the Committee.

Voted: That the thanks of the Councillors be presented to the Committee and also to Mr. T. H. Tyndale for their efficient services.

The Librarian, Dr. Brigham, made a very full and satisfactory report of the duties pertaining to his office. The report was accepted.

ELECTION OF OFFICERS.

The Committee on Nominations reported the following list of candidates for the offices of the Society for the ensuing year, and the same were elected by ballot: Dr. Thomas H. Gage, of Worcester, President; Dr. John M. Harlow, of Woburn, Vice-president; Dr. Frank W. Draper, of Boston, Treasurer; Dr. Charles W. Swan, of Boston, Corresponding Secretary; Dr. Francis W. Goss, of Roxbury, Recording Secretary; Dr. Edwin H. Brigham, of Boston, Librarian.

Dr. George J. Townsend, of South Natick, was chosen Orator, and Dr. William L. Richardson, of Boston, Anniversary Chairman for the next annual meeting.

THE NEXT MEETING.

It was voted that the next annual meeting be held in Boston on the second Wednesday of June, 1887.

APPOINTMENT OF COMMITTEES.

The President nominated, and the following were appointed to constitute, the standing committees:

Of Arrangements.— C. H. Williams, F. H. Hooper, J. B. Swift, H. C. Ernst, W. W. Gannett, O. K. Newell.

On Publications. — G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Finances.— F. Minot, B. S. Shaw, D. W. Cheever, J. Stedman, E. G. Cutler.

To Procure Scientific Papers.— C. W. Swan, G. S. Stebbins, J. R. Chadwick, R. H. Fitz, H. P. Walcott.

On Ethics and Discipline.— G. J. Townsend, G. E. Francis, A. H. Johnson, C. Howe, F. C. Shattuck.

On Medical Diplomas.— W. L. Richardson, A. H. Cowdrey, E. J. Forster.

In the appointment of Committees a change in the By-Laws has resulted in the combination of the Committee on Membership and Resignations and on Finances into one committee, namely, on Membership and Finances.

In the retirement of Dr. James Ayer from the Committee on Membership it was voted that the thanks of the Councillors be presented to Dr. Ayer for the skill and assiduity which he has shown for many years as Chairman of the Committee on Membership and Resignations.

Dr. Swan, Chairman of the Committee to Procure Scientific Papers, presented the following, which was adopted:

Voted: That the vote of the Councillors passed February 3, 1875, establishing the office of Reporter in each District Society, and defining his duties and those of the Committee on Scientific Papers in connection therewith be rescinded, and the office of Reporter hereby abolished.

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SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

March 17, 1886, Dr. James R. Chadwick in the chair.

Dr. W. Symington Brown read a paper entitled:

GYNÆCOLOGICAL HINTS AND HOBBIES.[1]

Dr. Fifield said that the listening to Dr. Brown's paper was like the passing of a panorama. Regarding the era of ulceration of mucous membranes of the os uteri, mentioned by Dr. Brown as belonging to Dr. Bennett, of Edinburgh, the speaker thought that Dr. Miller, of Dorchester, now dead, could have contested the right to it. Dr. Miller read Dr. Bennett's book, and the next day began the practice of gynæcology. Bennett discovered *ulceration* of the os uteri, but it belonged to Miller to discover the os uteri *about* to ulcerate. The speaker related an anecdote in this connection. Dr. Stetson, of Quincy, had a patient to whom Dr. Miller was called, without the former's knowledge. The patient next day told Dr. Stetson that Dr. Miller had said that there was ulceration of the os uteri. Stetson having sought in vain for the ulcerative process, called upon Dr. Miller for an explanation. The latter, however, was not at home, but his whereabouts being learned, Dr. Stetson drove to the house where he found Dr. Miller's carriage standing at the door. He decided to await Dr. Miller's appearance, but the latter did not appear, although occasionally he could be seen passing out from behind the curtains. Finally, however, after some time Dr. Miller appeared and was asked by Dr. Stetson for an explanation. Dr. Miller said he had *not* told the woman that she *had* ulceration of the cervix uteri, but that she had *incipient* ulceration, that is, *about* to ulcerate.

Regarding the era of malposition the subject has been written to death. Few physicians now believe in anteversion of the uterus, for some truthful gynæcologists already say that if it does exist, nothing can rectify it. Others, that it produces no symptoms that can be clearly referred to it, being in this respect like elongation of the cervix. Two cases of this where amputation had been performed were a few years ago detailed before a learned Society, as having followed abortion. But the reader when called upon to state what evil symptoms had arisen from this elongation, naïvely replied that this was the beauty of it, namely: that it had been accompanied by *no* symptoms, in fact the patients had not been aware that *anything* was the matter with the genital organs. In newly-born females the uterus is both ante-flexed and inclined to the left side.

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[1] See page 588.

The statements of Dr. Brown in regard to the undesirability of early ovariotomies were agreed to.

Dr. Irish said that he must offer a protest against that portion of Dr. Brown's paper which advised delay in the removal of ovarian tumors.

To illustrate the wisdom of deferring the operation of ovariotomy, Dr. Brown related the case of a lady who had lived eleven years, since the discovery had been made, that she had a tumor of the ovary.

Ordinarily an ovarian tumor becomes a source of serious disturbance in from one to three years, Dr. Brown's case being a marked exception.

He (Dr. Irish) believed in the early operation. In his own experience about one-half the ovariotomies in delayed and tapped cases were fatal, while in those that were operated upon early not one in ten was unsuccessful. An early operation usually saves the patient from all the dangers due to adhesions and degenerations of cyst walls.

During the past fifteen years, the percentage of deaths after ovariotomy had diminished from about 33 to 18 or 20 per cent., an improvement largely due to the fact, that ovariotomy is performed earlier now than formerly. He believed, too, that the proportion of fatal cases would become still much less than now, when early operations shall become the rule of practice.

Dr. Adams said that the mention of the name of Dr. Erasmus Miller, of Dorchester, recalled to mind the intra-uterine scarificator, which bore his name. He believed that this instrument, which Dr. Miller recommended, had gone quite out of use.

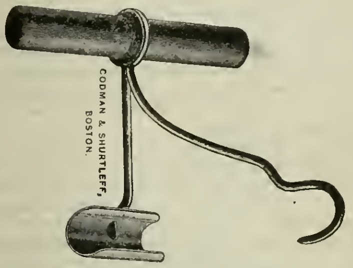
Only a few weeks ago a letter was received from Dr. Baker's Hospital, inquiring concerning the origin of a recto-vaginal fistula. About twelve years ago Dr. Adams had used this instrument in the case in question. The operation was followed by a cellulitis, pus formed, and was evacuated by opening into Douglas's sac, a drainage tube put in, and finally a spontaneous opening occurred into the rectum, with escape of pus per anum.

The patient moved away from town and was lost sight of. Dr. Adams doubted if any of the gentlemen present now employed this instrument or the method recommended by Dr. Miller.

Dr. Symington Brown, in reply to a question, said that Miller's intra-uterine scarificator is seldom used nowadays. It was at first kept a secret by the inventor, until Dr. H. R. Storer unearthed it. The subject of early or late operations in performing ovariotomy is a new one, not yet fully decided; but the testimony of Dr. Keith and Sir Spencer Wells — the two greatest operators in the world — is in favor of delay till the patient's general health begins to suffer. Cases occasionally occur where it would be proper to operate early.

Dr. Brown exhibited a set of wooden clamps, costing only a trifle, which answer the purpose as well as the expensive instruments ordinarily employed. Clamps are rarely used at present. He also showed a powerful uterine dilator, and a Sims's speculum, made of wood.

Dr. R. A. Kingman exhibited an axis-traction appliance designed especially for use with Simpson's or Braun's forceps.



The instrument is a simple attachment of steel wire which, by virtue of its own elasticity, can be quickly and securely applied to the forceps. When so applied it leaves the handles free for manipulation by the hand; it allows the blades to separate when no traction is being made; it does not scratch or mutilate the forceps, nor indeed does it require any change or mutilation of the instrument previous to its application.

While it is not presented as an improvement upon the Tarnier instrument and its modifications nor as superior to them for hospital and consultation practice, yet it certainly may claim the attention of the general practitioner because of the following *advantages:*

First. It is small. The handle is quickly removed by unscrewing the two parts of which it is composed, thus greatly reducing its bulk and enabling one to carry it in the instrument bag with almost no additional expenditure of space.

Second. It is cheap.

Third. It is simple. Its use is easily understood; it is easily applied; it is easily removed; it is easily cleaned.

Fourth. It can be used with ordinary (familiar) forceps. The importance of this point should not be overlooked. There is no new instrument to learn the use of; the old, familiar forceps are applied and then the little attachment is slipped on simply for the purpose of changing the direction of the traction.

Fifth. It can be ignored or quickly removed during extraction.

Dr. Chadwick asked if Dr. Kingman's principle was to pull with a straight instrument if he could. He thinks one must get some leverage, and that there is danger of pulling against the pubes, unless one's attention was called to it to pull down. He thought the blade curves of ordinary forceps was not correct when the additional appliance was attached, and they might get out of position and tear the cervix. He should question the principle of Tarnier's forceps whether to pull in the line of the bladder or the axis of the pelvis.

Dr. E. W. Cushing observed that, although Dr. Kingman's appliance was very ingenious and effectual in pulling backward, yet it differed from Tarnier's in a very essential point. In the latter instrument, not only is there a chance to pull backwards, but the power is so applied, that there is a free hinge motion near the fenestræ of the blades. In this way, the blades having been applied, and having adjusted themselves to the position of the head, when traction is made backwards, the forceps are able to move with the head in following the curve of the pelvis, as can be seen by observing the varying position of the large handles.

In Dr. Kingman's appliance, the forceps becomes practically rigid, just as if the handles were made hooked backward. In this way, undoubtedly, that can be done more easily, which has been done before, by pressing the forceps backward with one hand, and pulling with the other, or by having an assistant drag backwards with a towel passed round the shank of the forceps, near the blades.

This certainly may give axis traction in one sense, but it admits the principle of the free joint at the root of the blades, which is considered important, not only in Tarnier's instrument, but in the Viennese improvement of it, where the handles of the Tarnier forceps are likened to rods, showing the position of the blades, and the rods of the Tarnier are strengthened to handles, like ordinary forceps handles, but fastened to the blades by a strong pivot hinge.

Dr. Kingman, in closing, stated that there was no more danger of pulling against the pubes than when the attachment was not used. Every practitioner was aware that in high applications, the handles must be kept well back against the perineum. As, however, traction in the axis of the superior strait if well-nigh impossible with the patient on the back, it is admissible, whatever instrument is used, to operate on the side. This being done, the danger of exerting leverage against the pubes no longer exists.

When the attachment is applied, it forms, with the forceps, practically one solid instrument, which fact should be rather an advantage than otherwise, for the reason that a fixed instrument is more under the operator's control than a jointed one. This brings the line of traction in the axis of the blades, so that we are virtually operating with a straight instrument.

The liability of the forceps to become disarranged and injure the cervix, is less when the appliance is used than without it, for the traction is more nearly in the axis of the blades. In fact, the pelvic curve is introduced merely for greater convenience in high applications, and detracts from, rather than adds to, the mechanical correctness of the instrument.

When this appliance is used, the handles do not serve as an automatic indicator of the direction in which to pull, but this advantage, originally claimed for Tarnier's forceps, has been shown to be of such trifling value as to be hardly worth mentioning.

Dr. F. B. Harrington exhibited an apparatus for the intra-venous injection of salt solution, which could be easily carried about, being enclosed in a box of three and one-half inches cube. It consisted of a bell-shaped, glass reservoir holding eight fluid ounces, five feet of rubber tubing, a stop-cock, and a canula for inserting into the vein. The box also contained filter papers and a number of powders, each consisting of

Sod. Chlorid.	ʒ iss.
Sod. Bicarb.	grs. xv.

One of these powders, when mixed with a quart of water at 100° Fah., makes a solution, which is generally regarded as best suited for intra-venous injection in cases of hæmorrhage. Dr. Harrington referred to his case of intra-venous injection, reported in the Journal of March 4, in which sixty-six ounces of the salt solution were injected, saving the life of the patient. The cost of the apparatus is very slight, and can be obtained of the instrument makers.

Dr. Buck mentioned the case of Jäger,[1] of Ragaz, who had to abandon transfusion in a thirty-two-year-old viii-para, on account of difficulty in finding the veins; after her recovery, it was impossible to render the veins visible, even under fifteen minutes' ligature of the upper arm. He had seen the same difficulty in two cases of transfusion in the Vienna Lying-in Hospital.

Cohnheim rejected the intra-venous method because of the risks of air-embolism, and by overpowering the heart by too sudden a distension under excessive pressure, and taught the injection into the central end of an artery (radial or tibial). Peripheral injection has been followed by gangrene, from rupture of the vessels under the pressure used to overcome the resistance of the arterioles irritated by the foreign fluid.[2]

In the United States, centripetal arterial injection has been successfully performed by Dennis, of Bellevue Hospital.

Dr. Chadwick said that a dozen years ago, he tried the operation of intra-venous injection in several cases of tuberculosis and anæmia, and in most of them, he met with considerable trouble in finding the vein. He has been as long as one-half hour in so doing. Salt acts better than blood. In Dr. Harrington's case, ℥ 66 were used. During the cholera epidemic of 1849 in this city, salt injections were used in thirty to forty cases, and all rallied, but twenty-four hours later, died. However, nearly all the patients died, irrespective of any treatment.

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RHODE ISLAND MEDICAL SOCIETY.

The seventy-fifth annual meeting was held in Providence, June 10, 1886, Vice-President **Horace G. Miller** in the Chair.

The Secretary's annual report showed that eight Fellows had been elected during the year 1885–6. The losses had been, by death eight, and by resignation and removal four. The total membership, June 1st, was one hundred and ninety-eight.

Dr. Charles H. Leonard, Treasurer, presented his annual report. The total income, including a balance from the previous year, was $870.68; expenses, $447.97; balance on hand, $422.71.

Dr. George L. Collins, Secretary of the Trustees of the Fiske Fund, announced that a premium of two hundred dollars had been awarded to Dr. Charles V. Chapin, of Providence, for the best essay on "The Methods and Practical Results of Treatment of the Malarial Diseases now Prevalent in New England." An equal premium of two hundred dollars had also been awarded to Dr. Hobart A. Hare, of Philadelphia, for the best essay on "New and Altered Forms of Disease due to the Advance of Civilization in the past Half-Century."

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[1] Centralblatt für Gynæcologie, No. 46, 1885.

[2] Kümmel, Centralblatt für Chirurgie, No 19, 1881.

The Trustees propose the following subjects for 1887: I. Antiseptic Midwifery in Hospital, Dispensary, and Private Practice. II. Membraneous Enteritis.

For the best essay on either subject, worthy of a premium, they offer a prize of two hundred dollars. Competing essays must be sent to Dr. George L. Collins, Secretary of the Trustees of the Fiske Fund, Providence, R. I., before May 1, 1887.

Dr. T. Sewell, Chairman, read the seventh annual report of the Committee on the Library. 1,037 volumes were added during the year, the Society's library now containing 5,630 volumes.

The second annual report of the Committee on the Museum was read by the Chairman, Dr. W. J. McCan. Many wet and dry specimens were added during the year, and much time and labor expended in their preservation and arrangement.

Dr. W. R. White, anticipating the future needs of the growing library and museum, offered a resolution, which was adopted, instructing the Chair to appoint a committee of five, to be known as the Building Committee, of which the President of the Society shall be *ex-officio* a member. The duty of this Committee shall be to solicit funds for a building for the use of the Society.

On motion of Dr. C. H. Leonard, it was voted that the sum of seven hundred dollars be applied to the Building Fund whenever the balance in the treasury justifies the transfer.

Dr. J. R. Chadwick, Librarian of the Boston Medical Library Association, in response to an inquiry by the Chairman, explained how funds had been raised for the maintenance of that successful institution.

The venerable Dr. Henry I. Bowditch was introduced as a delegate from the Massachusetts Medical Society, and addressed the Society forcibly and at length on the proper attitude of the profession towards homœopathy, eclecticism, and kindred delusions. The action of the American Medical Association in requiring delegates to declare, annually, their allegiance to its standard of ethics, was denounced as arrogant and despotic.

Dr. H. R. Storer reported as a delegate to the recent convention of the American Medical Association at St. Louis.

Officers for the ensuing year were elected as follows: President, Horace G. Miller; First Vice-president, Albert Potter; Second Vice-president, John W. Mitchell; Recording Secretary, George D. Hersey; Corresponding Secretary, Edward M. Harris; Treasurer, Charles H. Leonard; Censors, Ariel Ballou, J. H. Eldredge, J. W. C. Ely, G. P. Baker, S. S. Keene, Benjamin Greene, Eugene Kingman, and Job Kenyon.

The President announced the re-appointment of Dr. G. W. Carr on the Board of Examiners for a term of five years.

Standing Committees were re-elected as follows: On Necrology: C. W. Parsons, E. T. Caswell, Albert Potter; on Publications: G. W. Porter, R. F. Noyes, C. D. Wiggin; on the Library: T. Newell, H. G. Miller, G. D. Hersey, O. C. Wiggin, G. W. Porter; on the Museum: W. J. McCan, G. T. Swarts, F. B. Fuller, C. M. Godding; Auditor, F. H. Peckham, Jr.

Dr. S. S. Keene, Secretary of the Board of Censors, reported that Drs. S. L. Caldwell, Jr., John Champlin, G. L. Collins, T. W. Hague, W. L. Munro, and S. A. Welch, had passed satisfactory examinations and were recommended for Fellowship. They were elected unanimously. Dr. C. H. Leonard was appointed Anniversary Chairman for the annual meeting in 1887.

The annual address was delivered by Dr. W. H. Palmer, his subject being "Heredity, and some Medico-Legal Conclusions therefrom."

Following adjournment, the annual dinner was served in Blackstone Hall, Dr. W. R. White presiding as Anniversary Chairman. After-dinner speeches were made by President-elect Dr. H. G. Miller, Dr. Albert Potter, Dr. W. J. Burge, Hon. N. Van Slyck, Hon. George M. Carpenter, Prof. T. W. Bancroft, Drs. H. W. Williams, H. I. Bowditch, and J. R. Chadwick, of Boston; Rev. D. H. Greer, and Drs. W. B. Goldsmith, F. C. Clark, W. E. Anthony, J. H. Morgan, and G. F. Keene.

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ASSOCIATION OF AMERICAN PHYSICIANS.

The first meeting of the Association of American Physicians was held in the Army Medical Museum, Washington, June 17 and 18, 1886.

The meeting was called to order by the President, Dr. Francis Delafield, of New York.

The following is a list of the original members of the Association, the majority of whom were present:

Philadelphia, Pa.: James H. Hutchinson, William Pepper, William Osler, S. Weir Mitchell, J. M. DaCosta, Horatio C. Wood, James C. Wilson, Edward T. Bruen, Morris Longstreth, James Tyson, E. O. Shakespeare, Henry F. Formad, Wharton Sinkler, Fred. P. Henry, I. Minis Hays.

New York City: Francis Delafield, Wm. H. Draper, George L. Peabody, A. Brayton Ball, A. Jacobi, E. G. Janeway, Francis P. Kinnicutt, Alfred L. Loomis, William T. Lusk, Thomas A. McBride, A. A. Smith, Wm. M. Polk, T. Mitchell Prudden, Beverley Robinson, E. C. Seguin, E. Darwin Hudson.

Boston, Mass.: Robert T. Edes, Francis Minot, Frederick C. Shattuck, Edward N. Whittier, George M. Garland, Reginald H. Fitz, William W. Gannett, Charles F. Folsom, Frank W. Draper, James J. Putnam, George B. Shattuck.

Montreal, Canada: R. P. Howard, George Ross, George Wilkins.

Baltimore, Md.: Frank Donaldson, F. T. Miles, Samuel C. Chew, William H. Welch, W. J. Councilman, J. E. Atkinson.

W. W. Johnston, Washington, D. C.; Samuel C. Busey, Washington, D. C.; J. E. Graham, Toronto, Canada; J. T. Whittaker, Cincinnati, Ohio; F. Forsheimer, Cincinnati, Ohio; G. Baumgarten, St. Louis, Mo.; P. G. Robinson, St. Louis, Mo.; S. Edwin Solly, Colorado Springs, Col.; H. M. Lyman, Chicago, Ill.; Hosmer A. Johnson, Chicago, Ill.; H. D. Schmidt, New Orleans, La.; Joseph Jones, New Orleans, La.; F. Peyre Porcher, Charleston, S. C.; Thomas F. Rochester, Buffalo, N. Y.; Henry Hun, Albany, N. Y.; Samuel B. Ward, Albany, N. Y.; John T. Carpenter, Pottsville, Pa.; Edward L. Trudeau, Saranac Lake, N. Y.; J. F. A. Adams, Pittsfield, Mass.; J. T. Dana, Portland, Me.; James K. Thatcher, New Haven, Conn.; John S. Billings, U. S. A.; George M. Sternberg, U. S. A.; John Guiteras, U. S. Marine Hospital Service, Charleston, S. C.

Honorary Members. New York: Alonzo Clark, Meredith Clymer, John C. Dalton, John T. Metcalfe. Philadelphia: Alfred Stillé, Joseph Leidy. Boston: Henry I. Bowditch.

President, Francis Delafield, M.D., of New York; *Secretary*, James Tyson, M.D., of Philadelphia; *Treasurer*, A. Brayton Ball, M.D., of New York.

The President then delivered the opening address, which will be found on page 581 of the JOURNAL.

The Committee on Permanent Organization reported a Constitution and By-Laws, which, after several amendments, was adopted. The main provisions of the Constitution are:

That the Association has for its object the advancement of scientific and practical medicine. It shall be known as the Association of American Physicians, and shall hold its annual meeting in the month of June, in the city of Washington, D. C.

That the proceedings shall consist of discussions on subjects of general interest in the departments of medicine and pathology; of original communications, and of demonstrations of gross and microscopic preparations, of apparatus, and of instruments.

That there shall be members and honorary members. The number of members shall be limited to one hundred. Physicians of sufficient eminence to merit the distinction, may, to a number not exceeding twenty-five, be elected honorary members, and, as such, shall be entitled to attend all meetings and take part in the proceedings, but not to vote upon business questions.

That nominations for membership shall be signed by two members, be referred to the censors, and be acted upon at the succeeding meeting.

The following Nominating Committee was then appointed to report on Friday morning: Drs. James Tyson, A. Brayton Ball, George B. Shattuck, Frank Donaldson, and Hosmer A. Johnson.

The first paper was entitled

TENDON-JERK AND MUSCLE-JERK IN DISEASE, ESPECIALLY WITH REFERENCE TO POSTERIOR SCLEROSIS OF THE SPINAL CORD,

by DR. S. WEIR MITCHELL, of Philadelphia; and DR. MORRIS J. LEWIS, of Philadelphia.

The investigators believed that, by their work, they had increased the knowledge of the symptomatology of this affection. It was stated that while a muscle or a nerve may be excited by both electrical and mechanical irritation, the former is to be regarded as a ruder agent than mechanical stimulus. In some cases, electricity is inapplicable beyond a certain extent. It was held that the knee phenomenon was a direct muscular response, and not due to reflex action. The most delicate test for determining the condition of the muscle is by striking the stretched tendon. This can be done in various situations, as at the knee, ankle, elbow, and jaw. Every distinct muscular exertion, such as winking, if accurately timed, exaggerates these phenomena. To demonstrate this, the patient should lie down with the knee slightly bent. At the time that the tendon is tapped, or just before, the patient is directed to wink, and it will be noticed that the jerk is much increased. This is more beautifully shown in the act of phonation, the patient being directed to count strongly, bringing the whole chest into play at the time the test is applied. A decided sensation, such as heat, cold, or an injury, will increase the responsive power of the muscle or tendon which has been struck. Both the tendon and the muscle-jerk are re-inforced by irritation of distant parts. This re-inforcement disappears when the muscles are cut off from the spinal centres.

A blow on the muscle causes the muscle jerk to extend up and down, but not transversely. In some cases of disease, this jerk is irregular. In addition to this contraction, the muscles may form a little eminence or mound, which disappears slowly. Late in ataxia, this is unusually well marked. It is also observable in some healthy muscles.

The phenomenon of reinforcement was attributed to an increase of tone in the muscle as a result of the distant irritation.

A tabular statement was then presented giving the results of observation in twenty-three cases of locomotor ataxia. In this table the various symptoms and signs presented, were represented by signs. In this way the history of each case could be seen at a glance.

In selecting a decisive symptom by which to arrange the cases into classes, station, or the ability to stand, was selected. This can be accurately estimated by having the wall back of the patient ruled in inches. The examiner takes his place in front of the patient and directs the patient to keep his eye on a particular spot above the head of the observer. It is then noted how much he varies laterally with his eyes open. He is then turned so that the anterior-posterior sway may be noted. The examination is then made while the patient has his eyes closed. Numerous examinations made by Dr. Guy Hinsdale, show that the normal man does not sway over one-half inch laterally and not over three-fourths of an inch in the anterior-posterior direction. The normal man sways forward first, and first to the right. When the sway is more than three-fourths of an inch in the lateral direction or more than one inch in the antero-posterior direction, the case should be looked upon with suspicion as indicating that the general health is disturbed or that there is some disease interfering with the maintenance of the equilibrium. The cases were divided into four classes: 1, those in which station was normal; 2, those in which it was slightly impaired; 3, those in which it was greatly impaired; and 4, the paralytic cases. In the cases examined, the knee and ankle jerks, and their reinforcement, were absent at the time when the cases came under observation. The changes in the arm jerk seem to advance in the same way as the leg jerks, although they come on later. In the paralytic stage the muscle jerk is increased, although the reinforcement is absent. In the first stage of locomotor ataxia, the tendon jerk is diminished or absent, while the reinforcement is fair. In the subsequent stages both the tendon jerk and its reinforcement are absent. The muscle jerk and its reinforcement continue normal through the first two stages. In the third stage, while the muscle jerk is normal, the reinforcement is absent. In the fourth stage the muscle jerk is increased while the reinforcement is absent. In the fifth stage, the muscle jerk is diminished and the reinforcement is absent. In the sixth stage, both the muscular jerk and the reinforcement are absent. The increase of the muscle jerk late in the disease may be due to some irritative changes in the muscle, but this has not been positively determined.

In regard to associated movements. In a certain proportion of cases, if the patient is directed to shut his right hand, the left hand will also shut to a certain extent, and if the patient is sitting down, the leg may be drawn up. This condition has become more marked as the ataxic condition has increased.

Another symptom referred to and which was considered a new symptom was prominence of the eyeballs. While the condition is not as marked as in exophthalmic goitre, it is sufficiently distinct to be apparent, if attention has been called to the matter.

DISCUSSION.

Dr. E. C. Seguin, of New York. As the views advanced by Dr. Mitchell are new, it is perhaps unnecessary to say anything in the way of criticism. I simply wish to suggest a possible explanation of the reinforcement. This evidently belongs to the general class of reflex actions as contra-distinguished from direct volitional action. I would suggest that when the patient performs some movement or when his attention is attracted by excitation of a sensory nerve, the cerebral inhibitory influence over the spinal cord is momentarily reduced and the reflex powers are raised for the moment. The reinforcement seems to be rather a negative condition.

Dr. James J. Putnam, of Boston. I agree with Dr. Seguin as to the possible explanation of the phenomenon of reinforcement. This is perhaps merely a question of words. It seems to me a mere matter of words whether we consider this due to withdrawal of influence from above or to an increase in the tonus of the muscle.

Dr. H. C. Wood, of Philadelphia. This seems to me to be not simply a matter of words. The explanation of the knee jerk is based on physiological ideas. There are three classes of movements, the voluntary, the reflex, and then movements originating in the muscle or in the nerve-endings in the muscle. Until the fact that the time of the knee jerk is so different from the time of the other reflexes is explained, we must, I think, consider that we have these three classes of movements. It is possible that the movements in the muscle are the result of inhibition, but at present we have no proof that such is the case. It seems to me wisest to accept for the time, the provisional theory, brought forward by Dr. Mitchell.

TYPHOID FEVER,

by F. Peyre Porcher, M.D., Charleston, S. C.

The author described a method of treatment which he considered very satisfactory. As in all cases of high temperature there is costiveness, the result of the arrest of the intestinal secretions, he recommended a mild laxative at the beginning of the treatment. Any laxative may be employed; the following combination is useful:

℞ Pulv. Rhei., gr. ii–iv; magnesiæ, grs. x; hydrarg. chloridi mite, gr. ss.–ii; sodii carbonatis, grs. iv; pulv. ipecac, gr. 1-4; M. et ft. Pulv., No. 1. Sig. One powder every four or five hours, as required.

In the treatment of typhoid fever, three things are to be considered: the necessity for maintaining the strength of the patient, the support of the system by the use of stimulants, and the morbid effect of high temperature. Special attention was directed to the latter element of the treatment. In reducing the temperature, the speaker had resorted to the use of ice-cold water, which was applied to the head, hands and arms, the use of towels wrung out in the water and reapplied as frequently as necessary. The applications are continued for ten to fifteen minutes until the heat of the skin is reduced. The use of baths was considered objectionable on account of the difficulty of their application, and on account of the prejudice against them. He prescribes for internal use, a fever mixture, prepared somewhat as follows:

℞ Potassii acetatis, ʒ1; liquor ammonii acetatis, ℥1; spr. ætheris nitrosi, ʒss; tinct. aconiti, ʒss; aquæ ad. ℥iv. Sig. A dessertspoonful in a little water every two hours, so long as the fever continues.

Morphia or the bromides may be added to the above preparation. It may also be employed in other fevers. Hot pediluvia may also be employed. In malarial cases, quinine and arsenic are employed. Later the use of the mineral acids is added. With reference to the use of stimulants, these may be continued as long as the tongue is dry. Oil of turpentine is often called for on account of tympanitic distension of the abdomen. It is also of value as an astringent and as a general stimulant. The speaker had treated thirty cases in private practice in this manner, of which number, three died. In these cases there were causes sufficient to explain the fatal termination.

DISCUSSION.

Dr. James Tyson, Philadelphia. Recently in a case under my observation, to reduce the temperature, I wrapped the patient in a sheet which was kept constantly wet with ice water. This was entirely successful. In this case both antipyrine and thalline were employed, but although they promptly reduced the temperature, it soon returned to its original position. When it is necessary to keep the temperature continuously reduced, some modification of the cold pack is, I think, the best method.

Dr. James T. Whittaker, Cincinnati. We should not lose sight of the possibility that the high temperature may be nature's way of getting rid of the poison. It has been found that the virulence of the typhoid fever bacillus can be reduced by heat. It is also possible that the changes formerly attributed to heat, may be due to bacilli.

Dr. E. Darwin Hudson, New York. When I assumed my duties at the Bellevue Hospital three years ago, I found such a simple plan in vogue of treating typhoid fever, followed by such good results, that I abstained from suggesting any alterations. I am confident that under that treatment the successes among the poor pauper class of patients in that institution are greater than among the private practice of many physicians. The treatment is almost negative, consisting in sponging the patient every two hours during the continuance of the temperature above 102.5°, and adherence to an absolute milk diet. The only other measures employed are those directed to the relief of special symptoms occurring in the course of the disease.

Dr. Samuel C. Chew, of Baltimore. In order to reduce the temperature, I have used quinia by hypodermic injections. It seems to have almost a specific action when used in this way. I have used the solution of the hydrobromate of such strength that twenty minims represented four grains of the drug.

Dr. Fred P. Henry, Philadelphia. I recently read of a series of one hundred cases treated by Labarraque's solution with only one death. I have tried this at the Episcopal Hospital and have treated twenty-six cases with four deaths.

Dr. William H. Draper, New York. There is perhaps nothing more fallacious than statistics in typhoid fever. Cases of fever not truly typhoid are confounded with specific typhoid fever. We have all seen cases in which there was a continued fever but in which the temperature did not run the typical course. I think that in such cases we have no evidence that they are cases of typhoid fever.

Experience shows that the value of antipyretic treatment in typhoid fever may be readily overestimated. I think that in the majority of cases the value of antipyretics is not so much in reducing the mortality, as in affording comfort to the patient. That it does this, no one can doubt. The mortality of typhoid fever in the majority of cases depends upon conditions over which a reduction of the temperature would have no influence.

Dr. William Pepper, Philadelphia. I believe that hospital statistics are worthless so far as filling any special purpose. We have, however, statistics showing the normal course of typhoid fever, which would make us slow to accept a mortality of fifteen or even ten per cent. as evidence of much success. I think it doubtful if the normal mortality would be over fifteen per cent. Under good nursing our successes vary. I have treated a series of one hundred and four cases without a single death, and again I have treated twenty cases and lost five.

It is evident that in typhoid fever, we have different sorts of fevers, and a remedy applicable to one set of cases, may not be to another. An excellent rate of mortality may, I think, be secured by absolute rest from the first moment of suspicion, and a rigid diet of milk or milk diluted. In addition, I believe that the abstraction of heat by the use of cold water is of great value. I believe that some remedy directed to the constant and important lesion of typhoid fever, aids in reducing the temperature. I do not know that we have positive knowledge as to the best drugs for this purpose. My own preference is for the salts of silver. If the case comes under observation early, is put at absolute rest and receives proper treatment, I think that the mortality should not exceed five or six per cent. In private practice, I believe that it can be kept down to this.

— The *British Medical Journal* says that it is officially announced that Señor Rafael Alcalde y Buril has been appointed surgeon-dentist to the infant king of Spain, whose birth lately gave rise to so much rejoicing in the Spanish capital. The *Globo* inquires, very naturally, whether the young king was born with teeth. In any case, the post of this professor of the gentle dental art, will, for some months to come, be as much a sinecure as that of the surgical instrument-maker, who was recently addressed by a country customer as "suspensory bandage-maker to Her Majesty."

— On the 29th ult., the statue of John Hunter, presented by Her Majesty the Queen, was unveiled in the University Museum, Cambridge, England. An address on the character and work of John Hunter, with special relation to the effect of his labors on surgery and medicine, was delivered by Sir James Paget, Bart., D.C.L., in the Lecture-room of the Museum. The statue was then unveiled in its place in the Court, and presented to the University on behalf of Her Majesty by her Royal Highness the Princess Christian.

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MILITARY DRILL AND PHYSICAL TRAINING IN THE PUBLIC SCHOOLS.

Professional and, to a certain extent, public attention has been directed by recent discussions in Boston, to the subject of military drill as a means of exercise, and more widely to the general topic of physical training in the schools.

It admits of no question that the conditions of life among the great majority of children in this and other cities, are not such as to conduce to a proper kind and degree of bodily exercise. Even those whom narrow means oblige to contribute something to the industries of the household, do not work under the favorable surroundings in which their cousins of the country do their "chores." While space for those healthful outdoor sports which do so much for the child's physique is not for the majority attainable, except at the expense of quite a journey. The proximity of the school-houses in the denser parts of the city relieves the children of a long walk to reach them, and for the longer distances to the higher schools many use public conveyances. The appearance of many of our school children, particularly the girls, as was pointed out in the recent address of Dr. Hodges, is not encouraging to one who hopes to see robust health in them or their future offspring.

For the bodily welfare of the children under their charge it is distinctly the duty of school authorities to provide. A great deal has been written regarding over-pressure and doubtless much of it is true, though the last report of the superintendent of schools in Boston, rightly puts some of this responsibility at the door of dancing parties and other evening amusements and occupations which should have little place in the lives of young children. But when over-pressure from studies does exist, the true remedy in many cases is to build up and develop the body so that it can carry the burden. A well-fed and well-trained body should be and is capable of doing considerable work, and if thus capable is the better for the work. Hence the *corpus sanum* should receive as much care as the *mens sana* by those charged with the training of the young.

The best side of the military drill as a school exercise is its moral side. The importance in any educational system of securing prompt and unquestioning obedience to established authority has already been pointed out in these columns, as well as elsewhere. Many a boy in danger of mental, moral and physical wreck, has been saved by being put under the strict rule of a training-ship, and, though the discipline of a school regiment bears no comparison with that of the army or the navy, it doubtless teaches to wilful boyhood something of the supremacy of law.

It is also true that the military method, so far as it involves practising the pupils in squads, is adapted to, in fact is necessary for the stated exercise of large numbers of individuals. Alignments, manœuvres, and marching in step at the common and double quick time, have an important part in training the muscles to act in harmonious precision with each other and with those of others in a prescribed rhythm. The "setting up drill," which is enjoined by the tactics to be executed without the guns is undoubtedly of much value, and merits a great deal more attention than it receives in the school regiment. The newly-arrived cadet at West Point is given a thorough and severe course of the setting up drill for one or two months before he is allowed to touch a musket, and such an effect does this have upon his figure that we understand it is not considered worth while for a cadet to be measured for a coat until after he has been put through this training.

When we come, however, to consider the drill with muskets as a physical exercise, much less is to be said in its favor. The artificial, constrained and unilateral movements compare but poorly with the free play of muscles which may be gained under skilled instruction with the simplest apparatus or even with no apparatus at all. With regard to the production of absolute deformity there is perhaps as yet insufficient evidence. The mature and healthy organism is doubtless able to resist an amount of unilateral pressure greater than that involved in two hours per week of drill. The average age of the boys on entering the schools where drill is practised is fifteen years and nine months, and at that period most of them have attained a considerable degree of physical stability. Some fifteen per cent., however, are between this age and thirteen years, the age at which the drill becomes compulsory. It is among these boys that any unfortunate results from a unilateral exercise are most likely to be felt. For them, and indeed for most of the boys there is little doubt that the muskets used, only a pound, or at most a pound and a quarter lighter than the standard arm of the service, are much too heavy.

The strongest ground of objection to the drill is not so much its positive injury as the negative consideration that as an exercise it is *defective* both as regards the individual, and what is still more important, as regards the school children collectively. It is a grave omission to establish as the sole provision for the training of our children's bodies a system which is applicable to but two per cent. of them, and which ignores entirely the sex that stands most urgently in need of bodily culture. The great majority of the children end their tutelage with the grammar schools. Even if we were justified (which we are not) in restricting our care to the children above the established drill age, there are upwards of 11,000 in the grammar schools who are over thirteen, while if we were to follow the admirable example of Prussia in this matter we should have in Boston 50,000 scholars above the age of six for whom stated physical exercises should be provided.

The question as to what form of culture is best adopted for the needs of this body of growing children is one of great practical importance. It must be one that is simple, easily within the capacity of all, and inexpensive. The German method has given excellent results, and when the American public has arrived at that conviction of the importance of physical training which will make one-thirtieth or even one-twenty-third of the whole educational appropriation not seem an extravagant proportion to devote to the culture of the body, some such complete system as that which has been so long compulsory in Germany can be introduced into the cities of this country. In the mean time the simple method of required gymnastics in use for the last twenty-five years in Amherst College, where the only apparatus consists of wooden dumb-bells, weighing two pounds a pair, offers a valuable suggestion. The work there is done in classes, each with its captain and under officers, so that there is a semblance of military method, which is still further carried out by the evolutions practised, marching by the file and flank, running, etc. The movements are all executed by the class simultaneously, the time being given by a piano.

The lightness of the apparatus serves at first to entitle the method to the term of calisthenics rather than of gymnastics, but it should be remembered that the aim of the best physical training even in the most fully equipped gymnasium is not to secure feats of agility and strength or even to build up massive muscles, but simply to give such thorough physiological action to the various parts of the body under a moderate acceleration of pulse and respiration as shall impart to the nerve centres and all the members and organs a rapid renewal of structure and a corresponding activity of function. With the metronome at ninety the execution of this drill is not conducive to habits of laziness, and we are assured that the young men can go through movements enough with these wooden dumb-bells, to secure the necessary muscular waste and development for healthful study. If so, the method could probably be made equal to the requirements of our school boys and girls. Given the very simple and cheap apparatus, given the space (and there are halls in many of our school-houses sufficiently large if they could be cleared of furniture) and finally given the instruction, which is likely to be the largest item of expense, and a fair beginning could be made towards developing the bodies of boys and girls alike.

Kansas City is, so far as we have learned, the only American city that has taken hold of this work of physical training in earnest. In New York an arrangement was made with one of the turnvereins whereby the latter was to furnish teachers to try the experiment in accordance with the German method in certain of the schools. The right of the city to expend money for this purpose was questioned, and the matter is therefore in abeyance.

A pamphlet of Professor Hartwell, of Johns Hopkins University, on Physical Training in American Schools and Colleges has, since the above was in type, been received from the Bureau of Education, and the very cursory examination which we have had an opportunity to give it indicates a considerable value to the information it contains. We are also happy to note that the first report of the Instructor of Hygiene in the public schools of Boston, just issued, contains a strong plea for more adequate provision for such instruction throughout the schools, although he evidently entertains grave doubts as to the feasibility of obtaining the requisite appropriation. A new report on the Amherst College system is also promised, covering twenty-five years experience of the present instructor which will, we trust, offer some further suggestions on this matter. We shall take leave to recur to this subject on a future occasion.

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THE DEATH OF DR. BERNHARD VON GUDDEN.

By far the most regrettable incident connected with the suicide of the late King of Bavaria, was the death of the accomplished alienist who was in attendance upon him. Investigation into the details of the sad affair shows, according to the telegraphic reports in the daily papers, that the King threw or dragged Dr. Gudden into the water. The bushes and pathway near the scene of the suicide showed signs of a desperate hand-to-hand struggle. A hat was lying in one place, and a coat in another. The latter seemed to have been hurriedly torn off and flung on the ground. A little farther on, two umbrellas were found. The King, in all probability, sprang at the doctor — who, though sturdy and powerfully built, was less youthful and active — when he was off his guard. Another explanation is that the King made suddenly for the lake, and the doctor ran after him and grappled with him, but was overpowered and hurled into the water. Dr. Gudden was well aware of the impossibility of trusting the King for a moment, although the latter had given him a solemn promise to obey his orders.

This physician, who has fallen a victim to duty, was the chief medical professor at the University, and director and head physician of the Munich Insane Asylum, which he had managed successfully since the resignation of the post by the celebrated Dr. Sulhig. He was born at Cleaves, June 7, 1824. After distinguishing himself as a student, he became assistant to the famous physician, Dr. Jacoby. In 1869, he was appointed head of the asylum at Wernock.

As a scientific man, investigator, professor and clinical observer, anatomist, physiologist and pathologist of the brain, Gudden had no superior in the world; not more than two or three, at the outside, were his equals. He was a thorough gentleman. He also had, what is rare in any thoroughly scientific man, great practical sense and extraordinary administrative ability.

In insane asylum re-organization, to meet the advanced views in treatment, he was easily first in the Continent of Europe; but few of the English and Scotch alienists, including such men, as Clouston, Crichton Browne, Rutherford, and a few others, were his equals.

His asylum in Munich was the best organized, equipped, managed, and constructed in Germany. Taking him all around, no other specialist in mental disease could be so great a loss to the scientific world and to the body of physicians conducting insane asylums and treating mental disease.

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FIRST ANNUAL MEETING OF THE ASSOCIATION OF AMERICAN PHYSICIANS.

The lately organized Association of American Physicians held its first annual meeting at Washington, last week. The address of the President, Dr. Francis Delafield, will be found in our present issue, and the Journal will contain a report of the papers and discussions.

The meeting was largely attended, fifty-six out of seventy-four members being present, and was in every way very successful. A large number of papers were offered; some of those presented exhibited marked originality, and almost all careful thought and research. The two days devoted to the meeting were really given up to its work, in spite of the heat of the first day. The members accepted the amiable hospitality of two of their Washington colleagues, but there was an entire absence of junketing, and likewise of medical politics.

We sincerely hope and believe that these negative features, as well as the positive ones of earnestness and enthusiasm will continue to characterize the meetings of this Association. A committee of conference was appointed to consider, in connection with similar committees from other special Associations, the advisability of forming a general central organization uniting them all. We shall revert to this subject again.

The following officers were chosen for the ensuing year:

Drs. S. Weir Mitchell, President; Francis Minot, 1st Vice-President; R. P. Howard, 2d Vice-President; G. L. Peabody, Secretary; J. T. Whittaker, Recorder. A council of seven members was also chosen: Drs. W. H. Draper, of New York; R. T. Edes, of Boston; H. M. Lyman, of Chicago; S. C. Busey, of Washington; F. C. Shattuck, of Boston; W. H. Welch, of Baltimore; William Osler, of Philadelphia.

MEDICAL NOTES.

— The innominate artery was tied on March 27th, by Mr. Bennett May, at the Queen's Hospital, Birmingham, for aneurism of the right subclavian artery. The patient died of secondary hæmorrhage on the nineteenth day.

— An incident in professional life is reported from Vienna, in which a tailor, on being told by his physician, whom he had called to consult as to a disease from which he was suffering, that recovery was impossible, forthwith shot the physician in two places and then fatally shot himself.

— Mr. Bloomfield gives, in the *Practitioner* for May, a *résumé* of five cases of hypertrophy of the male breast, reported by Dr. Leudet in the *Archives de Mèdicine*, occurring, in every instance, in patients suffering from well-established phthisis, and adds a further case of the same character from his own observation. The affection seems to consist of a general augmentation of the volume of the gland, without local induration, without any coloration of the skin, without axillary glandular enlargement, and accompanied by spontaneous, non-radiating pain. One gland only is usually affected. There is never suppuration. In some cases, a drop of serous fluid was squeezed out, presenting, however, microscopically, only epidermal cells. It is suggested that the phenomena is in some way connected with the internal inflammatory process in the neighborhood. In one instance, there had been frictions of the chest that might have stimulated the gland.

— At the recent meeting of the Massachusetts Medical Society, a noticeable figure among the representatives of the gentler sex was that of a woman of olive complexion and picturesquely oriental attire. It was Madame Anandebai Joshie, a Hindu Brahmin lady, who has recently graduated at the Woman's Medical College, of Philadelphia. The husband of Madame Joshie, just from India, and her aunt, the Pundita Ramabai, who has been for two years Professor of Sanscrit in a woman's college in Cheltenham, England, and who was accompanied by her little daughter, five years old, came to this country to witness the unusual scene. This aunt, Ramabai, received an equal education with her brother, who died early. She married a distinguished Sanscrit scholar, who lived but one or two years. After his death she devoted herself to the education and elevation of her countrywomen, formed a society for the establishment of schools for native girls, and headed an appeal of three hundred Brahmin ladies to the English Education Committee in 1882, for aid in this work. The medical education of her niece, in which she took great interest, is a matter of significant promise for the women of India.

In this connection, it may be mentioned that Lady Dufferin's work in the cause of hospitals and dispensaries for the women of India, has been very successful, among the recent donations being $60,000 from a native widow, $50,000 from a Parsee merchant, and buildings with fifty acres of land from the Nawab of Rampore.

BOSTON.

— The bill prohibiting the manufacture of arsenical fabrics, to which we have occasionally referred, has we regret to say, been killed by an adverse vote in the House of Representatives.

— The plan to permit the city of Boston to take an additional water-supply from the Shawsheen River has been defeated in the Legislature, apparently by a fusion of effort on the part of those who claimed that the Mystic supply was so good that nothing else was required, and of those who argued that the city should go further for its needed supply.

Miscellany.

SCARLET FEVER FROM THE COW.

The *British Medical Journal* (May 29), presents editorially the results of a most important report of the Local Government Board recently made by Mr. W. H. Power, regarding the outbreak of scarlet fever at Marylebone to which the Journal has already made brief reference. The report seems to prove, our contemporary remarks, as clearly as circumstantial evidence can prove anything, that scarlet fever can be produced by the milk of cows suffering from a disease so slight in its local manifestation as almost to escape attention, and producing so little disturbance of the general health of the cows, that their appetite is not impaired, nor the quantity of milk which they yield diminished.

The first thread in the web of evidence which Mr. Power has woven so skilfully, was afforded by an observation made by Mr. Wynter Blyth, the medical officer of health for St. Marylebone. On December 18th, 1885, he reported to the Local Government Board that an extensive outbreak of scarlet fever in St. Marylebone, appeared to be associated with the distribution of milk by a certain retail milk-dealer. who obtained the greater part of his supply from a dairy-farm at Hendon. The next point which Mr. Power ascertained was, that milk from this dairy-farm was sent to three other retail dealers; one at St. John's Wood, another at Hendon, and a third who carried on business at Hampstead and St. Pancras. The epidemic began in St. Marylebone towards the end of November, and, at about the same time, outbreaks of the same disease had occurred among the customers of all the other milk-sellers, except those who dealt with the dairy in St. John's Wood. Moreover, it was ascertained that certain customers of the Marylebone milkman had received milk from Hendon unmixed with milk from any other farm. Suspicion pointed therefore strongly to the farm at Hendon; but here, for a time, the investigators were at fault, for a thorough examination of the farm and of the laborers employed there failed to reveal any unsanitary conditions; and Dr. Cameron, the medical officer of health, who associated himself with Mr. Power in this stage of the inquiry, was able to affirm positively that there had been no cases of scarlet fever. or any disease remotely resembling it, among the persons working or residing on the farm, and that the few cases which had occurred in the Hendon district during 1885, had been among families residing at a distance from the farm, and in no way connected with it.

At this stage of the inquiry, it became evident that, if the theory which had been started incriminating the Hendon farm was to be maintained, it would be necessary to establish that some new condition affecting the health of the cows had come into operation at, or soon after the beginning of November. Inquiry elicited that three cows, which had newly calved, had been purchased at Derby Market, and admitted to the farm on November 15th. These cows had been kept isolated from the others in a "quarantine shed" until about the end of November, but their milk had, after the first few days, been added to the supply, which eventually found its way to St. Marylebone, Hampstead, and St. Pancras. On December 4th, four other cows, purchased in Oxfordshire, arrived at the farm, and succeeded the Derbyshire cows in the quarantine shed. The next important part is that after their period of quarantine, the Derbyshire cows were transferred to a shed called the "large shed," where were over forty other cows; the milk from this shed went to the Marylebone dealer, and scarlet fever began among his customers at the end of November, and continued until the supply of milk was stopped. The Oxfordshire cows were kept in quarantine until December 11th, and were then transferred — two to the "large shed," and two to another shed, called the "middle shed." The milk from this shed was sent to the dealer who had shops in Hampstead and St. Pancras; the scarlet fever cases occurred among the customers of this dealer in two groups, one at the end of November (the milk from the cows in the quarantine shed had been mixed with this supply shortly before this time), and again, another larger group in the middle of December (that is, soon after the Derbyshire cows had been transferred to the "middle shed," from which the milk for this dealer came). There remained the fact of the entire immunity of the customers of the dealer in St. John's Wood; it turned out that all the milk for this dealer came exclusively from a third shed, called the "small shed," into which no new cows had been introduced. Now comes a most instructive fact, almost of the nature of an exact experiment. A small, limited, but intense outbreak of scarlet fever occurred among certain poor families residing at Child's Hill, and other places close to the farm; the first case of this group occurred on December 30th. Now, on December 15th, the supply of milk to the St. Marylebone dealer was stopped, and the dairy farmer gave directions that the whole of the milk from the large shed should be given to the pigs, or thrown into a pit dug for the purpose. Certain poor persons residing in the neighborhood, hearing of this "waste" of milk, succeeded in obtaining, on December 16th and subsequently, a quantity of milk, surreptitiously, from the cowmen. It was among these people that the outbreak of scarlet fever above mentioned (Child's Hill) occurred on the following week.

The final stage of the inquiry revealed disease among the cows, but so slight, that the animals had continued to feed well and to yield their usual quantity of milk; all that could be noticed were vesicles and small ulcers on the udders and teats. On December 31st and following days, a thorough inspection of all the cows was made by Mr. W. H. Power, Dr. Klein, F. R. S., and Dr. Cameron. On two of the Derbyshire cows (November 15th), sears were found on the udders and teats, of a kind that satisfied the observers that they had suffered from the malady; and one of the cowmen subsequently remembered that the first case of sore udder and teats, which he had noticed, was in one of these Derbyshire cows. Further, it was found that on December 31st, two of the Oxfordshire cows had the affection, and that the other cows in the "middle shed" with them had it in an earlier stage; nearly all the cows in the "large shed," where the Derbyshire cows had been stalled, had this vesicular disease of the udder and teats in different stages.

It will be remembered that, among the customers in St. John's Wood who drunk the milk from the "small shed," no cases of scarlet fever had occurred, and that no new cows had been introduced into that shed, but at the inspection on December 31st, two early cases of the disease were detected among the cows in the "small shed"; and corresponding "to a nicety with the appearance, for the first time, of the cow disease among the animals of the smaller shed," came the report of cases of scarlet fever among the customers of the dealer in St. John's Wood. Finally, when the supply of milk was completely stopped, then the peculiar incidence of scarlet fever, on the persons who drank the milk from this farm, also ceased.

Though the disease appeared, at first sight, to be purely local in the cow, and though the general symptoms were, undoubtedly, very slight, yet Dr. Klein found reason for regarding it as a general or constitutional disease, and one that might not improbably be communicable from cow to cow. Upon these points, more knowledge is urgently needed, and it is satisfactory to learn that two of the affected cows have been purchased, and placed under Dr. Klein's observation in the Brown Institution. His report on the clinical features and on the pathology of the disease will be awaited with impatience.

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THE INFLUENCE OF FLUIDS (BOISSONS) ON NUTRITION AND IN THE TREATMENT OF OBESITY.

Professor Albert Robin in the *Gazette Medicale de Paris*, January 30 and February 6, has discussed this question, and his conclusions are thus summed up in the *Edinboro' Medical Journal* for April. There are two views held: the one, that liquids are inactive; the other, that they are of real influence. He accepts Genth's position — that water introduced into the stomach in large quantity augments the proportion of urea and salts in the urine. But the further question is, Is this due to a more thorough washing of the urea already formed, or to an augmentation of disintegration? He thinks it is partly due to the former; and that the tissues being more thoroughly freed from the products of their disintegration, oxidation processes will be favored. Forster found not only increase of urea, but also of sulphur compounds, which were doubtless due to the breaking up of albuminoids. The next point to settle is whether the augmentation of the urea depends on increase in organic disintegration or on an exaggeration of combustion.. From Genth's experiments and his own he concludes that the ingestion of a large quantity of water augments combustion — that is, oxidation without augmenting equally organic disintegration. Obesity has two causes: in the one, assimulation is augmented; in the second, destruction (*désassimilation*) is diminished. In the first class, water ought to be strictly curtailed or interdicted; in the second, the ingestion of a considerable quantity of water will entail a marked loss of fat. But the question has to be answered, How can we distinguish these two classes? This is accomplished by finding whether the quantity of urea is increased, diminished, or stationary. An increased excretion of urea shows that there is an increased assimilation, while on the contrary a diminution of urea indicates very clearly a diminished oxidation. An individual makes little urea, either because he eats little or because oxidation is affected. In the first case, he eliminates as much nitrogen and carbon as he ingests, and he does not, therefore, become fat; in the second, the balance is in favor of ingestion, and he fattens. But the more numerous cases are those in which the urea is normal. In these cases, instead of estimating the urea, it is necessary to estimate the co-efficient of oxidation; this is raised when obesity is from excess of assimilation, lowered when from *désassimilation.* It therefore follows that fluids ought to be freely administered in obesity when there is a small excretion of urea, or when the co-efficient of combustion is diminished; but fluids are to be abstained from in those who secrete much urea, or in whom there is an increase in the co-efficient of combustion. He illustrates the above contentions by some successful cases.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 12, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diph. and Croup.	Diarrhœal Diseases.	Scarlet Fever.
New York	1,439,039	597	224	17.17	18.36	6.80	4.76	1.87
Philadelphia	971,363	312	95	13.76	16.96	4.80	2.58	1.28
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	138	41	8.76	21.17	5.11	2.19	—
St. Louis	400,000	155	70	22.75	9.66	2.60	4.55	—
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans, June 5th,	238,000	127	51	24.49	—	4.74	17.38	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	76	30	14.52	18.48	—	7.92	—
Pittsburgh	190,000	86	54	18.56	11.60	3.48	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	45	12	15.55	15.55	6.66	2.22	2.22
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	28	12	28.56	7.14	—	21.42	—
Charleston	60,145	43	20	25.63	6.99	—	—	—
Worcester	68,383	10	5	—	20.00	—	—	—
Lowell	64,051	20	7	—	10.00	—	—	—
Cambridge	59,660	16	5	18.75	13.00	13.00	—	—
Fall River	56,863	12	5	8.33	—	—	8.33	—
Lynn	45,861	17	5	16.66	33.33	5.88	—	—
Lawrence	38,825	13	4	7.69	23.07	—	7.69	—
Springfield	37,577	11	4	9.09	27.27	—	—	—
New Bedford	33,393	8	3	12.50	—	—	12.50	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	2	—	—	—	—	—
Holyoke	27,894	10	5	30.00	10.00	—	20.00	—
Chelsea	25,709	10	—	—	10.00	—	—	—
Taunton	23,674	3	1	33.33	—	—	33.33	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	3	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	6	2	—	—	—	—	—
Malden	16,407	4	0	25.00	25.00	—	—	25.00
Fitchburg	15,375	8	0	—	—	—	—	—
Waltham	14,609	1	1	100.0	—	—	—	100.0
Newburyport	13,716	2	—	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,773: under five years of age 662: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 291, consumption 257, lung diseases 163, diarrhœal diseases 107, diphtheria and croup 82, scarlet fever 19, measles 26, whooping-cough 14, malarial fever 12, typhoid fever 11, cerebro-spinal meningitis eight, erysipelas eight, puerperal fever four. From measles, Baltimore 17, New York six, Philadelphia and Boston one each. From whooping-cough, New York five, Nashville two, Philadelphia, Baltimore District of Columbia, Charleston, Cambridge, Springfield and Holyoke one each. From typhoid fever, Philadelphia six, Baltimore and Pittsburgh two each. New York one. From malarial fevers, New York and Philadelphia, four each, New Orleans three, Pittsburgh one. From cerebro-spinal meningitis, New York four, Philadelphia three, Baltimore one. From erysipelas, Baltimore three, New York and Providence two each, Boston one. From puerperal fever, District of Columbia three, New York one.

Cases reported in Boston: scarlet fever 27, diphtheria 21, measles 21, and typhoid fever eight.

In 20 cities and greater towns of Massachusetts, with a population of 995,509 (population of the State 1,941,465), the total death-rate for the week was 15.26 against 17.09 and 17.73 for the two preceding weeks.

For the week ending May 29th, in the Swiss towns, there were 38 deaths from consumption, lung diseases 33, diarrhœal diseases 14, whooping-cough eight, measles five, diphtheria and croup four, scarlet fever, erysipelas and typhoid fever, each one.

The death-rates were: at Zurich 9.5; Geneva 16.2; Basle 20.0; Berne 28.9.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 31st the death-rate was 17.4. Deaths reported 3,033: infants under one year of age 669; acute diseases of the respiratory organs (London) 225; measles 90, whooping-cough 76, diarrhœa 36, diphtheria 28, fever 25, scarlet fever 23.

The death-rates ranged from 12.2 in Nottingham to 32.8 in Bolton; Birmingham 18.7; Blackburn 28.7; Bradford 17.4; Hull 16.1; Leeds 19.2; Leicester 17.9; Liverpool 19.2; London 15.5; Norwich 12.5; Sheffield 16.3; Sunderland 19.2.

In Edinburgh 19.7; Glasgow 24.8; Dublin 26.0.

The meteorological record for week ending June 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 12, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 6	30.102	62.7	74.4	50.1	59.0	60.0	78.0	65.7	W.	S.E.	W.	2	6	10	O.	C.	C.	—	—
Monday,.. 7	30.065	63.0	70.0	57.9	60.0	60.0	90.0	70.0	W.	S.	W.	8	10	14	O.	O.	O.	—	—
Tuesday,.. 8	30.001	66.0	76.9	57.3	48.0	32.0	63.0	47.7	N.W.	N.W.	W.	18	16	11	C.	C.	C.	—	—
Wednes., 9	29.017	67.6	79.7	56.1	68.0	34.0	73.0	58.3	W.	S.W.	W.	8	14	12	C.	F.	R.	—	—
Thursday, 10	29.674	65.8	80.3	55.8	80.0	68.0	73.0	73.7	W.	S.E.	N.	4	9	8	F.	F.	C.	—	—
Friday, ...11	29.884	60.6	68.4	54.2	75.0	83.0	96.0	84.7	N.E.	E.	E.	8	9	1	C.	F.	C.	—	—
Saturday, .12	30.125	57.1	60.1	54.1	60.0	85.0	86.0	77.0	N.E.	E.	S.E.	18	13	3	C.	C.	C.	.8	.07
Mean, the Week.	29.965	63.3	72.8	55.1				68.2											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 12, 1886, TO JUNE 18, 1886.

Billings, J. S., major and surgeon. Granted two months' leave of absence, with permission to go beyond sea, to take effect July 9, 1886. S. O. 138, A. G. O., June 16, 1886.

Waters, Wm. E., major and surgeon. Ordered from Department East to Department Columbia.

Merrill, Jas. C., captain and assistant surgeon. Ordered from Columbus Barracks, Ohio, to Department Columbia, to take effect upon the expiration of his present leave of absence.

Robinson, Samuel Q., captain and assistant surgeon. Ordered from Department of Columbia to Department of Texas.

Owen, Wm. O., Jr., first lieutenant and assistant surgeon. Ordered from Department of Columbia to Department East. S. O. 133, A. G. O., June 10, 1886.

Landerdale, J. V., captain and assistant surgeon. Ordered for duty as post-surgeon at Fort Concho, Texas. S. O. 70, Department of Texas, June 12, 1886.

Comegys, Edward T., captain and assistant surgeon. Ordered for duty as post-surgeon, at Madison Barracks, Sackett's Harbor, N. Y. S. O. 60, Division of the Atlantic, June 15, 1886.

Black, C. S., first lieutenant and assistant surgeon. Ordered from Fort Stockton, Tex., to Fort Clark, Tex. S. O. 69, Department of Texas, June 11, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 19, 1886.

Swan, R., passed assistant surgeon. Detached from "Brooklyn" and wait orders.

Lovering, P. A., passed assistant surgeon. Detached from Navy Yard, New York, and ordered to "Brooklyn."

Arthur, George, passed assistant surgeon. Ordered to Navy Yard, New York.

Rush, C. W., passed assistant surgeon. Detached from the "Franklin," and ordered to the "Brooklyn."

Hawke, J. A., surgeon. Detached from the "Wabash" and ordered to the "Essex," July 1.

Smith, Howard, surgeon. Ordered to the "Wabash."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING JUNE 14, 1886.

Mead, F. W., passed assistant surgeon. Granted leave of absence for twenty days, June 9, 1886.

Guiteras, John, passed assistant surgeon. Granted leave of absence for thirty days, June 14, 1886.

Watkins, R. B., assistant surgeon. Granted leave of absence for thirty days, June 4, 1886.

Pettus, W. J., assistant surgeon. To proceed to Charleston, S. C., for temporary duty, June 11, 1886.

BOOKS AND PAMPHLETS RECEIVED.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations, edited by John Ashhurst, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with chromo-lithographs and wood-cuts. In six volumes. Vol. VI. New York: William Wood & Co. 1886.

Transactions of the Alumni Association of the Woman's Hospital in the State of New York. First Meeting, January 20, 1886. (Reprint.)

Annuaire de Thérapeutique de Matière Médicale de Pharmacie et d'Hygiène pour 1886. Par A. Bouchardat. 46 année. Paris: Félix Alcan. 1886.

Texas State Medical Association. Synopsis of Report of the Special Committee on Surgery, presented at the Annual Meeting at Dallas, April 27, 1886.

Report of a Case of Successful Transfusion in Typhoid Fever. By Wm. S. Whitwell, M.D. (Reprint.)

Report of Proceedings of the Illinois State Board of Health. Quarterly Meeting. Chicago. April 15–16, 1886.

Twenty-Ninth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1885. Auburn. 1886.

Typhoid Fever in Philadelphia. By Henry Leffmann, M.D., Port-Physician of Philadelphia, etc. Read before the Philadelphia County Medical Society, November 24, 1885.

Twenty-Eighth Annual Report of the Washingtonian Home. Located at 41 Waltham St., Boston. 1886.

Report on a Case of Insanity following Gunshot Injury to the Head. Central Cyst, Aspiration: Recovery. By Carlos F. MacDonald, M.D., Medical Superintendent State Asylum for Insane Criminals, Auburn, N.Y. (From the American Journal of the Medical Sciences, April, 1886.)

Population for 1875 and 1885. Increase and Decrease by Towns. Commonwealth of Massachusetts. Bureau of Statistics of Labor. 1886.

An Introduction to the Pathology of Cancer and Tumor Formation on the Basis of Evolution. By W. Roger Williams, F.R.C.S. In monthly parts. Part I. Growth. Part II. Reproduction. London: John Ball & Sons.

Seventy-Second Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1885. Boston: George H. Ellis. 1886.

A Contribution to the Pathology of Hemianopsia of Central Origin (Cortex-Hemianopsia.) By E. C. Seguin, M.D. (Reprint.)

Dictionary of Practical Surgery. By various British Hospital Surgeons. Edited by Christopher Heath, F.R.C. S., etc. Philadelphia: J. B. Lippincott Co. 1866.

Studies in Pathological Anatomy. By Francis Delafield, M.D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons. Vol. II. Part 2. Chronic Phthisis. Lobar Pneumonia. Plates xiii.–xxxix. June, 1886. New York: Wm. Wood & Co. 1886.

On Inversion of the Uterus with Eleven Cases successfully treated by the Sigmoid Repositor. A Post-Graduate Lecture Delivered at the Chelsea Hospital for Women. By James H. Aveling, M.D. London: J. & A. Churchill. 1886.

Memoir of Austin Flint, M.D., LL.D. By A. Jacobi, M.D., President of the New York Academy of Medicine. (Reprinted from the Medical Record, April 24, 1886.)

Traité Elémentaire d'Anatomie Médicale du Système Nerveux par Ch. Féré. Publications du Progrès Médical. Paris. 1886.

Lecture.

HOMŒOPATHY AS VIEWED BY A MEMBER OF THE MASSACHUSETTS MEDICAL SOCIETY.[1]

A LECTURE DELIVERED APRIL 15, 1886, BEFORE THE HAHNEMANN SOCIETY OF THE BOSTON UNIVERSITY SCHOOL OF MEDICINE,

BY VINCENT Y. BOWDITCH, A.B., M.D., (HARV.),
President of Boylston Medical Society, 1884-5.

Question VI. " *There are statistics showing that the homœopathic practice is more successful in the treatment of disease than that of the 'old school.' What statistics are there to prove the contrary?* "

It is with difficulty, I fear, that I can answer your question satisfactorily to yourselves, gentlemen, from the fact that even were I to tell you that there are or are not statistics to show the superiority of one form of medical practice over any other, I should immediately add that to my mind such forms of comparison in a science, necessarily far from exact, are little less than worthless from their frequent unfairness and misleading character, and having this opinion, I am scarcely in a position to discuss the question as you may wish. Far be it from me to disparage the value of statistics resulting from the observations of disease so carefully classified and tabulated that much valuable information may have been brought to light which otherwise would have remained unknown. I speak now of that form of statistics which, whether from mere partisan zeal or from true love of science, attempts to make a broad comparison between various methods of practice.

When we consider the innumerable sources of error in making our diagnoses; when we recall the frequent differences of opinion among physicians as to the nature of a given case, when, too, we take into consideration the innumerable shades of difference between any two cases or sets of cases of one disease, to say nothing of the widely differing methods of those who profess to belong to one "school of medicine," how is it possible for us to reach conclusions with any thought of fairness by means of pages of figures seeking to compare results of treatment in rival institutions? I confine myself now to medical as distinct from surgical practice. In the latter we deal with tangible facts proven to us by the aid of our special senses, but in the former we must reluctantly admit that our diagnoses are too often reached by groping in the dark, and that our treatment is largely a matter of experiment.

Our own medical journals are filled with statistical records of certain diseases, which, in the hands of some physicians, seem to have yielded with unusual promptness to the boasted curative power of some one drug or method of treatment. We hear, possibly, of special epidemics of diphtheria having been successfully treated by such and such a remedy; or we read, it may be, of the marvellous effects of some one drug in the treatment of scarlet fever; in fact, scarcely any disease exists which at one time or another has not had its special remedy proclaimed to the medical world by some enthusiastic observer. Full of zeal we test the virtues of these remedies in our own practice, but alas! how frequently are we doomed to disappointment and compelled to admit that as far as treatment of these and other dire diseases is concerned, medical statistics have not aided us so much as we may have had reason to hope.

Has Homœopathy proved the infallibility of belladonna in the treatment of scarlet fever? If so, why is it that we still dread the advent of an epidemic of that disease amongst us; and why have our Boards of Health felt the absolute necessity of keeping our cities free from filth unless it be that cholera has, within the last two years, decimated the population of portions of France, Italy, and Spain, in spite of the boast of Hahnemann and his followers, fifty years ago, that in camphor we have an infallible remedy for that dread scourge?

Gentlemen, let us rather shun the danger of falling into that narrowness of mind which confines itself to statistical proofs alone, and is unable to take a broad and general survey, as it were, of the whole history of medicine to satisfy itself as to the justice of the claims of adherents to any sect or methods of practice? Is it not fairer in this particular chapter of the history of medicine to glance over the records of the past seventy or eighty years, to note the gradual changes which have taken place in medical science, and to ask if Homœopathy has taken the place that Hahnemann claimed for it when he first proclaimed his views? Is it probable that the world at large, outside of the medical profession, is so blind and obtuse that it can have failed for over a half a century to be convinced of the infinite superiority of Homœopathy, pure and simple, over other forms of practice? Is it to be supposed that the people of Austria, Prussia, Russia and Hungary are so devoid of courage that they would have submitted without expostulation to the prohibition of Homœopathy by the government, fifty years or more ago, had they been convinced of its superior life-saving power? Finally, I ask if it seems to you rational to believe that in Germany—for so many years the leader in all scientific matters, and whose greatest thinkers have always shown a readiness to investigate all subjects when properly presented to them—is it rational, I say, to believe that jealousy and wounded pride merely should have caused such a universal outcry against a sect who boasted the overthrow of all previous medical knowledge?

In histories of Homœopathy one sees frequently mentioned, as favoring Hahnemann's principles, the name of Hufeland, a physician of the "old school." No more celebrated name can be found in the annals of German medicine of the last century, but what was his position at the last, after thoughtful investigation of Homœopathy? Not that he embraced its princples, but that he believed it had its influence upon the old methods of practice, and that persecution of its adherents was useless and wrong.

I can but regard it as a significant fact that in Vienna, where Homœopathy may now be freely practiced, that the Gumpendorfer Hospital, founded forty years ago, remains still a small building, while its neighbor, the Algemeines Krankenhaus, has increased its holding capacity steadily up to the present time, and now contains some three thousand beds. Granting that the latter hospital was founded many years before its homœopathic neighbor, is not a period of nearly half a century sufficient to have shown a very different comparative result in favor of homœopathic practice had the claims of Hahnemann been substantiated by his adherents? I cannot believe that either governmental influence, the possible bigotry or persecution of the "old school," or popular prejudice could have possibly succeeded in resisting the power of the "new art of healing," which Hahnemann proclaimed was to revolutionize the medical world, had it in any way justified the expectations of its first followers.

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[1] Concluded from page 588.

Thus far I have discussed the merits of statistics referring to the curative power of medical treatment by different "schools," and have given you my opinion of their worth. Let me say a few words in regard to the statistics given by Dr. Wesselhoeft in his address of last year, in which he gives figures showing the diminished mortality list of patients under homœopathic treatment in various institutions. Although filled with grave doubts as to the fairness of all such comparisons, it is only just to say here that I think no unprejudiced person will now deny the influence of Hahnemann together with the necessary reaction already growing in the practice of the "old school," in convincing the physicians of that day that their methods were not only not essential to recovery from disease, but on the contrary were often injurious. Bloodletting, purging, blistering and dosing carried to fearful excess were the order of the day, methods which doubtless were the cause oftentimes of a larger mortality list than those which advocated less heroic treatment. Not by means of statistics, but from the fact that medical practice has changed so greatly in the last half century, am I willing to grant the beneficial influence of Homœopathy, which, in advancing ideas even more extravagant than those of its opponents, yet did its part in checking the excesses of that time, and in causing the pendulum to swing in the opposite direction.

I have already said that in the domain of surgery we deal more with tangible facts, and are not so much embarrassed, as in strictly medical practice, by the necessity of depending often upon theoretical knowledge, upon our powers of imagination, and upon the results of imperfect observations. Hence it is that statistics in this field of medicine are of greater worth than can possibly be the case where we do not deal with what is apparent to our special senses. Perhaps some of your school will say that you put surgical practice entirely out of the question; that it is upon medicine alone that you wish the discussion continued, but I can only repeat what I have already said, that the "regular" physician is embarrassed in all discussions upon the subject by the great differences of opinion existing among the homœopathists themselves as to the necessity of surgical interference in certain cases. If there are homœopathists who do not believe that cancer can be cured without the aid of the knife, that cataract will disappear by means of drugs, and that nasal polypi can be removed by other than mechanical means, yet there are those that seem to have implicit faith in the efficacy of medicines alone for the cure of these diseases. However this may be, gentlemen, I ask you to think impartially of the questions which I am about to ask you, and to answer them without prejudice, regardless of statistical evidence.

Is it due to homœopathists or to members of the "old school," that ovariotomy is now resorted to so commonly and with such marvellously successful results? Is it to homœopathy or to members of the "regular school" that the patient suffering with cataract owes the hope that he may yet be saved from total blindness; or, to use still another example, who first recognized the nature of adenoid growths in the vault of the pharynx, and recommended their removal by mechanical means, a simple operation, attended with blessed relief to the sufferer?

I could mention the laryngoscope, the rhinoscope, the speculum, and other inventions of comparatively recent date, all of which have increased our medical knowledge in their special departments, but I desist, gentlemen, and merely ask you, in all courtesy, if, in the ranks of homœopathy, you can point to the names of men who have given such aid to medical progress as those of Lister, Keith, Virchow, Bamberger, Wagner, Langenbeck, Gross, Flint, Sims, and hosts of others, whose names are equally celebrated among the laity and the medical profession throughout the civilized world? If I should be proved wrong in thus making a comparison so favorable to my own side of the question, I trust that I should not be such a hopeless partisan as to be unwilling to acknowledge myself in error when convinced of my mistake.

When you ask me for statistical evidence, gentlemen, such are the thoughts which come forcibly to my mind, and I am unable to explain them satisfactorily to myself in any other way than by concluding that, however Hahnemann may have tended to modify the extravagant medical practice of his day by showing that heroic methods were not always essential to recovery from disease, yet it still remains to be satisfactorily proved, that, through him, medical science has received that vast impetus which he and his most zealous disciples would claim.

Question VII. "*How does the 'old-school' practice explain the action of mercury in syphilis, alum in constipation, arsenic in digestive disorders and some cases of epidemic cholera, and belladonna in pharyngitis, if not according to the law of similars?*"

In my answer to Question 5, I have already said that the "old school" has for ages recognized the fact that certain drugs which cause definite symptoms often seem to check similar symptoms arising from a different cause. This has never been denied, but the main point in such a discussion is, not whether the "old school" can or cannot explain the action of the above-mentioned drugs otherwise than by the "law of similars," but whether the homœopathist, or any one else, is justified, at the present stage of medical science, in proclaiming the existence of an absolute law in medicine. In the first place, granting, for the sake of argument, that it is possible to classify symptoms so minutely that we can always be sure of selecting the proper remedy for the disease, I deny the right of any one to say that every case of recovery has been cured by the use of the drug indicated. Again, can syphilis always be cured by the use of mercury? will pharyngitis, characterized by a dryness and redness of the fauces and pharynx, always yield to belladonna? nay, more, can we say absolutely, in cases of the latter disease which get well, that they would not have recovered without the use of any drug whatever?

There are those among the "regular" physicians who are even skeptical as to the use of mercury in syphilis, and believe that a general tonic treatment is, in many cases, the greater factor of the two in accomplishing favorable results in this disease. Be this as it may, the "old school" certainly use the drug extensively in syphilis, and with apparent benefit in many cases, and they recognize the similarity between the symptoms of the disease and the effects of the drug when used in excess.

In the case of alum, usually an astringent or an irritant, according to its use in small or large doses, in cases of obstinate constipation from lead-poisoning, it has not infrequently been found to be an efficient laxative, the reason for which is not satisfactorily explained: or, if you will, its action in health upon the intestines, when given in small doses, is similar to that caused by lead-poisoning; but again, I ask if it is possible to cure every case of colica pictonum by this remedy; also, if we do not often find more effectual remedies than alum for the abdominal symptoms of this disease?

The same reasoning may be used in speaking of arsenic, an irritant to the whole digestive tract, if used in large quantities, a tonic when given in moderate doses. As to its beneficial action in certain forms of diarrhœa, characterized by the presence of undigested food in the stools, it is possible to explain its apparent obedience to the so-called law of similars by supposing that, as the digestive functions of the stomach are improved by the use of the drug oftentimes, the cause of the intestinal irritation in the form of undigested food is removed, with consequent improvement in the symptoms.

Virchow states it as a curious fact, that the symptoms and pathological appearances of some cases of acute arsenical poisoning resemble closely those of epidemic cholera, and arsenic has been proposed as a remedy in that disease; but certainly, if it had been proved to be such an efficient weapon against the scourge, we should have heard more of it in the past two years, therefore I cannot consider the use of this drug of great weight in arguments to prove the truth of the homœopathic maxim, "*similia similibus curantur.*"

I trust that what I have said in answer to this question will be sufficient to explain to you the position of the "old school," namely: that while they have always acknowledged that certain drugs appear, in disease, to cure symptoms similar to those which they produce in health, a fact to be oftentimes satisfactorily explained by very simple reasoning, as in the case of arsenic just given, yet they feel that the position of the homœopathists in believing that an established "law of similars" exists for the use of drugs in disease, is not sufficiently substantiated by facts to be tenable.

Question VIII. "*Drs. Wood and Bartholow explain the action of certain remedies as substitutive or antipathic. How does this differ from the law of similars?*"

If I understand your question aright, the answer to it has really be given in what I have just said in discussing Question 7. By the term "antipathic action of a drug," we naturally infer that the effect of that drug in disease is the opposite of its effect when used in health, or in other words, that it can cure, in disease, symptoms which it would produce in the healthy body. Thus in several forms of vesical irritation, cantharides, in itself a marked vesical irritant in certain doses, often proves itself of great service in allaying the most distressing symptoms in that part of the system, a fact well recognized among regular physicians, and yet, in this case, again, we see no evidence of an absolute "law of similars." We know that this drug has certain marked effects upon the vesical tract, but we know equally well, that while its beneficial action in atonic and irritable conditions of that region is often marked, it is by no means an infallible remedy for all cases of vesical irritation.

Let us now give our attention to

Question IX. "*Why should not a physician, thoroughly educated in medical science, and capable of passing examinations required for a degree at any of the so-called 'regular' colleges, or for admission into the State Society, be recognized by those Societies and the profession at large?*"

In signing the Constitution of the Massachusetts Medical Society, every candidate for membership is obliged, before receiving the privileges of the Society, to agree, among other regulations, to the following article, worded to this effect;— that in the practice of his profession, he shall call himself neither homœopathist, eclectic, allopathist, or, in short, any name other than that of "physician" or "surgeon," and under this title, as I have explained to you before, he may practice as his conscience dictates.

Without entering into a discussion foreign to the purpose of this paper, as to the wisdom or utility of all compulsory forms of agreement in a society of this nature, I may say that this regulation represents the standard of the "regular physicians" of this State.

While not sympathizing by any means with all that is advised or required by the rules and regulations of the medical society of which I am a member, the above mentioned rule serves at least as a maxim, in following which we cannot be accused of deliberately giving false impressions to those outside of our medical world.

I am in sympathy with no other rule, (except those relating to personal character), which would possibly exclude from our societies any such candidate as you suggest in your question, if he be willing to agree to this one point alone, which, regardless of society regulations, I believe to be the only logical, the only true basis to stand upon, in our profession.

My answers to your nine questions have been given to you, gentlemen, and although fearful of having detained you too long and of having wearied you with possibly unnecessary repetitions most difficult to avoid in a discussion of this nature, yet I cannot close my paper without adding a few words which I should be unwilling to leave unsaid.

In all controversies it is but fair to hear the statements of both sides, and in preparing my paper I have been deeply interested in reading books which either favor or disapprove of homœopathic doctrines. To obtain a good idea of the opposite views upon the subject of Homœopathy, let me advise you to read Dr. Leo Wolff's "Abracadabra of the Nineteenth Century," and Ameke's "History of Homœopathy," translated by Drysdale. In the latter, one finds a carefully written and interesting book, which, if it did not towards the end descend into much the same vituperative style that it so depreciates in the manners of the "old school," would be much stronger in its effect. In it, one feels keenly the folly of many of the "old school" in their behavior towards Hahnemann and his followers, and is moreover, convinced more strongly than ever of the importance of a much-neglected department of all medical schools, namely, the study of the history of medicine. Never in the historical records of the world has persecution resulted otherwise than in finally exciting popular prejudice in favor of the oppressed, and in putting the halo of martyrdom around those who, if left untouched, would have finally found their just place in the world's estimate. To be candid, gentlemen, I consider that whenever persecution has been practised upon the homœopaths, it has aided their cause more than any blazoning of their own virtues could have possibly accomplished, and I must confess to believing that the action of the Massachusetts Medical Society in expelling the homœopaths from their ranks, several years ago, has only added fuel to the fire which it hoped to quench.

From what I have said you will, I hope, see my position and what my desire is in thus appearing before you. It is to convince you that while I criticise and am unable to sympathize with the position taken by the homœopaths of to-day, yet I am equally unwilling to believe that all those who adopt the name of any special sect do so for sordid reasons only. We find the true and the false in every path of life, and in the ranks of Homœopathy I truly believe that, while there are many, who, under the cloak of deceit, only wish to further their own selfish, sordid aims, yet there are others whose sole desire is to conscientiously and disinterestedly work for the cause of truth. Would it were possible to convince the latter of what seems to us the inconsistency of their position in taking a special name.

I ask you therefore, gentlemen, who are about to start upon your career as physicians, to look without prejudice, if possible, upon this whole controversy, and by studying the literature of the subject, to judge broadly of the reasons for the birth of Homœopathy, and of the reasons for the violent opposition which it has met. You will find yourselves better fitted for your rôle in life by so doing. I ask you then to go forward in your practice, to refuse all other names than that of "physician," and the "regular school" is not so perfect in its knowledge that it cannot learn from you, if you will patiently and without prejudice prove to them the wisdom of whatever experience may teach you.

In closing, let me say that as I appear before you a stranger, in the somewhat delicate position of a guest who has been asked to criticise his host, I am sure you will appreciate the difficulties which I have encountered when, in endeavoring to give you my candid opinions, as desired by your committee in their note of invitation, I have tried at the same time not to overstep the limits of courtesy. If in the course of my remarks I have seemed to you to say more than frankness demands, I sincerely trust that you will look only at the motives which prompted me to speak to you to-night, and will pardon what may have given offence. That there are many who could have answered your questions more satisfactorily to you, I have no doubt, but I will not believe that there is any one who desires more earnestly than I to see the end of a bitter and unfortunate strife which on both sides has been waged with a spirit oftentimes unworthy of a profession which should teach us better things.

Gentlemen, from the use of cant phrases and figures of speech which smack of a mawkish sentimentality, I shrink instinctively, and I sincerely wish I could express in new and simple words the thought to which I wish to give utterance before I bid you farewell, yet I feel sure you will receive it in the spirit I wish.

We are *all* members of a profession which, when regarded in its true light, above the plane of party strife and mere selfish gain, I regard as the finest and noblest of all, and the feeling grows stronger within me with each year of practice. There is that in it far above the mere desire and ability to cure disease; that which can soothe all regrets for possible failure and disappointment in our daily work — I mean the power of human sympathy; the power which bids the young mother silently and gratefully press the hand that helped her in her hours of trial; the power that impels the dying man at the very last, to turn to him who, though powerless to save, yet by a word, a look, a touch of the hand, gives strength and courage to one just passing to that "undiscovered country from whose bourn no traveller returns." In the midst of discord and disappointment, let us keep this thought before us, gentlemen, and at the end perhaps we may be permitted to see our past life, as it were, stretched before us, and feel that we have done our small share towards making our chosen profession what it should be, "a blessing to all mankind."

Let me now thank you for the honor you have conferred upon me by your invitation to address you, and for your courtesy and kind attention during the evening, with which words I bid you farewell.

Original Article.

REPORT ON THE PROGRESS OF LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D., BOSTON.

THE TYPES OF VIBRATION OF THE VOCAL BANDS.[1]

PROF. D. KOSCHLAKOFF, of St. Petersburg, has made an important study of this subject. His researches were conducted on artificial vocal bands, on the excised larynx according to the method of J. Müller, and on the living subject. Three methods were employed:— 1, the stroboscopic; 2, the graphic; and 3, by means of lines marked on artificial vocal bands. We must refer the reader to the original article for a description of the details of these methods which are made clear by the numerous illustrations that accompany the text. The stroboscopic method as mentioned by Koschlakoff, was originally applied by Oertel to study the movements of the vocal bands, and was referred to by Prof. H. P. Bowditch some years since in his report on physiology as follows: "This method, which was first employed by Plateau in 1836, consists in observing a body having a rapid but unknown rate of vibration at intervals which can be regulated to correspond to the unknown rate. This object can be accomplished by looking at the vibrating body through holes in the edge of a revolving disc. If the rate of the observations coincides with that of the vibrating body, the latter, being observed always in the same phase of its vibration, presents the appearance, owing to the persistence of the impression on the retina, of a body perfectly at rest. If the rate of the observations is a little slower than that of the vibrating body, the latter, being at each observation in a somewhat more advanced phase of its movement, will appear to execute its vibration at a rate corresponding to the difference between the rates of observation and vibration. Thus a body vibrating two hundred times in a second, seen through a stroboscopic apparatus giving two hundred and one observations in a second, will appear to vibrate once in a second. Thus by knowing the rate of the observations and noting the rate of the apparent stroboscopic movement, the rate of the vibrating body may be determined. It is also possible by this method to study accurately the appearance presented by a vibrating body in every phase of its movement."

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[1] Ueber die Schwingungstypen der Stimmbänder Pflüger's Archiv. XXXVIII, Band, April 24th, 1886.

Koschlakoff states that the stroboscopic method can be employed on the living subject without difficulty. He examined two singers by this method (tenor and baritone) and found that in the production of chest as well as falsetto tones the vocal bands vibrate in unison. In chest tones they vibrate throughout their whole length and breadth, the amplitude of the vibrations being very great. The vocal bands also look broader and thicker than when falsetto tones are sung. When the latter tones were produced the vocal bands appeared to be longer, smaller, and their borders thinner, than in chest tones. In falsetto tones, moreover, only portions of the free edge of the vocal bands vibrate, which are separated from the peripheral portions of the bands by a nodal line running parallel to the rima glottidis. The peripheral portions which are behind this nodal line vibrate very slightly. These observations show, therefore, that the normal voice is produced by synchronous vibrations of the vocal bands throughout their entire length and breadth, but falsetto tones arise from the vibration of their free edges.

Koschlakoff's graphic method consisted in having a small hair attached to two artificial vocal bands so arranged that when they were set in vibration the different movements were recorded graphically on a smoked paper of a revolving cylinder. He also painted narrow lines on the edges of the vocal bands and then studied the curves formed by the light reflected from these lines while vibrating.

The experiments with the artificial vocal bands yielded some very interesting results. In some it was found that the vocal bands vibrated in opposite directions; that is, during the emission of a tone while one band moved upward, its fellow moved downward, and these alternate vibrations did not vary during the experiment. In other cases there was a synchronous movement, both bands vibrating together, first moving upward and outward and then downward and inward. The tracings of the vibrations of the artificial vocal bands showed that they were either simple or combined, and each of these varieties were again sub-divided, according as both bands vibrated together or independently, whether they vibrated throughout their entire length and breadth or in ventral segments giving under different conditions simple or multiple tones.

Many of the tracings obtained with the artificial vocal bands have not yet been observed in the living subject, but it is an interesting question, as Koschlakoff says, whether in certain abnormal conditions, the vocal bands do not vibrate alternately instead of synchronously as when the natural voice is produced.

This paper should be read in the original, and the numerous tracings consulted, as it is difficult to do justice to it in an abstract.

THREE CASES OF PRESSURE UPON THE RECURRENT LARYNGEAL NERVE FROM DIFFERENT CAUSES, WITH FIXATION OF THE LEFT VOCAL BAND IN PHONATORY POSITION.

Dr. J. Solis Cohen [2] reports these cases, and offers the following remarks upon the pathology and physiology of the laryngeal nerves and muscles, which, although theoretical, are of interest at the present time, considering the endeavors of laryngologists to clear up some of the moot points pertaining to laryngeal paralyses. "The closing of the glottis and its opening are effected by muscles of antagonistic function; yet the opposing innervations proceed along the same set of fibres from two centres, or from one double-acting centre, or whether it proceeds from separate centres along separate sets of fibres traversing the same trunk, as is most plausible, is a problem for which neither experimental nor pathological physiology has yet furnished the solution. When, therefore, a vocal band stands at continuous rest in the position normally occupied during phonation only, the question arises whether that fixed position is due to tonic spasm or contracture of the muscles, which close the glottis on that side, or whether it is the result of paralysis of the muscle which holds the glottis open. . . . The great office of the laryngeal nerves is to secure space for respiration; their auxiliary office is to provide means for phonation and cough. While it seems, *à priori*, suitable that the importance of the dilators of the glottis should have caused them to be invested with special immunity, rather than with special vulnerability, it may be argued, on the other hand, that as the main office of the motor laryngeal nerves is to maintain the patency of the glottis for breathing purposes, serious injury to those nerves would compromise the integrity of that office. The reply to this argument would be, that an injury completely destructive of the conductivity of the nerve, leaves the vocal band immobile in a position which does not interfere with the respiratory function.

"A hypothetical explanation for these apparent contradictions, based upon general physiological principles, is offered by my brother, Dr. Solomon Solis Cohen. It adopts, in a modified form, the as yet undemonstrated theory of the existence of a cortical motor centre for the larynx, and assumes that the respiratory (abductor) fibres of the recurrent nerve offer less resistance to the passage of nerve-currents than do the phonatory (adductor) fibres, an assumption made highly probable by the ascertained laws of nerve-resistance.

"The direct energization of a muscle of a limb, it is well known, proceeds by way of an anterior nerve-root from the motor cells of the gray matter of the spinal cord — which may be compared to the local battery in a telegraph line — while the impulse which liberates this energy in obedience to the will, proceeds from a centre for voluntary motion in the cerebral cortex — the line battery. It may also be set free by so called reflex action, under the stimulus conveyed from the periphery by an afferent nerve, the peripheral impression becoming the line battery.

"Applying these facts and hypotheses to the larynx, the following conclusions are drawn: The local battery for laryngeal motion is the nucleus of the spinal accessory nerve in the fourth ventricle. From this, proceed two sets of fibres, one, of low resistance, to the dilator muscles; another, of higher resistance, to the constrictor muscles. The ordinary dilatation of the glottis for respiration, which is accomplished by a partial contraction of the dilator muscles, is an automatic function of organic life, under the control of the respiratory centre in the medulla, and takes place with the liberation of the minimum amount of energy by the central motor cells. The respiratory impulses continuously traverse the recurrent nerve, and all other impulses become superimposed upon them. The effect of a first additional increment of nerve-force, which may be set free under psychic impulse from the cortex, is to stimulate further the dilator muscles, opening the glottis wider, or to its full extent, as in forced inspiration. More intense psychic stimulation, awakening sufficient energy to overcome the resistance of the adductor fibres of the recurrent nerve, elicits, in addition to the continuing action of the dilator muscles (which is necessary to complete the tension of the vocal bands posteriorly), the response of the constricting muscles, and the vocal bands are brought into position for phonation. Reflex stimulation of the centre by an afferent nerve excites the coughing action of the constricting muscles.

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[2] Transactions of the College of Physicians of Philadelphia, May 5th, 1886.

"If this explanation of the normal action of the vocal bands be correct, the positions they assume under pathological conditions become easily applicable.

"An irritative lesion of the nerve tract, or of the centre, or such lesion of the cortex, or of the (hypothetical) cortico-medullar tract, as should remove psychic control from nuclear cells continuing to generate nervous force, would produce, according to its degree at one extreme, increased action of the dilating muscle (position of forced inspiration, extreme abduction), or at the other extreme, spasm of all the muscles, bringing the vocal bands into the phonatory position (complete adduction), and between these extremes, would be the various manifestations of tremor, spasmodic cough, and even equilibrium (non-paralytic) in the cadaveric position.

"In depressive lesions, when the nerve-current is too weak to overcome the resistance of the adductor nerve-fibres — as when the will fails in hysteria — or when there is partial interference with the generation or transmission of nerve-currents, as in some cases of disease or injury of the nerve tract, the constricting muscles would receive little or no influence, the dilating muscles would continue to act, and there would be presented the well-known picture of adductor paralysis, best exhibited in hysterical aphonia. In hysteria, perfect cough is still possible under reflex stimulation. In organic diseases presenting the same picture, cough should be impaired, but not absent, as organic disease of this nature is not likely to be bilateral.

"Destructive lesions of tract or nucleus, if complete, cut off entirely the nervous stimulation; all the muscles fail to act, and the vocal bands are left in the cadaveric position (paralytic, complete relaxation).

"This hypothesis, for the sake of simplicity, omits to take account of normal or pathological inhibition of respiratory acts, or of a possible complication offered by the unknown relations of the sympathetic system with the laryngeal function of respiration."

Dr. Cohen is inclined to accord with the views expressed by Dr. Krause, of Berlin, that the phenomenon of permanent fixation is due to the overpowering contracture or tonic spasm of constricting muscles of the larynx, and not to a paralysis of a dilating one. On the other hand, Dr. Semon, of London, and other painstaking investigators, hold that the phenomenon is due to neurotic paralysis of the posterior crico-arytenoid muscle, and that organic disease of the roots or trunks of the motor nerves of the larynx always attacks the abductor fibres earlier than any others, and sometimes, even exclusively. This view is supported by the evidence of degeneration of the abductor muscle found in almost, if not every such case examined *post-mortem*, little or no similar atrophy being discovered in the tissues of the antagonistic muscles.

The autopsies, however, of such cases are, as yet, few in number, and it is important to bear in mind that degeneration of the abductor muscle may be of vascular origin, as suggested by Dr. Robinson, of Dunham, in his essay on "Endemic Goitre." He points out that the posterior crico-arytenoid muscle is supplied by the inferior laryngeal artery alone, and that atrophy of the abductor may result wholly from interference with its blood supply. Bäumler's cases are interesting in this connection. He found that the arteries in the immediate neighborhood of the diseased recurrent nerve showed marked changes, and were so thickened as almost to cause obliteration of the vessels. There was chronic indurative neuritis present, which was the result either of inflamed bronchial glands, or of inflammation derived from the nutrient bloodvessels.

At the recent meeting of the American Laryngological Association, Dr. Cohen reported a case of bilateral abductor paralysis of many years' standing, the left vocal band having been first affected, yet the autopsy showed that the left recurrent nerve was natural, while the right presented a distinct line of demarcation between the healthy and unhealthy fibres; but instead of the right muscle being atrophied, it was the left muscle that had undergone wasting.

Careful work is in progress by so many different investigators, that we may confidently expect that our knowledge of the physiology and pathology of the laryngeal nerves and muscles will in time be much more exact than it is at present.

INTUBATION OF THE LARYNX.

This surgical procedure for the relief of stenosis of the larynx has excited considerable discussion the past year. Its advocates claim that it has many advantages over tracheotomy, and that it will supercede that operation in cases of croupous or diphtheritic laryngitis, especially in young children. Intubation of the larynx was first proposed and practised in this country by Dr. Joseph O'Dwyer, of New York. Up to the present time there have been thirty-five operations reported by different surgeons, with thirteen recoveries.

Dr. O'Dwyer's instruments consist of a gag, five laryngeal tubes, an applicator, extractor, and a gauge. The tubes range in length from 1¾ to 2½ inches. Their calibre is only ¼ x ¼ of an inch in the largest, and not more than half this capacity in the smallest. The tube is introduced within the larynx and trachea through the mouth, and remains there. In one case reported it was retained a week without any detriment whatever. The upper end of the tube rests upon the ventricular bands, and does not interfere with the movements of the epiglottis. The lower end is about half an inch from the bifurcation of the trachea. Slight ulceration may be produced by the head and lower end of the tube when retained for a long time. In most cases semi-solid food is taken well from the beginning, but it usually takes twenty-four hours for the child to learn to swallow liquids.

Dr. F. E. Waxham, of Chicago, has tabulated the various advantages of intubation over tracheotomy as follows:

1st. No opposition is met with on the part of parents and friends; quite a contrast to the difficulty with which we usually meet in obtaining the consent to perform tracheotomy.

2d. It relieves the urgent dyspnœa as promptly and effectually as tracheotomy, and if the child dies, there is no regret that the operation has been performed, and no discredit attached to the physician.

3d. There is less irritation from the laryngeal tubes than from the tracheal canula. As the tube is considerably smaller than the trachea, it does not press firmly at any portion, excepting at the chink of the glottis.

4th. Expectoration occurs more readily than through the tracheal tube.

5th. As the tube terminates in the throat, the air that enters the lungs is warm and moist from its course through the upper air passages, and consequently there is less danger of pneumonia from this source.

6th. It is a bloodless operation.

7th. It is more quickly performed, and with less danger.

8th. There is no wound to close by slow granulation, and consequently convalescence is more rapid.

9th. There is no wound that may be the source of constitutional infection.

10th. The patient does not require the unremitting care of the physician, as in tracheotomy.

11th. It is a more successful method of treating croup, either diphtheritic or membranous, than tracheotomy.

In a recent number of the *New York Medical Record* (June 5th, 1886), Dr. O'Dwyer reports the results of the treatment with his tubes of a case of syphilitic stenosis of the larynx in an adult. The stricture of the larynx was such that immediate tracheotomy had been advised by another surgeon. Dr. O'Dwyer introduced through the stricture his smallest adult tube. It remained in the larynx fifty-six hours, when it was removed on account of the pain it caused. During the time the tube was in the larynx the patient swallowed solids without much difficulty, but fluids produced more or less coughing. Five days later a larger tube was inserted, which, after having been in the larynx twenty-four hours, was coughed out. The following day a still larger tube was used, which caused some pain and irritation, and was expelled after having been in position fourteen hours. The patient remained under treatment about three weeks, when she was discharged from the hospital with ample breathing space in the chink of the glottis, and no dyspnœa. She was readmitted two and a half months later, as the dyspnœa had returned. Examination showed that this was caused by subglottic stricture, as there was no material change in the larynx since she was discharged. Treatment was resumed for twenty-seven days, with tubes of gradually increasing size, when the stricture was again sufficiently dilated. The tube is now introduced once in two weeks, and allowed to remain in over night. Dr. O'Dwyer states that he soon intends to increase the interval to a month, which he believes will be often enough to prevent a recurrence of the stricture.

THE FUNCTION OF THE THYROID GLAND.

Most works on physiology pass over the thyroid gland with a very superficial mention. It is said to exercise some part of importance in fœtal life, no one knows what; in extra-fœtal life it is said to partially atrophy, and to be merely a useless organ to the adult, rather worse than useless, as in goitre it becomes inconvenient and sometimes dangerous. This shows how little we know about human physiology. Recent researches have shown that the thyroid gland has an intimate and all-important relation to the highest functions of man — those of his brain. This fact was first developed by the extirpation of the gland in goitre — a proceeding which, according to the received views, ought to be wholly indifferent to the economy. Such is far from the case. After the total extirpation of the gland, the subjects steadily lose their mental vigor, the features become heavy, the speech slow and dull, the muscular system weakens, and the skin turns rough, thick and hard; in short, a condition gradually supervenes strikingly like that called by Charcot *myxœdema*, or the pachydermatic cachexia. They become *cretins*. If ever so little of the gland remains, it is sufficient to prevent these changes, but its complete removal surely entails them. Experiments on dogs and cats yield similar results. The animals do not long survive, but are attacked with convulsions, somnolence and paralysis, which prove fatal.

Two theories have been advanced to explain these changes. One is that of Liebermeister, who maintains that the thyroid gland is the regulatory organ of the encephalic circulation, and that its abstraction throws this into chronic disorder. The other is that of Professor Bruns, of Tübingen. He believes that the thyroid is either a depuratory gland which excretes certain substances poisonous to the nervous system, or that it fabricates certain substances indispensable to nervous vigor — which of the two he is uncertain. The very important practical conclusion remains uncontested, that in all operations for goitre a small portion of the gland should be allowed to remain. Mr. Victor Horsley's investigations, as described in his course of Brown Lectures, all point to a like conclusion.[3]

PARTIAL AND SOMETIMES GENERAL CHOREA MINOR FROM NASOPHARYNGEAL REFLEX.[4]

Dr. A. Jacobi points out, in a suggestive paper, that the cause of a number of convulsive muscular movements, such as blepharospastic winking with the eyelids, momentary and frequent frowning, twitching of one or both angles of the mouth, wrinkling of the muscles of the nose, shrugging of a shoulder, or semiconvulsive twitching of an arm, may be sought in the abnormal condition of the nasal and pharyngeal mucous membrane. Occasionally the muscular irregularities extend to the diaphragm and over the whole body, and a genuine chorea minor is the result. The large majority of patients of this class are children. Besides the muscular anomalies mentioned, there are some others which draw our attention to the primary cause of the disorder. There is frequent snuffing up, snuffing out, a hawking, and a short hacking cough. The examination of the fauces reveals congestion of the whole surface, swelled muciparous glands, and enlarged tonsils. The tonsils need not be congested; they are even apt to be unusually pale from the presence of compressing cicatricial tissue. The pharyngeal congestion is observed to ascend in the direction of the posterior nares. The inspection of the nose reveals thickening and congestion of the cavernous tissue, especially of that covering the inferior turbinated bones. The nostrils, or one of them, are always narrow, and the septum frequently deviated. Many of the patients have been life-long snorers. The reflex symptoms are produced by the local irritation in the nose and nasopharynx acting on the terminal ends of the trifacial nerve. Mention is made of the studies of Voltolini, Haenisch, Sommerbrodt, and Hack on the subject of nasopharyngeal reflexes, and also to Tornwaldt's researches "On the bursa pharyngea in its relation to the diagnosis and treatment of certain diseases of the nasopharyngeal space." Dr. Jacobi is of the opinion that the improved knowledge of the anatomy of the nasopharyngeal cavity will probably clear up the etiology of many a case which was not diagnosticated correctly, and both pharyngeal bursa and tonsil will come up for their share in both etiology and treatment.

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[3] Med. and Surg. Reporter, August 15, 1885.

[4] Amer. Jour. of Med. Sciences, April, 1886.

THE COCCI OF PNEUMONIA IN THE NOSE.

Dr. Arthur Thost[5] publishes the results of his observations, made with a view to determine whether the cocci which Dr. Klaumann found in the nasal secretion of a case of ozæna, corresponded with the pneumococci described by Friedländer. Dr. Thost obtained his material from the clinics of Professors Schrötter and Störk, in Vienna, and conducted his observations in the laboratory of Prof. A. von Frisch.

Out of seventeen cases of ozæna examined, cocci, with distinct envelopes, were found in twelve. After Dr. Thost had perfected his staining methods, he was able to demonstrate the presence of characteristic cocci in the secretion from cases of simple coryza, and in that of different forms of chronic rhinitis.

He obtained pure cultures of these cocci, and decided that they were identical with Friedländer's pneumococci. In order to test this point, he injected into the right lung of five mice, one drop of liquid from the pure culture. Three mice were inoculated with cocci from the nasal secretion of patients with ozæna, and two with pneumococci. In the blood taken from the tail of one of the mice inoculated with pneumococci, such an enormous quantity of cocci were seen, that they appeared to be as numerous as the blood-corpuscles. They were also found in the blood of the mice inoculated with the nasal cocci, but were not so numerous. All of the animals died in from one to two days, with pulmonary symptoms. The autopsies showed double pleuro-pneumonia, with serous exudation mixed with blood, and congestion of the spleen and kidneys. Microscopic examination of the pleuritic exudation revealed cocci, with distinct capsules; they were also found in the blood, and in the sections of the lungs, spleen, and kidneys. The appearances resembled, even to the smallest detail, those described by Friedländer.

Dr. Thost gives also the results of his experiments on rabbits and guinea-pigs, and his staining methods are described in full. He concludes by saying that more extended observations must determine what relation there is between croupous pneumonia in man, and these pneumococci in the nose. If a cold in the head depends upon the presence of these cocci, it will be an interesting question whether certain affections of the lungs can originate from micro-organisms in the nose.

CIRCULATION IN THE NASAL MUCOUS MEMBRANE.[6]

The anatomists, Hyrtl and Henle, admit that in the normal state, the cavernous or spongy tissue of the nasal passages is swollen. According to Bresgen, we ought only to recognize the normal condition when the mucous coat is closely applied to the osseous framework. He combats the opinion of Hack, that the mucous membrane itself remains unaffected when any considerable swelling of the cavernous tissue is present. Fraenkel and Zuckerkandl teach that a cavernous tissue does not exist apart from the mucous coat itself; and from the histological examinations of Fraenkel, it appears that in all cases of swelling of the cavernous tissues, there is some hyperplasia of the mucous membrane. But Bresgen argues that, normally, there is no cavernous tissue in the nose, but only a venous plexus, which, by the irritation caused through the passage of air, is transformed into a cavernous tissue. The same spongy tissue that is frequently found around the lachrymal canal is held to be abnormal, and due to the propagation of a chronic rhinitis, which leads to swelling, with hyperplasia of the venous plexus.

HICCOUGH CURED BY INDUCED SNEEZING.

Dr. G. A. Gibson, in a paper entitled "A Classical Remedy,"[7] calls attention to the Hippocratic aphorism, "Sneezing occurring after hiccough removes the hiccough," and states that tickling the nostrils in cases of obstinate hiccough has been tested by him with very successful results. Hiccough, he says, as well as sneezing, is one of the specially modified respiratory movements, and it is quite in accordance with what we know of the transferrence of nervous action, that the spasmodic contractions of the diaphragm should cease on the induction of the explosive expirations which constitute the facts of sneezing. But it is not necessary, according to Dr. Gibson, that the stimulus applied to the nose be followed by sneezing; the application of a gentle irritant to the nasal mucous membrane may be quite enough to put a stop to the hiccough, by diverting the nervous energy into other channels, although it may not be of sufficient power to induce sneezing.

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Clinical Memoranda.

"RHEUMATISMAL NODULES."

BY F. E. PORTER, M.D., OF AUBURNDALE.

A paragraph in the *Medical Record* of June 5th, calls attention to "Rheumatismal Nodules" as exhibited in a hospital patient. The case is so similar to one that has just passed from my attention, being the first of the kind ever seen by me, I venture to call attention to it through the Journal.

On the evening of May 29th, Mrs. J. came to my office to say she thought her maid had the "hives." The back of her hand was swelled and bunches appeared both there and down her right leg. She was also somewhat stiff, and complained of her right knee. On the 31st, the trouble not getting better, but the patient growing stiffer in several joints, I was asked to see her. I found she had had the prodroma of acute disease. Her pulse and temperature were above normal, the hand and wrist were puffed, while irregular nodules, hard and somewhat tender, presented themselves. The metacarpo-phalangeal joint of the middle finger was the centre of tenderness. The knee was also swollen, while down the leg were nodules from the size of a split-pea to that of a hazel-nut. The left elbow had also begun to be tender. I at once pronounced it rheumatism, yet had misgivings about the nodular phase of the case. The salicylates were prescribed, and in two days the patient was about the house, with only an occasional pain in a joint. The nodules had disappeared and the puffiness of joints also. The salicylates were continued in diminishing doses three days longer.

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[5] Deut. Med. Wochenschr., March 11, 1886.

[6] Lancet, November, 14, 1885.

[7] Edinburgh Medical Journal, April, 1886.

In the limited round of complications of rheumatism at hand, I find nothing corresponding to this condition. Abscesses, purpura hæmorrhages, urticaria and scrofulous swelling would, perhaps, be thought of. As abscesses are a later development in rheumatism, it might be questioned whether the above conditions untreated would result in abscesses, but they certainly did not present the appearance of commencing abscesses. Purpura does not present the swelling of upper joints, though swelling of the lower extremities takes place; but such swellings are not attended with fever, are not inflammatory; and neither abscess nor purpura is attended by the sweating present in rheumatism. The wheals of urticaria have a white centre with red areola, are accompanied by intense itching and burning; they are raised, while these nodules, though raised, invaded the subcutaneous cellular tissue. In scrofula other characteristic signs would be found, and it is also chronic in its course.

The few lines in the *Medical Record* give a picture of the nodules. . . . "Nodosities in the subcutaneous cellular tissue and certain muscles which closely resembled gummy tumors. They had grown very rapidly until they were as large as hazel-nuts, at which size they remained stationary. . . . the tumors were to be distinguished from those of syphilitic origin by their rapid growth, the pain attending their evolution, and the ecchymotic tinge of the skin covering them." These particulars make the two cases alike, it seems to me.

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Reports of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.[1]

THURSDAY.—AFTERNOON SESSION.

The first business of the afternoon session was the discussion of the question,

DOES THE PRESENT STATE OF KNOWLEDGE JUSTIFY A CLINICAL AND PATHOLOGICAL CORRELATION OF RHEUMATISM, GOUT, DIABETES, AND CHRONIC BRIGHT'S DISEASE?

Referee, Dr. James Tyson, of Philadelphia. Coreferee, Dr. William H. Draper, of New York.

Dr. Tyson, the referee, began by defining the diseases included in the subject. The usual definitions of rheumatism and gout as general diseases with local expressions were given. Diabetes was subdivided into two varieties, the milder and the more severe form. The former consists essentially in a defect in that particular metabolic office of the liver, by which glucose is converted into glycogen. It is due to over-stimulation of the liver cells by the excess of absorbed glucose arising from the habitual over-use of saccharine and starchy foods. The more severe form of diabetes may be termed neurogenous, and is caused by some direct or reflex influence on the vaso-motor centre, whence arises a hyperæmia and accelerated circulation through the liver, as the result of which the glucose, absorbed during intestinal digestion, is carried too rapidly through the liver to permit its conversion into glycogen. To this is added, in advanced stages, glycogen resulting from the splitting up of the products of digestion of nitrogenous foods.

Taking up the discussion, first as to rheumatism and gout, the referee called attention first to the difference in the morbid anatomy of the two diseases, in the absence of anything specific or peculiar in the changes in the joints in rheumatism, while in gout there is the peculiar deposit of sodium urate in the joints or their vicinity. The composition of the blood is definitely altered in gout by the almost constant presence of an excess of uric acid in combination with sodium, whereas no change of corresponding importance is found in the blood of rheumatism. Heredity plays a much more important rôle in gout than in rheumatism, reaching in the former, according to various observers fifty to one hundred per cent., while in rheumatism the maximum claimed is thirty-four per cent. The early age at which rheumatism presents itself as compared with gout implies a difference in the etiology, as does also the absence of renal and the presence of cardiac complications. Alcoholic liquors and over-indulgence of food have no influence in the causation of articular rheumatism. In gout they are all-powerful.

The exciting cause of rheumatism is always cold, dampness, or both. The cause of the explosion or the acute attack of gout, is the cause of the disease itself, and is due either to the over-accumulation of uric acid in the blood, whether as the result of increased formation or defective elimination, or to diminished power of resistance of the organism through some accidental cause, atmospheric or physical.

Moreover, except in the case of salicylic acid which is admitted by all to be useful in both affections, Dr. Tyson thought that the treatment required by the two diseases was different. The treatment of gout is eliminative, that of rheumatism is restorative. It is true salycilic acid is efficient in both diseases, but this is not sufficient proof that they are the result of the same cause, so long as that cause is so easily demonstrated in one and not in the other. Nor is the case strengthened by the theoretical reasoning which so well explains the action of salicylic acid that it prevents the formation of uric acid in the blood by seizing upon the glycocine out of which uric acid is formed.

The relation of gout to that form of chronic renal disease known as chronic interstitial nephritis is a true corrrelation, since there is every reason to believe that the cause of gout is one of the causes of this form of chronic renal disease, so common in gout, and the evidence of renal disease is often found long before the gout manifests itself.

To estimate the relation between gout and diabetes it is necessary to remember that there are two forms referred to. With neither of them is there any pathological relation. Between gout and the first or mild form of diabetes there is a clinical correlation, although many of the facts on which it has been founded, the referee believed to be erroneous. Thus although uric acid sediments are quite common in diabetes, yet careful quantitative analysis showed no increase in the amount of uric acid excreted. The uric acid sediments must therefore be the result of the excessive acidity so characteristic of diabetic urines, due to the fermentative processes.

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[1] Continued from page 598.

Again, it is said the lithæmic urines often contain sugar. This he was confident was much rarer than is commonly supposed, because of the fact that uric acid reduces the salts of copper and this reaction is mistaken for that of sugar. He thought that the inability of gouty persons to digest saccharine and starchy elements of food should not be regarded as a proof of clinical correlation, because it simply indicates a feeble converting power of the intestinal digestive fluids over the carbo-hydrates. In diabetes there is no defect of this kind. The carbo-hydrates are converted into glucose with facility. The trouble is with the liver, which is not able to reconvert the glucose into glycogen.

Between gout and the more severe form of diabetes, which is the result of disease at a point distant from the liver, there is no correlation either clinical or pathological.

Between diabetes and Bright's disease there is a relation of this kind. The effect of the circulation through the kidneys, surcharged with sugar alone, or with sugar, acetone and diacetic acid, is to irritate the renal cells and produce a degree of chronic parenchymatous nephritis instead of the interstitial nephritis which is so closely correlative with gout. From recent observations there is reason to believe that these changes take place in the kidney much earlier than used to be supposed, and that albuminuria appears correspondingly early, either coincidently or in alternation with glycosuria. The difference between the relation of gout to Bright's disease and of the more severe or neurogenous diabetes, is that in the former that which causes the gout, causes the Bright's disease, so that there is a true correlation, whereas in neurogenous diabetes, it is a result of the diabetes which causes the renal complications.

As to diabetes and rheumatism, the idea that these two diseases are closely correlated, has apparently received substantial support from the results of treatment of the two diseases by salicylic acid. Occasional reports as to the efficiency of salicylic acid in diabetes have acquired additional impulse from views which have recently been promulgated by Latham, who concludes on clinical grounds that there are two forms of diabetes. One due to neurotic disturbances of the function of the liver and the other to neurotic disturbances of the functions of muscle. As the result of the latter, glucose is formed in the muscles and passes thence into the circulation. This latter is so closely related to rheumatism that one degree of oxidation developes the materies morbi of rheumatism, and another developes glucose. Having shown also by the same reasoning that the administration of salicylic acid arrests the formation of uric acid, lactic acid and glucose, he thus explains the usefulness of salicylic acid in some forms of diabetes, and says that in doses of from ten to twenty grains three times a day, he has seen it produce marked improvement. More recently, Holden reports the successful treatment of six cases of diabetes, with salicylic acid.

The referee, whose experience with salicylic acid in the treatment of diabetes had not heretofore furnished satisfactory results, had not yet had the opportunity of applying this more recent principle, that it is in the cases with rheumatic pains that it is especially serviceable. He held that until more cases were collected in which this principle of treatment was applied, the question was not ripe for decision. In a single case which had come under his observation, in which it was claimed that salicylic acid had been very useful, the sugar had been found increased rather than diminished.

DR. WILLIAM H. DRAPER, the co-referee, said it is fair to presume that this question would not have been propounded if clinical experience did not suggest it. It certainly is not yet justified by the present state of knowledge in pathology. Although the question is premature from a pathological point of view, it can hardly be regarded as without interest and possibly importance from a clinical standpoint. It is from this latter aspect that my remarks shall be made.

By gout is meant, I take it for granted, not simply the arthritic malady, but a diathesis which manifests itself through more or less well-defined derangements of nutrition, which give rise to a variety of secondary cerebro-spinal irritations, and provoke definite structural changes in the bloodvessels, in the connective tissue of the parenchymatous organs, and in the nervous system. By diabetes we are to understand, I suppose, the more common and lesser form of that disease. Rheumatism is so vague in its ordinary application that it is not easy to comprehend exactly what is meant in this question. It is presumed that it covers acute articular rheumatism and the sub-acute forms in which the differential diagnosis from sub-acute gout is so difficult. The form of Bright's disease is probably the form of chronic diffuse nephritis, which is characterized by extreme sclerotic changes in the connective tissues of the kidneys, and in the arteries, and by cardiac hypertrophy.

I think that the experience of most clinical observers will justify the statement that gout, rheumatism, diabetes, and chronic Bright's disease are frequently associated, sometimes in the same individual history, more frequently in the histories of families. The association of gout and even chronic rheumatism with chronic Bright's disease is very common in the individual, while the association of gout with diabetes, or of diabetes with granular kidney, is not common. Chronic rheumatism may exist without even being complicated with gout, or diabetes, or chronic nephritis, but in families where the association of morbid phenomena can be traced, I think that it will be acknowledged that these diseases are frequently found in more or less marked alliance. Granting this association, are there any facts to show their co-relation? Are they reciprocal, interchangeable affections, transmutations of the same morbid process, and therefore recognizing a common determining cause, as yet unknown?

The first fact that suggests the idea that they are cognate forms is that of heredity. First, as to gout and diabetes, glycosuria often recognizes a gouty ancestry, the term glycosuria being used to express the lighter form of the disease. In many cases the grave form of diabetes is not traceable to a gouty origin. The speaker had seen many cases leading him to believe that, excluding the cases of diabetes of nervous origin, careful investigation of the family history would reveal the presence of gout in the majority of cases. Second, concerning gout and rheumatism, the fact of heredity, as establishing a connecting link, is not so evident, but it has been pointed out that articular rheumatism frequently occurs in the children of gouty parents. The influence of heredity in determining the association of the sub-acute form of rheumatism and gout cannot be positively decided. Third, as to the frequent manifestation of heredity in the history of gout and interstitial nephritis, I think that there can be no question. This form of Bright's disease not only occurs as a complication of inherited articular gout, but is often observed in the members of gouty families who have themselves never exhibited any articular lesions. This is especially seen in the female line.

I wish next to call attention to the association with these diseases of certain common derangements of nutrition. While it cannot be claimed that organic chemistry has as yet done more than formulate the general principles that gout and diabetes are associated with the signs of incomplete metamorphosis of the food elements, it is daily making progress in solving the complex processes by which each atom of carbonaceous and nitrogenous food is finally resolved into carbonic acid and urea. In these two diseases there is a diminished capacity for converting the carbohydrates. The occurrence of sugar in the urine of gouty persons, and of lithic acid deposits in the urine of diabetics, is not infrequent.

Gout, diabetes, and rheumatism, in their treatment by medicines, exhibit reciprocal relations. In these various affections, the alkaline treatment is used with benefit. It is admitted that the value of the alkaline treatment in acute rheumatism is not sufficiently well established to justify the proposition that the disease is on that ground a correlation of gout. The value of salicyl compounds in the treatment of gout, diabetes, and rheumatism suggests the idea that these diseases have something in common, either casual or concomitant, which the preparations of salicin antagonize.

The clinical observations which support the idea of a correlation of gout, diabetes, rheumatism, and certain definite structural changes in the kidneys and blood-vessels, namely the frequency of hereditary transmission in the same family, and their occasional co existence in the same individual, the common idiosyncrasy of a diminished capacity for the complete conversion of the carbo-hydrates, and finally, the common reactions which they exhibit to the same remedies, are, of course, open to criticism, but they nevertheless excite a reasonable suspicion that these diseases have at least certain common features which in all probability proceed from similar derangements of physiological functions. This much, it seems to me, may be acknowledged even in the absence of any adequate pathological evidence that these diseases are attended with any common structural lesions or specific functional disturbances.

There are many unsolved problems in the pathology of gout, diabetes and rheumatism, and the working hypothesis of the clinical observers in this field are being constantly unsettled by the revelation of the physiological laboratory. It would seem, therefore, that the only conclusion we are at present justified in making as to the correlation of the diseases in question is this: clinically, they are often associated by hereditary transmission, by co-existence and alternation in the same individual, by presenting similar idiosyncracies in regard to the power of converting the carbohydrates, and by being more or less successfully controlled by the same remedies. Pathologically, they must still be regarded in the absence of any demonstrable common determining cause, either functional or structural, as more or less distinct and specific diseases.

DISCUSSION.

Dr. J. T. Dana, Portland, Me. It seems to me that this discussion might properly have been extended a little so as to include rheumatoid arthritis. In this affection I think that the differentiation of it from the other affections has been well made out. I would ask if this disease does not require comparison with the others considered?

Dr. E. G. Janeway, New York. In taking up the question of history we have to be careful in reading English writers. The English people all through are gouty. Any rheumatic tendency described in such individuals will not hold in other countries. We do not, I think, find the same correlation in America. A point which has struck me strongly is the fact that while the Hebrew race is very subject to diabetes, members of this race do not have gout and rheumatism in the same proportion.

With reference to the presence of albumen in the urine of diabetes, I have found that in many cases this was to be explained by the irritation of the urinary passages by the saccharine urine.

Dr. A. L. Loomis, New York. From a pathological standpoint we cannot at present regard these diseases as directly, at least, correlated, but from a clinical standpoint there are many things which make it difficult for us to divest ourselves of the idea that there is a correlation in rheumatism, gout, diabetes and chronic Bright's disease. These clinical phenomena are often so striking that one comes almost to regard these diseases as different manifestations of the same causes.

I should like to relate briefly the histories of some cases illustrating this point. The first is the case of a man of sixty-three, who at the age of forty-two, had his first attack of gout. These attacks recurred until the age of sixty. The urine was frequently examined during this period and with negative results, presenting only a high specific gravity and nearly always an abundance of urates. In his sixtieth year, after a prolonged attack of gout, sugar appeared in the urine. From that time to the present he has not had an attack of gout. Sugar was presented until six months ago when it disappeared, and now I find albumen. This change could not be accounted for by changes in habits or in diet. Two analogous cases were also reported. These cases are not unusual. It seems to me that they compel us to take the position that while in their clinical phenomena they differ very markedly, still in their origin and development they seem to have many things in common; in other words, their correlation seems to be complete.

Dr. H. C. Wood, Philadelphia. My experience has led me to conclude that gout and rheumatism were the same thing. I am utterly unable to make the diagnosis between them. In a family of which I am cognizant, the great grandfather was an Englishman and died of gout. The grand-parents seemed to have escaped, but the uncles and aunts almost without exception have died of gout. One brother has suffered with attacks of sub-acute rheumatism since the age of ten. Another brother has had six attacks of the inflammatory rheumatism in as many years. Another brother went to the age of thirty years without any marked manifestation, when he had a severe attack of gout. Another brother has become almost a permanent cripple from inflammation of the muscles. If all this rheumatism and gout does not date back to one origin, it is to me extraordinary.

Dr. William Pepper, Philadelphia. The clinical evidence of the correlation of these diseases seems to me to be so great that we cannot safely disregard it. In considering such common diseases, we must of course exclude mere coincidence. Dr. Draper has done well in calling attention to gout as a consitutional affection. If we confined ourselves to the mere arthritic phenomena we should exclude the great proportion of cases of gout as we meet with it in this country, which are perhaps as well included under the head of lithæmia as anything else. In regard to Dr. Janeway's remarks in regard to the frequency of diabetes in the Jewish race, I can agree, but I have also found such persons very subject to lithæmia. In all these cases the importance which a diminution of vital resistance of any particular part plays in the development of the local manifestation, must be remembered.

Dr. Dana has referred to rheumatoid arthritis. This appears to be the form in which the nervous element is most marked. All have seen cases in which rheumatoid arthritis has been preceded by influences acting directly upon the nervous system. When we consider the immense amount of nerve force required in coördinating the digestive processes of stomach, liver and kidney and in superintending the metabolism in the tissues, it seems clear that a depressed condition of the nervous system must play a large part in the production of these affections. In studying cases of these diseases we are usually able to obtain a history of some cause of depression of the nervous system, and this affords a powerful argument in favor of the correlation between these diseases.

In regard to treatment I could give evidence in favor of the salicylic acid treatment in certain groups of diabetics. These have been cases of the milder type associated with rheumatoid and arthritic phenomena. In one case the diabetes has been apparently cured, the patient having returned to the use of carbohydrates. In this case albumen still persists.

The explanation of Dr. Janeway as to the cause of the albuminuria, I think, does not hold good in many of these cases. The disappearance of the sugar is not always accompanied by a corresponding decrease in the quantity of albumen.

Dr. A. Jacobi, New York. I believe that the papers read have said all that is, known on this subject. There is one form of rheumatism not so well known as the forms described, that is, the rheumatismus nodosus, sometimes seen in young subjects. This nodosus form of rheumatism shows itself by the appearance of small lumps varying from half a dozen to several dozen, appearing not infrequently about the tendons of the fingers. I have seen them about the fascia, particularly of the head. Examination of these lumps show them to be composed of hypertrophied connective tissue.

In regard to the connection between diabetes and gout there are several forms of diabetes. The form particularly connected with gout is that due to disturbances of the nutritive processes — particularly that of the liver. This is the form in which the salicylates do good. Its action has seemed to me to be due to the influence of this drug over the liver in increasing the quantity of bile and in liquefying it. It is therefore a powerful agent in diminishing the tendency to the formation of gall stones. The forms of glucosuria which come and go are usually benefited by salicylate of sodium. This form of diabetes is generally found in anæmic persons, often very fat, and not infrequently among women of the Jewish race.

In reference to Bright's disease. This is quite common at the age of forty or fifty years when atheroma of the small arteries appear. At that time, gout is also common, and the co-existence of the two does not necessarily indicate a common causation.

Dr. William H. Draper, New York. In the cases of rheumatoid arthritis where a reliable history could be obtained, I have as a rule found evidences of a gouty origin. I refer to gout in its larger significance. In regard to gout, I may say that I am strongly inclined to believe that the presence of uric acid is only an epi-phenomenon, and that its presence in the joints is not absolutely essential to the occurrence of other true gouty lesions.

In the diabetes of Jews, I have seen the same association of lithæmic conditions as in other races.

I agree with Dr. Wood in regard to the difficulties of diagnosis. The practitioner can not always satisfy himself whether he is dealing with gout or rheumatism.

As I said in my address, the correlation of these diseases is to be made only from a clinical stand-point and none can fail to recognize the frequent association of these diseases. Whether or not there is at the basis of all of them a similar pathological process is a question which has yet to be determined by pathological chemistry.

(To be continued.)

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, May 20, 1886.

Dr. Edward G. Janeway read a memorial of

THE LATE GASPAR GRISWOLD, M.D.,

and afterwards a paper on

THE DIAGNOSIS OF DISEASES OF THE HEART.

His object, he said, was to call attention to certain special points involved in more or less obscurity, and to some in regard to which there are differences of opinion. He first spoke of alterations in the position of the heart, particularly the lowering of the organ in consequence of abnormalities in the thoracic aorta, the possibility of which was to be borne in mind by all those who had to deal with cardiac affections. Again, the heart might be pushed upward and forward in cases of spinal curvature, and of enlargement of the spleen, and when this was the case, it was necessary to be on one's guard lest the condition should be mistaken for aneurism of the aorta. In men, the nipple was frequently referred to in the books as a guide for the position of the heart, but on account of the varying location of the nipple in different individuals, this was unreliable, and the centre of the sternum was a much more desirable point of reference.

The cardiac impulse was a matter of considerable interest, and it was not infrequently the case that in those who had been resting for some time in a recumbent position, there was no visible impulse, while sometimes none could be detected even on palpation. Yet such a condition of affairs might be perfectly consistent with a normal heart, and indicate nothing more than a slight lack of cardiac force.

In speaking of auscultation of the heart, Dr. Janeway remarked that one was apt to consider the heart more or less in a dangerous condition if a murmur was present, but that it was normal if no murmur could be discovered. But it was always highly important to pay attention to the heart-sounds. In anæmia all would admit that a murmur might appear at the base, or even at the apex. At times a soft murmur could be heard at the second interspace, with normal closure of the valves. Sometimes this was due to anæmia, but not always. If anæmia were not present the cause was to be looked for in the reduction of the calibre of the pulmonary artery from some pressure upon the vessel. Some murmurs varied with the respiration, and the possible occurrence of a cardiac respiratory murmur was not to be overlooked. In certain individuals, short diaphragmatic contractions were produced when they were told to hold the breath.

In order to determine the true character of a murmur it was necessary that all the circumstances attending it should be taken into consideration, and in many instances a number of examinations, extending over a considerable period of time, were required for this purpose. Murmurs were sometimes liable to be mistaken for each other, as, for instance, a præsystolic mitral for an aortic regurgitant. In mitral stenosis there were also great divergencies as regards the character of the murmur, and it was possible for this condition to exist without any murmur at all, or with a murmur which was intermittingly present. In general, it might be said that the loudness or softness of a cardiac murmur was no index of the gravity or insignificance of the diseased condition present.

In speaking of the subject of embolism, he said that a thrombosis might occupy such a position as to be out of the way of the blood-current, and thus give rise to no murmur whatever. In illustration he related the case of a young woman twenty-one years of age in the syphilitic wards of Charity Hospital, Blackwell's Island, who, while engaged in combing her hair one day, became suddenly affected with hemiplegia, although she did not lose consciousness. A careful examination revealed nothing in the slightest degree abnormal about the heart.

Pulsation of the liver might cause difficulty in making a diagnosis between aneurism of the aorta and disease of the heart. The liver might rise and fall simply as the result of pressure from an enlarged heart, or it might have a true expansile pulsation itself. The latter, when present, could be detected by placing the fingers of one hand under the lower border of the liver, and those of the other hand over the epigastrium. In this way it could be readily appreciated that there was a true enlargement of the organ, with a resulting lowering of its lower border. In long-continued mitral stenosis, with hypertrophy and dilatation of the right heart, there might be pulsation behind the liver.

The diagnosis of ulcerative endocarditis was often very difficult, but in other cases it was quite easy. It was due to septic influences introduced from without, and the endocarditis was frequently mistaken for a manifestation of some one of the ordinary infectious diseases, such as typhus, typhoid, small-pox, etc. One case of ulcerative endocarditis that he had met with resembled acute yellow atrophy of the liver, and the cause of the hepatic complication was an embolus that packed the hepatic artery.

The absolute diagnosis of certain conditions of the heart was generally impossible, as, for instance, the existence in it of new growths, such as cancer, tubercle, etc. If, however, there are secondary deposits of such new growths in other portions of the body, and the heart was found enlarged, without the presence of any other condition to account for the enlargement, such a diagnosis would be rendered probable.

In conclusion, he said that syphilis was a frequent cause of valvular disease of the heart, and a careful examination of the subject would show that it is responsible for many of the cases which are generally supposed to be of idiopathic origin.

Dr. E. Darwin Hudson, Jr., said that the various points touched upon by Dr. Janeway in his paper were of special value as coming from one who had had opportunities enjoyed by scarcely any one else in this or any other country for following out cases observed during life to the autopsy-room. He had nothing to criticise in the remarks which had been made, and would simply refer to a few points that had occurred to him in connection with them.

The study of the location of the apex was a matter of very considerable importance. This could ordinarily be determined by palpation, but if this was not sufficient, auscultation could be resorted to for the purpose. The location of the apex was of no little diagnostic value. For instance, if the apex was in its normal position, it was practically impossible that there should be either hypertrophy or atrophy of the heart, and hence any alteration in the size of the organ might be excluded. If the heart was shifted out of its normal position, murmurs at the base and apex might have an entirely different significance from what they would have under ordinary circumstances.

In the study of mitral murmurs it was highly important to consider the composite nature of the first sound of the heart, as so well described by Walshe. In a large number of cases he had found that murmurs which had all the characteristics of mitral regurgitation or mitral stenosis were not permanent. Although he was perfectly satisfied as to the occasional existence of the mitral præsystolic murmur, he did not hesitate to say that he was somewhat sceptical as to its frequency. There were a great many murmurs which simulate the true mitral systolic murmur, and time, rest, and the use of cardiac sedatives were not infrequently required to enable one to determine positively the condition present in any given case. At the present time he had under observation a boy who had a cardiac murmur which was most distinctly heard at the apex, and could also be heard behind; but was not transmitted around the walls of the chest. Hence, this sign, which was often spoken of in the books, was fallacious.

Dr. Heinemann said that it was an important dictum for those engaged in the study of diseases of the heart to remember, that it is not the apex-beat, alone, not the size of the heart alone, and not the murmur that might be present, alone, but all these combined, together with the examination of the pulsations in the neck and the clinical history of the case, which must be taken into consideration in making a diagnosis. Before arriving at a definite conclusion in obscure cases, we could help ourselves by going over the entire case, with the clinical history.

As to the matter of thrill, he had studied this sign carefully for several years in the patients met with at Dr. Alonzo Clark's clinic, and he had found that there might be a very loud and intense murmur, and yet no thrill. There was, therefore, no relation between the presence of the thrill and the intensity of the murmur. As regards time, the præsystolic thrill was not always to be relied upon. It was only one element in the diagnosis, and one that was uncertain.

If three or more murmurs were present in a case, it was impossible to say upon a single examination what the exact condition was at the aortic and mitral orifices. This could only be determined by repeated examinations.

Dr. A. L. Loomis remarked that Dr. Janeway had called attention to some very difficult questions. In the first place, he had spoken of displacements of the normal heart as a result of changes in the aorta. At one time he had had the opportunity of examining the hearts of a large number of healthy persons, and his experience thus acquired, had shown him that the variations as regards the position of the apex-beat were much greater than the books would lead us to suppose. Downward displacement of the heart was the one which struck him as the most common, when no cardiac disease was present. If the apex was below the normal limit, while the heart was normal in other respects. it would not have any especial pathological significance.

As regards the force of the apex-beat, there could be no doubt that, as Dr. Janeway had said, a decided settling back of the organ was liable to occur as a result of the horizontal position. In many healthy individuals it was impossible to make anything out by means of palpation with the patient in the ordinary position. In order to facilitate this he should be requested to lean forward; but even this sometimes failed in eliciting the desired information.

Long confinement in bed, he thought, interfered with the nutrition of the cardiac walls. In heart troubles it was not the murmur and the changes of position which were of so much consequence as the integrity of the heart, and of the rythm.

The more he studied the heart, the more convinced did he become that cardiac murmurs were not of as much significance as was apt to be supposed. But when, with the murmur, there were evidences of changes in the walls of the heart, as well as changes in the rythm, these gave us more information than the fact and characteristics of the murmur. Thrill, he said, was generally present in præsystolic and mitral obstructive murmurs; but this was not the only thrill. In dilatation of the right heart there might be thrill, as well as a murmur.

The diagnosis between præsystolic and aortic regurgital murmurs was an old question. Many years ago he had seen in an autopsy a case in which the latter murmur was believed to be the one present during life; and it was found that there was stenosis of the mitral orifice. Since then, he said, there had never been to him any question about the præsystolic murmur and the conditions which gave rise to it. It was not of serious import, unless the result of endocarditis. The two murmurs were in fact, however, so different, that there need be little difficulty about the diagnosis at the present day.

In order to have hepatic expansive pulsation it was necessary, in his experience, to have very free tricuspid regurgitation.

Dr. Loomis then went on to say that the medical mind ought to be freed from the trammels of these murmurs. It was the dilatation of cavities that caused the trouble; but if there was perfect compensation, there would be no difficulty. Sometimes the dilatation of the heart cavities was quite sudden, as in one case referred to by Dr. Janeway, in which this sudden dilatation was the direct result of unusual physical exercise. In conclusion, he said that he had not understood whether Dr. Janeway considered ulcerative endocarditis a primary or a secondary affection; and there was considerable diversity of opinion as regards this point.

Dr. Janeway replied that he had seen two cases recently in which there was cystitis, with septic organisms, and the ulcerative endocarditis present was clearly secondary. He had also seen many other similar instances, and one was a case of pyæmic pneumonia, in which the presence of the pneumo-coccus of Friedländer was satisfactorily demonstrated. But there were undoubtedly other cases, in which the ulcerative endocarditis was a primary process. Here, nothing had preceded the endocarditis, and yet numerous vegetations were found, associated with abundant micro-organisms. The most careful investigation failed to show that the patients had been exposed to typhus, or other form of infectious disease, and they were not followed by cases of such disease in other individuals. It was therefore highly probable that the ulcerative endocarditis was primary. Then, again, there was a third class of cases in which it was impossible to say whether the endocarditis was primary or secondary, and in illustration he mentioned the case of a boy suffering from osteo-myelitis, as well as endocarditis, which was of this character.

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NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.

Special Meeting, June 15, 1886. Afternoon session held at the rooms of the Young Men's Christian Association, Rondout-on-the-Hudson, the President, J. G. Porteous, of Poughkeepsie, in the Chair.

Dr. W. B. Eager, of Middletown, Orange County, read a paper entitled

INQUIRY AS TO THE CAUSE OF DEATH FOLLOWING CONFINEMENT ON THE SIXTH DAY, WITH SINGULAR NERVOUS SYMPTOMS.

The patient, then about forty-two years of age, was prematurely delivered in February, 1883, of her seventh child, at eight and a half months, greatly exhausted from rapid loss of blood caused by partial placenta prævia. The child, a well-developed male, was born dead. Her recovery, though somewhat protracted, was without special incident, except that at intervals of from one to three or four days, during the first three weeks of convalescence, she had distressing pains in the back of the head and neck, the attacks lasting from an hour or two to a whole day.

She subsequently became pregnant again, and on Sunday, February 1st, 1885, she was delivered of another male child. born dead, under similar circumstances, the operation of turning being resorted to in this instance, in order to avoid the extreme prostration from loss of blood, which occurred at her previous confinement. For a short time after labor she did remarkably well, but within thirty-six hours, she was seized with an intense, burning pain in the back of the head and neck, which continued with varying degrees of severity during the remaining conscious moments of her life. The patient said it was "as though some one had thrust a red-hot iron through her neck, from her shoulders up into her head; and that she thought her head would split open, and that she should go into spasms." On Tuesday, she began to complain of paroxysms of pain at different points in the abdomen, referred principally to the region of the bladder, extending to either limb, and alternating without any regularity. These paroxysms came on, at first, at comparatively rare intervals, but afterwards became more frequent, as well as more severe. There was, however, no unusual tenderness upon pressure over the abdomen, and none whatever along the seat of pain in the limbs. During the night of Thursday, spots of a purplish hue and various sizes appeared at different points upon the lower extremities, and on Friday, became darker in color.

The lochial discharge continued normal in quantity and character until Friday, when it became slightly offensive and diminished in quantity. There was no tympanites, and the urine and passages were normal. From midnight on Friday, however, all evacuations passed involuntarily. She took nourishment freely until 11 A. M., Thursday, when vomiting occurred for the first time. From this time on she vomited at intervals, the matter ejected being of a greenish color, viscid, and occasionally showing streaks of blood. During Friday night and on Saturday, the vomited matter became of a deep brown color, though still containing the streaks of fresh blood. The temperature never went beyond 100° until Thursday evening, when it reached 102.25°, but on Friday it was found to be 99.5°. From Monday evening to Wednesday, at midnight, the pulse ranged between 90 and 120, after which time it became more rapid, until on Saturday it rose to 150 and 160. Until noon on Friday, she was generally perfectly conscious, but from then until her death, at 8.30 P. M., on Saturday, she took no notice of anything, though, when roused, would swallow liquids placed to her mouth, and until within a few hours of her death, give short, but intelligent answers to questions asked her.

At first, morphia was given freely, the patient taking about one grain every three hours for forty hours, but it did not control the pain, and afterwards, chloral and the bromides, in increasing doses, were substituted for it. At no time did she get complete relief, except when under the influence of inhalations of chloroform, by which sleep for periods varying from twenty minutes to an hour and a half was secured. During the time from Friday noon, a peculiar moan, resembling a suppressed scream, was the signal for its administration. At no time was there any convulsive action, nor paralysis of any kind, with the exception of that of the sphincters near the close of life. No autopsy was permitted. Dr. Eager said that he had never been able to satisfactorily determine the pathological condition giving rise to the phenomena presented in this case, and he hoped that some of the Fellows of the Association would be able to throw some light upon the matter.

Dr. William Govan, of Stony Point, Rockland County, suggested that some of the symptoms resembled those sometimes seen in septicæmia.

Dr. Eager replied that septicæmia had naturally occurred to him, but the case seemed to him to present peculiar characteristics which were not generally met with in this condition.

Dr. Robert Newman, of New York, gave a demonstration of

A NEW INSTRUMENT FOR GALVANO-CAUTERY IN DISEASES OF THE PROSTATE, BLADDER, AND URETHRA.

He said that at the annual meeting of the Branch Association in October last, he had stated that he had in process of construction an entirely new galvano-cautery instrument, especially adapted for the treatment of enlarged prostate, and he was now prepared to present it for examination.

The galvano-cautery sound is an instrument in the shape of a catheter, of smooth, polished metal, and having a short curve. At the end of its convexity is a fenestrum, in which is placed a platinum wire to be heated. This wire may be shaped differently; either straight, curved, or serpentine, in order to get more or less surface cautery. The other end of the instrument is straight, and forms the handle, and from this end emerge two wires, the heat conductors, each of which is connected by binding-screws to electrode wires, which go respectively to the positive and negative pole of the battery. The current-breaker is attached to one pole at the handle, and the instant this is touched, the heat must be of a high red color, just short of white heat. Any good galvano-cautery battery may be used with the instrument (Dr. Newman prefers the Dawson battery), but it is necessary to so regulate the battery that it yields the exact electrical potential to be used for the operation contemplated.

This instrument, Dr. Newman said, was not intended to produce coagulation or destruction of tissue. It could be applied to the cheek of a young lady without causing a scar, and he had already used it with great success as a surface cautery in a number of cases of enlarged tonsils in children. Its action is analogous to that of nitrate of silver, the intensity of which depends on the strength of the solution used. It can be controlled perfectly, and in experimenting with the instrument on mucous linings, it is found that a galvano-caustic application of the same power acts differently, according to the length of time of contact with the tissues.

As regards the enlarged prostate, the cure depends on the size of the hypertrophied organ. If it is very large, the process will be a slow one. There is not the slightest pain connected with the application of the galvano-cautery, so that it can be successfully used in cases of enlarged tonsils, even in very young children. Among the other conditions in which it can be applied with advantage, are inflamed granulations of the urethra, giving rise to a slight gleety discharge, and villous tumors at the neck of the bladder. In one case of the latter character treated by Dr. Newman, in which there was bloody urine, the hæmorrhage ceased entirely after one application. He stated, in conclusion, that he had purposely omitted all statistics or narration of cases on this occasion, as his purpose was simply to exhibit the instrument and describe its mode of action.

Dr. J. W. S. Gouley, of New York, referred to supramontanal hypertrophy of the prostate, and said that, as he understood the speaker, the object of this galvano-cautery was either to burn a hole through the organ, or, by using a mild current, to so modify its nutrition, as to bring about a "cure" of the enlarged prostate.

Dr. Newman said that he ought not, perhaps, to have used the word cure in this connection, as, at the present time, he was not prepared to give the final results of any cases. The object, however, was certainly not to "burn a hole" through the enlarged prostate.

Dr. Gouley went on to say that he could not understand how this method of treatment was going to produce any beneficial results in supramontanal hypertrophy, as it was called, for he knew of nothing whatever which could modify this condition. It is not a disease which is the result of inflammatory action. The process of enlargement is a very slow one. It seldom begins before the age of fifty-seven or fifty-eight, and sometimes not until sixty-five, while after the beginning of the trouble, patients sometimes do not commence to suffer from retention until five years have elapsed. Instead of a plasmatic deposit in the organ, there is a gradual enlargement of its racemose tissue, a general increase of all its glands, and there is no inflammatory action, except such as results from the death of normal elements of the part, which, as foreign bodies, then become a source of irritation. Hence, the only way to cure the trouble is to bring about atrophy of each little gland, and he did not see how this could possibly be accomplished by the method in question.

The methods of relief which have been used successfully are incision and ablation. Bottini, of Pavia, had used the galvano-cautery to perform prostatotomy, but he failed to see the advantage of using fire. Such tumors are not very vascular, and hence there is but little danger of hæmorrhage. The method now proposed by Dr. Newman is not electrolysis, but cauterization. If the heat is applied for any length of time, it must produce an eschar, and fire will burn, while if it only affects the epithelium superficially, there will be no results. There is no royal road to the relief of enlarged prostate, and, other things being equal, that patient will live the longest who carefully uses his catheter.

As to the use of the instrument in granular urethritis, Dr. Gouley said that he should be very doubtful of good results from the galvano-cautery, even when employed in its mildest form, on account of the great danger of producing a stricture. While he could not give his assent at present to the methods adopted by Dr. Newman, he was, however, open to conviction.

EVENING SESSION, HELD AT THE HOTEL KAATERSKILL, CATSKILL MOUNTAINS.

CONTINUATION OF THE DISCUSSION OF DR. NEWMAN'S GALVANO CAUTERY INSTRUMENT.

Dr. Newman said that he regretted very much that electrolysis and the action of the galvano-cautery should be so generally confounded with each other. Electrolysis was now an established fact. It had been adopted to a large extent all over the world, and a considerable number of autopsies had demonstrated the cure of urethral stricture by this method. The instrument which he now presented was entirely new, and the results accomplished by its employment would be shown later. He has worked for five years to perfect it, and he designed it only for surface cauterization. The galvano-cautery, if used as a knife, does destroy tissue; but it does not necessarily follow that it leaves a cicatrix. It makes an eschar which serves as a protection to the exposed surfaces; but this eschar will finally be thrown off, and the part will heal up entirely. The galvano-cautery fulfils the same purpose as the knife, with these advantages, that it does not produce hæmorrhage and it is not followed by an exposed wound which may be the cause of septicæmia. A perfectly satisfactory instrument for this purpose has not yet been arrived at.

Dr. Gouley inquired what was the intention of his new instrument as employed in enlarged prostate; to which Dr. Newman replied, to relieve pain and make room for the urine to pass, by shrivelling up the parts.

Dr. Gouley denied that pain results directly from enlargement of the prostate; and went on to say that if we wish to shrink up the organ, we must burn it, and that while we were making these applications (a large number of which were necessary) the patient might die. Ordinarily catheterism was sufficient; but when surgical relief was required it was called for very suddenly. In many cases the invaginated catheter of Mercier was of great service. By means of it a false route could be carried out to the bladder, without any hæmorrhage resulting. Or, a piece could be cut out of the prostate with the knife.

Dr. Newman said that the end sought was, first to remove the obstruction, so that the bladder could discharge all the urine, and then to reduce the prostate to its natural size. The theory is, that the cautery acts as an astringent, causing the mucous lining to shrivel up and the glandular tissue to contract. The stimulation gives new life and healthy action, and the operation must be continued until the desired permanent result is accomplished.

Dr. H. Van Hoevenberg, of Kingston, read a

MEDICO-HISTORICAL SKETCH OF THE CITY OF KINGSTON.

The Provincial Convention, which was obliged to leave New York on account of the arrival of the British Army, assembled at the Court House in Kingston, March 6, 1776, and immediately proceeded to organize a form of government for the State. The first constitution of the State of New York was formally adopted here on April 20, and two days later it was read aloud to the people by Robert Berrian, the Secretary of the Convention, standing on a barrel in front of the Court House. On July 11, an election was held, and George Clinton, a native of Ulster County, was chosen Governor and Lieutenant-Governor. Among the persons present at the inauguration of Governor Clinton was Dr. Luke Kiersted, who at that time was a very prominent man in the community.

The result of the action of the Convention at Kingston and the proclamation of Clinton as Governor, was that the British sent a force of about 1,600 men, under General Vaughan, who landed at the mouth of the Rondout Creek, and marched up to Kingston, where they immediately proceeded to plunder and burn the houses and barns of the inhabitants. Most of the able-bodied men of the place were with the Continental Army in the Highlands, and although a detachment was sent North to protect Kingston, it did not arrive until the work of destruction was nearly completed, so that there was no force to offer resistance to the barbarous purpose of the British.

The Ulster County Medical Society was organized in Kingston, July 1, 1806, with Dr. James Oliver as President, and Dr. Luke Kiersted, Vice-president. In looking over the records of the Society, it is found that even in those days the profession was troubled with quacks, and one of the first things that it did was to take action concerning a number of illegal practitioners. At the annual meeting in 1807, it was reported that there were forty-seven physicians practising in the County. At this meeting it was decided to choose some subject for debate at the succeeding one, and that the President should appoint some one to open the discussion. Accordingly, "Fever" was the subject selected, and Dr. Samuel H. Phillips was appointed for the purpose. It is found that as Dr. Phillips did not appear at the two subsequent meetings, he was fined five dollars, and the speaker thought that this might perhaps be a good precedent to follow at the present day under similar circumstances.

The profession in Ulster County has always stood well with the people at large. There are inscribed on its roll the names of some who have been men of marked ability, men who, with the opportunities which would have been afforded by residence in some of the large cities, would have risen to high positions in the ranks of the profession; but they were content to live the life of usefulness that opened before them, doing all the good they could to those around them, often at the cost of hardships and sacrifices, many times getting little, if any pay, and sometimes more curses than thanks as their reward.

The President read the history of a

CASE OF INTUSSUSCEPTION, WITH SPECIMEN.

The patient was a school-boy thirteen years of age, who, in May, 1885, while suffering from an attack of diarrhœa, was suddenly seized with severe pain in the abdomen, accompanied with vomiting and complete cessation of the diarrhœa. Dr. Porteous made the diagnosis of intussusception, and injected two quarts of warm water through a metal tube, after which there was a small dejection, with some blood, the tumor in the abdomen disappeared, and the vomiting soon stopped. The boy remained weak through the summer, with a tendency to pain and soreness of the bowels.

On the 15th of May, 1886, after violent exertion, he was taken with severe vomiting and moderate pain in the abdomen. On the 16th, a cathartic was given, which increased the pain, but did not cause a movement. On the 17th, some small powders of morphia and bismuth partly controlled the vomiting and pain. On the 18th, the abdomen was swollen and tympanitic. No distinct tumor could be felt, but there was some tumefaction, with a feeling of hardness to the left of the umbilicus. Two large injections were given, and after the second there was a moderate passage. After a dose of oil and laudanum, there were several copious evacuations, accompanied with some blood. The vomiting ceased, but some pain and soreness remained. On the 29th of May, the patient had a convulsion, and after an enema of a pint of water, there was a passage accompanied by a piece of intestine measuring over seven inches in length (specimen presented). The boy is now doing well, though he still has a slight tenderness in the left side of the abdomen.

Dr. C. R. Wood, of New York, said that he hoped for several reasons that this case would be published. It was the fashion now to operate, and the medical attendant who did not operate, or send for a surgeon for that purpose, was often looked upon as actually criminal. At the Poughkeepsie meeting of the Fifth Branch, he had read a paper in which he reported a case similar to that of Dr. Porteous, in which recovery also took place, although there was no operation. Such cases ought all to be published. Many lives, he thought, might be saved if this course was more generally adopted. The operation was very apt to be fatal, and yet it was frequently resorted to, even before other measures had been tried.

Dr. Gouley said that he was fully in accord with Dr. Wood, if he understood that gentleman's views aright. "Belly cutting" has got to be such a mania among doctors, that one is tempted to suggest that some of its advocates ought properly to be shut up in a lunatic asylum. More lives are lost than saved by laparotomy. It is a perfectly legitimate operation, which is of great service in its proper place; but its scope and limitations are not so clearly understood as they ought to be. These limitations are, however, sufficiently well defined. It is an undoubted fact that many cases recover spontaneously. In a thesis which he wrote in 1853 he had collected a large number of these, and he remembered that in one instance six feet of intestine, and in another a still longer piece was discharged. Such cases as that presented by the President are not infrequent.

So long as the intestinal canal remains pervious, operative interference should be deferred; but the moment that complete obstruction of the bowel and commencing fæcal intoxication occur, laparotomy should be performed. The operation is much more fatal in the young than in the old, as peritonitis is far more apt to occur in them.

Dr. John Shrady, of New York, related the case of a lady who was kicked in the abdomen. At first the symptoms were like those of peritonitis. Later stercoraceous vomiting set in, and she died at the end of three weeks. The autopsy showed the presence of peritonitis, with six inches of intussuscepted gut. He mentioned this case to show the length of time that the condition might last. In this patient he noticed particularly the patulous condition of the anus.

Dr. Gouley said that he wished to be clearly understood in the point which he made. He believed that laparotomy was often performed after symptoms of peritonitis had set in, and that under these circumstances the operation was worse than useless. If done at all, it should be performed just as soon as symptoms of intestinal obstruction have shown themselves. If the operation has any value whatever, it is at this time. Then, and then only, when intestinal obstruction first takes place, should it be resorted to. Afterwards it will be too late.

OPERATION FOR STONE IN THE BLADDER.

Dr. Gouley then exhibited a series of specimens of large stones taken from the human bladder which he said he wished to serve as a text for some remarks upon what he conceived to be a safe method of ridding the bladder of these dangerous foreign bodies. There were fourteen or fifteen of these specimens, most of which were removed by lithoclastic cystotomy. and Dr. Gouley gave a short history of each case; after which he went on to say that surgeons, like women, will have their fashions. Too often the sentiment entertained is "Perish the patient; but let me operate." The operation of lithotripsy and evacuation at a single sitting, the old operation revived by Bigelow, at first sight seems a very simple and easy one; but the aspiration of calculous detritus, as well as the preliminary operation of crushing, is in reality attended by great danger. He had seen two or three hours occupied in these procedures, and the result was very severe cystitis. This would be the consequence whenever any sitting in lithotripsy was prolonged. The operation, therefore, should be short. Yet one case of Bigelow's had lasted four hours, and during all this time the administration of ether was kept up. Even though the kidneys are diseased, the ether must be gotten rid of through these organs, as well as by way of the lungs and skin; an acute nephritis from this cause, has occasioned many deaths. But if nephritis is not caused, permanent cystitis may result, which will eventually shorten the patient's life.

In many cases, therefore, cystotomy is far preferable to lithotripsy with aspiration. Two grand objects are secured by this procedure, as the patient is relieved, *first*, of prostatic obstruction. and, *second*, of the stone.

Still more recently an ancient operation devised by Franko in the middle of the sixteenth century has been revived, viz.: supra-pubic lithotomy. Within the last eighteen months the operation had undergone what was considered a very important modification, consisting of the elevation of the bladder by means of a rubber bag introduced into the rectum and distended with water. This however, is a delusive thing. The trouble is not want of space, as any good surgeon can remove the stone without difficulty. The real dangers are these: In the first place there is a liability of rupture of the delicate peritoneum during a violent fit of coughing or vomiting. The first case in which the operation was done by a certain advocate of this method in New York was in a child, and it was successful; but it was to be remembered that in children the bladder is in reality an abdominal organ. The second case was that of an adult; and before the surgeon had left the hospital, after removing the stone, it was reported to him that the intestines were protruding through the wound. The operator believed that he had cut the peritoneum; but Dr. Gouley thought that this was probably not the case. The peritoneum was stitched to the abdominal walls, and the patient recovered; but if the accident had occurred at night, the intestine would no doubt have become strangulated, and death from peritonitis have followed.

The second great danger was from extravasation of urine. Dr. Gouley predicted that for ten years the supra-pubic operation would be performed, and that when a sufficient number of deaths had resulted from it, it would be condemned and abandoned.

Surgeons would, therefore, have to come back to lithoclasty, on account of its greater safety. The mortality in general in lithoclastic cystotomy was one death in eight cases, and in Dr. Gouley's hands the proportion was still smaller, one in eleven.

He then referred to epicystotomy for sarcoma or papilloma of the bladder. He had had several cases of the latter, and had operated in two of them; but both the patients died. If he were now called upon to perform this operation upon an otherwise healthy subject, he said he should be inclined to combine the two procedures, the infra-pubic operation for securing drainage, and the supra-pubic for the purpose of seizing and removing the tumor. This is the only condition in which he would admit the propriety of the supra-pubic operation.

Dr. Shrady said that he should like to ask Dr. Gouley whether he thought the use of certain kinds of drinking-water had anything to do with the causation of urinary calculi. It has been stated that stone has been much less frequent in New York since the introduction of the Croton water system than it was before. Again, it is found that in certain parts of the country it is much more common than in others. The late Dr. Dudley, of Kentucky, performed an immense number of operations for stone.

Dr. Gouley said that his answer would be an affirmative one, although with a reservation. Potable waters containing such ingredients as lime-stone do not give rise of themselves to stone in the bladder. The impression formerly prevailed that certain potable waters would cause stone because the salts they contained would be deposited; but this was not the case. That lime-stone waters are prolific sources of stone there can be no question, but it is in an indirect manner that they produce this effect. They give rise to dyspepsia, and thus cause lithæmia and nephritic colic, and finally calculi are passed from the kidneys which are not evacuated from the bladder. These cause irritation of the mucous membrane of the bladder, and concentric layers of phosphates or urates are formed. The effect of these waters is, therefore, an indirect one, and they not infrequently give rise to engorged liver, gastric catarrh, and rheumatic and gouty pains. Dr. Dudley himself, he believed, took this view of their agency in the production of stone.

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Recent Literature.

Dictionnaire Annual des Progrès des Sciences et Institutions Médicales, par M. P. Garnier.

This valuable annual publication has reached its twenty-first number, and as in previous years, gives evidence of industry and painstaking research on the part of its author. The introduction gives a summary of the progress of medical science as chronicled in the volume, and also Dr. Garnier's comments thereon.

In his opinion, the solution of the problem of the prophylaxis of hydrophobia by Pasteur should make forever memorable the year 1885. Antiseptics and antiseptic dressings, new remedies and other therapeutic results, the advances in pathology and in surgery, all these, and many other subjects, are duly considered.

— Professor Virchow recently completed the thirtieth year of his occupancy of the chair of Pathological Anatomy at Berlin.

— Dr. Maclagan, the medical officer of the Hexham Rural Sanitary District, England, while calling attention to the fact that in his district 124 children out of 1000 die during their first year, attributes much of the mortality to "inflammatory diseases, cerebral and pulmonary," caused by exposure in perambulators. Dr. Taylor, of Scarborough, also lays much stress on the matter of wind-pressure to which the perambulator exposes children, in the causation of diseases of the throat and chest.

Medical and Surgical Journal.

WEDNESDAY, JUNE 30, 1886.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly, by Cupples, Upham & Co., *Boston. Price, 15 cents a number; $5.00 a year, including postage, to subscribers in the United States and Canadas. Foreign subscribers are charged the postage in addition.*

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THE NEW YORK SOCIETY FOR THE PREVENTION OF CONTAGIOUS DISEASES.

There has lately been organized and incorporated the "New York Society for the Prevention of Contagious Diseases," which has for its objects, first, to endeavor to prevent the dissemination of syphilis and other contagious venereal diseases in the city of New York; *second*, to oppose all measures having for their object the State regulation of vice, and by establishing sanitary surveillance without legislation, do away with any excuse for such regulation; and, *third*, to establish an infirmary for the reception and gratuitous medical and surgical care of such persons as may be afflicted with venereal disease. Among the Directors are the Hon. Charles Donohue, Judge of the Supreme Court, Coroner Ferdinand Levy, ex-Congressman Benjamin A. Willis, and Drs. T. Gaillard Thomas, Alfred L. Loomis, James O'Reilly, Herman Lœwenthal, and John Alsdorf. Dr. Lœwenthal is the President, and Dr. Alsdorf, the Secretary.

In the announcement of the Society which has recently been published it is further stated that any person afflicted with venereal disease will receive medical and surgical treatment, also medicine, free of charge; that agents will be sent out to search among those so afflicted who are unable to pay a physician, and feel reluctant to enter the public dispensary or general hospital (on account of the exposure and supposed degredation), and urge them to apply to the Society for free treatment; and that the infirmary is to be made the centre of the Society's best work. The announcement also contains the address of Dr. Alsdorf before the Legislative Committee on Public Health, at Albany, February 24, 1886, and the report of the Committee of the American Public Health Association, on a Plan for the Prevention of the Spread of Venereal Diseases, by Albert Gihon, M.D., Medical Director, U. S. Army, Chairman. The former states that the practical work of the Society, until experience may develop other and better methods, will be as follows:

The general public will be appealed to for the necessary funds; competent physicians will be appointed to act as agents, and paid for their services out of the funds of the Society; blank reports will be sent to all of the physicians and medical institutions in the city of New York, their coöperation solicited, and a request made that whenever a patient comes to their office, or any medical institution with which they may be connected, affected with syphilis, they will endeavor to find out where the disease was contracted, and, if possible, the name of the infected person, and report to the Society. Upon such information the agents of the Society will procced to the designated house, ask permission to examine the suspected persons, and, when they are found, persuade them to submit to medical treatment. In this manner, it is hoped, many sources of infection will be "nipped in the bud," and the community at large reap the benefit. The infirmary has already been opened in West 42d Street.

Whatever private opinion any one may entertain in regard to State control and limitation of the spread of syphilis by legal enactment, all will probably agree that anything resembling license or "contagious diseases" acts, is certainly at present, impossible in this country. Even in countries in which prostitution is regulated by law there is difference of opinion as to the good accomplished in the diminution of contagious disease, as they are spread by the clandestine prostitute quite as widely as by the publicly known and legally recognized one. In general the difficulty in all systems arises from the inability to isolate persons capable of communicating syphilis during the whole time in which they are objects of danger, and this difficulty is greatest when the continuance under treatment is simply a matter of choice on the part of the diseased. When the restraint of a hospital becomes irksome or the discomfort from the disease has disappeared the patient will leave the hospital. Any attempt to regulate the matter by law in this country would be sure to awaken an opposition which would certainly equal, if not surpass, the opposition in England to the contagious diseases acts.

There is no doubt that syphilis has largely increased in this country in the last year, and no combined efforts are being made to check its spread. In fact, many, if not most, of our hospitals have regulations which forbid the admission of syphilitic patients, and hospitals for its special treatment hardly exist. Some such organization as the projected one in New York, offers the only means by which to combat the growing evil, without exciting at the same time violent opposition, and though it would be very easy to point out great difficulties in the way of any marked success, every one who wishes well to his fellow beings, must at least, hope that its first object will be attained.

THE NATURE OF ASTHMA.

Germain Sée has published an exhaustive study on the nature of asthma,[1] in which he re-states and re-inforces views which he has taught for the last twenty years, and which are held by him in common with

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[1] Asthme Pneumobulbaire, in Maladies Simples des Poumons, Paris, 1886.

Jaccoud and Riegel (as the most recent contribution of the latter testifies).

Professor Sée comprehends all the asthmas under the general designation of neuroses of the pneumogastric. Of these. there are four types; the first is nervous asthma proper, which Sée calls pneumo-bulbar asthma. Here the neurotic element predominates. The second is alveolar asthma, in which the element of emphysema, which always makes an integral part of nervous asthma when once established, predominates. The third type is bronchial asthma, which is characterized by predominance of the catarrhal element. The fourth type is constituted by cardiac and kindred asthmas, which are the pseudo-asthmas.

Asthma, which included under the old authors, all forms of dyspnœa, had almost disappeared from nosology early in this century, in what we may term the era of pathological anatomy, being regarded as only a symptom of certain lesions of the heart, aorta, or lungs. Laennec still later differentiated from bronchial catarrh and emphysema a distinct neurosis, which he called essential asthma. Sée, claiming that essential asthma always has more or less of emphysema and bronchial catarrh as its accompaniments or sequelæ, has re-constituted asthma on its true clinical basis, in other words, asthma is a *trilogy*, nervous, mechanical, and secretory.

Asthma, however, constitutes an independent disease only on condition of having a nervous origin. It is primordially a neurosis, always characterized by paroxysms, whose features, mechanism, and localization are well defined.

This neurosis has its seat in the respiratory centre of the medulla oblongata. It originates in an innate or acquired reflex hyper-excitability of this part of the central nervous system. The ordinary (immediate) cause of the paroxysm, which, from its resemblance to an epileptic fit, Von Helmont long ago designated as *epilepsy of the lung* — a term afterwards adopted by Trousseau — is an irritation in some of the sensory, terminal filaments of the vagus; this irritation may be due to certain atmospheric conditions characterized by dampness and chilliness, the presence of noxious vapors, of pollen dust, of low organisms, or it may be of gastric or hepatic origin; the impression is conveyed along the fibres of the vagus to the bulbus, and thence reflected upon the motor nerves of inspiration, notably the phrenic; the result is spasm (tetanoid contraction, Sée) of the diaphragm. Experimentation shows that the thorax is fixed in the inspiratory period, being dilated to its fullest extent, while the diaphragm is depressed to the maximum of its contraction (Jaccoud). When the bulbar excitation becomes enfeebled, the diaphragm and other inspiratory muscles relax and a passive expiration takes place, in which the elasticity of the costal cartilages, ribs and pulmonary texture is principally concerned. The cessation or exhaustion of the abnormal stimulation leads to re-establishment of the respirations.

Physiological experimentation has never yet reproduced all the phenomena which characterize typical asthma; neither irritation nor section of the vagus gives the entire tableau, though section of the vagus nerves is followed by considerable dyspnœa and emphysema. As for the theory of spasm of the bronchi, which has so long held the field, its inadequacy was first shown by Wintrich, and Riegel, who, in Ziemssen's "Cyclopædia," defends the popular view, has lately abandoned it for the more rational theory above mentioned, which is the result of rigorous observation and careful experimentation.

As regards the function of the bronchial muscles, there is much speculation, and but little that is definitely known. In normal respiration their rôle must be a very limited one, since even electrical excitations but rarely succeed in causing their contraction. If they had the part in the production of emphysema attributed to them by Biermer, Trousseau, and others, we should have to assume that these little muscular sphincters, acting in concert throughout the entire respiratory tract, are able, by closing the bronchi, to overcome the elastic energy of the lungs, which represents four-fifths of the rectractile forces, the elasticity of the costal cartilages and ribs, the contraction of the abdominal muscles, the atmospheric pressure on the surface of the thorax and abdomen, and the counter-pressure of the intestines with their gaseous and other contents.

Among the pathological changes attending asthma, are pulmonary emphysema, bronchial catarrh, and lesions of the heart and aorta. The emphysema is explained by the enormous pulmonary distension resulting from the exaggerated inspiratory act, and the gradual and ultimately permanent loss of elasticity by over-stretching of the lung tissue. Expiration becomes more and more difficult and incomplete, and the lung eventually becomes as destitute of retractile power as a piece of parchment; we have, in fact, all the phenomena of the forced lung.

With regard to the bronchial catarrh accompanying and following attacks of true asthma, the pathogeny is more obscure. The catarrh is of undoubted inflammatory origin; there is vascular dilatation and stasis of the blood current, with mucous extravasation and diapedesis of leucocytes. The dilatation of the blood-vessels is easily explained by reflex excitation of the vaso-dilators through proximity of the vaso-motor centre in the bulbus to the respiratory centre, but the trophic, parenchymatous changes which (rather than any vaso-motor disorders) constitute inflammation, have not yet been satisfactorily accounted for.

The cardiac lesions which succeed the pulmonary emphysema of asthma are much more easily understood when we consider the solidarity which exists between the lungs and heart. All lung diseases characterized by persistent blood stases are likely to be attended with dilatation of the heart and aorta, and eventually, asystolia and all the phenomena of the forced heart; and chronic pulmonary emphysema is especially likely to produce these results.

THE THERAPEUTIC USES OF CUS.

In looking over the files of our esteemed contemporary, the *Dublin Journal of Medical Science*, for another purpose, we have recently noticed an article on "Cus" commending it as a reliable tænicide, with remarks as to the method of preparation that yields the most forcible product.

We have no doubt it has been used in this country by patients affected by parasites, in fact, its association with helminthiasis is, to the minds of many, quite natural, but its employment certainly has not been restricted to that or any other special field. The native product, *C. Americana*, is said to embrace a large number of varieties and to attain a greater exuberance of development than its congeners of any other clime. In the mining regions of the Rocky Mountains and the Pacific coast, we find the *C. occidentalis*, a variegated and particularly florid specimen. It is used in large quantities and seems to be applicable to all conditions, much like quinine in the South, or whiskey in New York. It is not, however, incompatible with the latter drug. The dose varies greatly. It is usually repeated p. r. n., although we are bound to say that its effect is entirely incommensurate with the popularity of the agent.

The philological reflection, which comes late in the reading of the article in question, that possibly our contemporary may have had reference to the diversely spelled Kousso. (Brayera, U. S. P.), would of course vitiate the above description. But in view of the much greater importance in this country of the agent we have described, we prefer to accept the more obvious interpretation.

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MEDICAL NOTES.

— Another death from rabies of a patient who had been inoculated by Pasteur is announced. The patient was bitten by a mad dog on May 11th, and was inoculated on May 25th. On June 5th evidence of rabies began to appear and on June 7th he died. This is the eighth death among some nine hundred and fifty patients who have thus far been treated by Pasteur.

— Certain of the local health boards in this State have been aware for some time that the class of medical practitioners known as "Christian scientists" have not complied with the statute, requiring the notification of infectious diseases by the attendant physician. In Worcester, last week, practical evidence of such neglect was obtained. A child in Lake View was taken with scarlet fever, and one of the "Christian scientists" was given charge of the case. Not till the patient was in the third week of the malady, and in the desquamating stage, did the city physician learn the facts. He summoned the practitioner, a young lady, and questioned her in regard to it. She did not profess to know what was the matter with the child, and declared that under her treatment it was quite immaterial. She was equally sure that her method would prevent any contagion. Entirely ignorant of the medical practice of any of the accepted schools, she did not even know of the statutory provision requiring the report of the case. The statute provides for a fine of $20 for every neglect to so report, and the young woman is, of course, liable to such punishment, as is also the father of the child. The board have the matter under consideration at present. Any future cases coming to their attention will, we learn, be prosecuted at once. Heads of families are liable under this law. If no physician is called, the prosecution will fall upon the householder, and ignorance is no legal defence. As to the liability of the practitioner, the law provides that any one taking charge of a case is regarded as a medical practitioner. It is undoubtedly owing to such cases and such treatment as the above, says the *Worcester Spy*, that various districts of the city have suffered recently from local epidemics, a knowledge of which in due time by the authorities would have led to their prompt suppression.

NEW YORK.

— The degree of LL. D. was conferred upon Dr. John C. Dalton, President of the College of Physicians and Surgeons, by Princeton College, at its recent commencement.

— At a meeting of the State Board of Health at Albany, June 23d, a special committee was appointed to investigate and report on the effect of the building of the proposed Quaker Bridge dam and the new aqueduct upon the purity of the water-supply of New York.

— On the 21st of June, there was opened on Glen Island, in Long Island Sound, near New Rochelle, a "Military Camp of Instruction in Marching," under the superintendence of the veteran pedestrian, Edward Payson Weston. The competitors, who are made up of members of the various militia regiments, are each to walk twelve hours a day for six days, carrying forty and a half pounds in the way of knapsacks and accoutrements, and the camp will be continued for nine weeks. On the opening day, an address was delivered by Prof. R. Ogden Doremus, in which he referred to Weston as the father of walking in this country, stating that since 1867, he had walked 63,500 miles, and that Dr. Richardson, who examined him in London, pronounced him the healthiest man he had ever examined. He concluded as follows: "I would advise all, if they desire good health, to sweat daily as the result of physical exercise. Gentlemen, I look upon this camp as the initiative step toward splendid results in our country."

— Mayor Grace has sent a recommendation to Governor Hill that General Alexander Shaler be removed from the position of President of the New York Health Department, on the charges preferred against him. He assigns the following reasons for the removal: *First*, that while an officer of the city of New York and head of one of its departments, he became directly interested in the sale and purchase by the city of a certain plot of land, and was directly or indirectly interested in the contract for this purchase.

Second, that he committed a fraud upon the city, and converted public property to his own use, in that he received a part of the profit, commission, or brokerage of $12,000, which Monmouth B. Wilson, as the agent of the owner of the property, received for its sale to the city.

Third, that while President of the Board of Health of this city, he accepted a gift or promise thereof, under an agreement or understanding that his vote or action should be influenced thereby, in respect of the purchase of the property; that the property was purchased by the city on his recommendation as a member of the Armory Board; and that he was induced to vote for the purchase by the promise or agreement of Wilson that he would appropriate of the profits derived by him for the extinguishment of Shaler's individual and personal debts.

The Mayor also sent the Governor a copy of the evidence taken on the public trial of the charges, when the jury disagreed.

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Miscellany.

DR. HOLMES IN ENGLAND.

Of the enthusiastic reception which has been accorded our illustrious countryman in England, the *British Medical Journal* thus speaks:—"Dr. Holmes has met with an exceptional warm reception in this country. Seldom has any visitor to our shores received the homage of a more universally affectionate and respectful greeting from every class of society. There are few men in our generation who have ever received a more flattering welcome from all the noblest and best elements of English society. Since the visit of Longfellow, perhaps no other American has been received with such unanimous and affectionate enthusiasm. He has seen the best and most brilliant side of London society, and has made the personal acquaintance of all that England can boast that is most representative in rank, wealth, intellect, statesmanship, and humanitarian energy. Dr. Holmes has reached an age when common prudence compels a man to husband his resources, and to limit the tax upon his physical energies; and he has not been able, therefore, in the overwhelming calls upon his time, and the flattering offers of hospitality from all sides, to fulfil more than a tithe of the opportunities that were offered him of studying the institutions, and extending his acquaintance with all classes of the country, in the limited time at his disposal. Seeking rest and recreation, and declining public receptions, he has, nevertheless, availed himself of various opportunities of indentifying himself with the profession which he adorns and which is proud to claim him among its members. He has been seen at more than one medical house, and has made the acquaintance of most of the leading men in London during his short stay here. On Wednesday last, after dining with Sir Henry Thompson, who had assembled to meet him a small party, including Mr. Gladstone, Mr. John Morley, Mr. Robert Browning, Sir James Hannen, Sir James Paget, Professor Masson, Mr. Alma Tadema, Mr. Du Maurier, Mr. Knowles, and Mr. Ernest Hart, Dr. Holmes attended the *soirée* at the Royal College of Surgeons, and paid his respects to the President, Mr. Savory. He took the opportunity of going through parts of the museum in which he was particularly interested, under the guidance of of Sir James Paget. Dr. Holmes expressed not only his delight and high admiration at this magnificent museum, and the unparalleled scene it presented, but was particularly interested, and especially admired the complete typical osteological specimens arranged by Professor Flower for the purpose of anatomical study. Dr. Holmes, although advanced in years, retains all the vivacity and sympathetic flexibility of mind which are characteristic of the fullest vigor and freshness of mind. It is fifty years since he had visited London. He then made the acquaintance of Lawrence, Brodie, Tyrrell, MacMurdo, Abernethy, and some of their contemporaries. He makes this week a visit to Lord Tennyson, after which he will go to Oxford and Cambridge, and probably to Edinburgh, to receive the honorary degrees which those Universities propose to confer on him. In receiving Dr. Holmes with such unanimous enthusiasm, English society has done much to vindicate its claim to sound catholicity, and sincere appreciation of the most wholesome and penetrating genius. More than one Royal and illustrious visitor has been present to London during the season. None has received so warm, unforced, and universal a welcome as the 'Autocrat of the Breakfast Table.'"

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HOMICIDE AND MUTILATION.

Dr. Matthew Hay reviews the case reported by Michelsen (Waldenburg) (*Viertelj. für gerichtl. Med.*, Band xliii), of an interesting and peculiar case of the murder of a young girl three years old. The child suddenly disappeared from her home, and her remains, much mutilated, were found two and a half weeks afterward in an adjoining field. Another girl, ten years old, then confessed to having felled the child to the ground with a rake in a neighboring potato-field. She went home and informed her own mother of what she had done, at whose suggestion she returned to the field, placed the child in a sack above some potatoes, and brought the sack on a wheelbarrow to her mother's house. The girl alleged that when her mother opened the sack, the child regained consciousness and screamed, and that her mother then took the child to a cellar beneath and murdered it. This the mother altogether denied. Michelsen gave it as his opinion, after a necropsy, that the child had been suffocated by earth pushed into its mouth and throat, and that its body had been afterwards partly roasted and hewn into several pieces. The earth in the child's throat and trachea had the same composition, chemical and otherwise, as that of the potato-field, and was different from the earth taken from the cellar-floor. The mother was, however, convicted of murder, and sentenced to death, the sentence being afterwards commuted to penal servitude for life. She then confessed that her daughter's statement was true, the latter had brought the child, as described, to the house with an ugly gash on its head. To conceal the daughter's crime, she resolved to kill the child outright. She therefore took it to the cellar and stuffed its mouth with the loose earth lying beside the potatoes — therefore earth from the potato-field. Here it lay for some days, when, as it began to decompose and smell, she placed the corpse over a fire in order to burn it. This method of destruction proving imperfect, the body was hacked to pieces, and the main portion of it carried to the field, in which it was eventually found. — *Dublin Journal of Medical Science, June.*

Correspondence.

SPARTEINE AT HOME.

MR. EDITOR, — The expensive Sparteine lately recommended by Germain Sée for cardiac weakness, is prepared from Scotch broom, — spartium scoparium, — the *Planta Genista* or emblem of the Plantaganets, which grows in many parts of the thirteen original States, on sterile soil. It was brought over here by the Scotch and English to prevent the washing of gravelly roads and gutters. It should be cut and gathered at this season and dried like hay. Its active principle is extremely soluble in water, and two ounces of ground or contused stems to a quart of boiling water, a wine-glassful for a dose, every eight hours, is equivalent to a grain and a half of the prepared gum used by Dr. Sée. This remedy is useful not only in failure of the cardiac ganglia but as a tonic to the organic and vaso-motor nerves in whatever part of the body congestions occur from loss of power in them. I have used this agent in the form of infusion for half a century and with marked advantage in many cases. Yours truly,

THOMAS H. BUCKLER, M.D.

CLIFTON, MD., June 21.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 19, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whoopi'g Cough.	Diph. and Croup.
New York	1,439,039	623	230	22.40	15.20	6.04	1.92	8.16
Philadelphia	971,363	315	110	15.68	14.72	5.34	.96	2.24
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	143	34	12.60	21.00	4.20	.70	3.50
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	169	85	22.42	11.21	12.39	1.18	.59
Cincinnati	325,000	96	65	30.16	10.42	22.88	—	4.16
New Orleans, June 5th,	238,000	123	52	22.68	14.58	17.82	—	1.62
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia .	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	32	5	6.26	25.04	3.13	—	3.13
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	7	22.75	27.30	22.75	—	—
Charleston	60,145	—	—	—	—	—	—	—
Worcester	68,383	19	6	—	5.26	—	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	16	6	25.00	18.75	6.25	—	18.75
Fall River	56,863	16	4	6.25	18.75	6.25	—	—
Lynn	45,861	13	5	—	15.38	—	—	—
Lawrence	38,825	7	2	14.28	14.28	—	—	—
Springfield	37,577	11	4	—	27.27	—	—	—
New Bedford	33,393	12	4	—	16.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	2	—	37.50	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	3	2	66.66	—	33.33	—	33.33
Taunton	23,674	2	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	5	1	20.00	20.00	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	8	0	—	—	—	—	—
Waltham	14,609	2	0	—	—	—	—	—
Newburyport	13,716	4	2	—	50.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,654: under five years of age 627: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 309, consumption 254, lung diseases 132, diarrhœal diseases 135, diphtheria and croup 75, scarlet fever 21, whooping-cough 18, measles 16, typhoid fever 16, malarial fever 13, cerebro-spinal meningitis nine, erysipelas five, small-pox (New York) one. From scarlet fever, Philadelphia eight, New York seven, Boston and Cincinnati two each, Baltimore and Lawrence one each. From measles, Baltimore 11, New York five. From typhoid fever, Philadelphia eight, Boston three, New York and Baltimore two each, Newton one. From malarial fevers, New York six, Philadelphia four, New Orleans three. From cerebro-spinal meningitis, New York five, Philadelphia, Cincinnati, New Orleans and Worcester one each. From erysipelas, New York three, Philadelphia and Boston one each.

In 20 cities and greater towns of Massachusetts, with a population of 946,718 (population of the State 1,941,465), the total death-rate for the week was 15.49 against 15.26 and 17.09 for the two preceding weeks.

For the week ending June 5th, in the Swiss towns, there were 41 deaths from consumption, lung diseases 31, diarrhœal diseases 12, whooping-cough 10, measles 10, small-pox four, diphtheria and croup four, typhoid fever one.

The death-rates were: at Zurich 26.7; Geneva 13.1; Basle 15.5; Berne 29.4.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending June 5th the death-rate was 17.0. Deaths reported 2,957: infants under one year of age 680; measles 95, whooping-cough 74, diarrhœa 42, scarlet fever 29, diphtheria 20, fever 19.

The death-rates ranged from 13.0 in Norwich to 31.9 in Preston; Birkenhead 19.7; Birmingham 19.8; Bradford 16.2; Hull 13.4; Leeds 18.5; Leicester 16.4; Liverpool 19.8; London 15.5; Manchester 21.7; Newcastle-on-Tyne 18.2; Sheffield 14.6; Sunderland 16.4.

The meteorological record for week ending June 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 19, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...13	30.104	53.5	57.0	52.2	96.0	97.0	98.0	97.0	S.E.	E.	S.E.	4	4	7	O.	R.	O.	—	—
Monday, .. 14	30.060	54.1	55.5	52.1	87.0	90.0	96.0	91.0	E.	E.	E.	7	9	7	O.	O.	R.	—	—
Tuesday, ..15	30.000	55.7	57.9	53.1	100.0	86.0	96.0	91.8	E.	E.	S.E.	9	11	4	R.	O.	C.	—	—
Wednes., 16	29.805	63.6	75.3	53.5	97.0	87.0	81.0	87.7	E.	S.E.	S.W.	1	6	10	G.	O.	C.	—	—
Thursday, 17	29.529	70.6	77.9	66.8	84.0	84.0	90.0	86.0	S.W.	S.W.	W.	10	14	11	O.	O.	O.	—	—
Friday, ...18	29.773	64.7	72.6	56.7	66.0	41.0	45.0	50.7	W.	W.	N.	20	18	8	F.	O.	F.	—	—
Saturday, .19	30.115	58.3	63.1	51.0	57.0	50.0	69.0	58.7	N.	S.E.	S.W.	9	10	4	O.	C.	C.	.18	0.45
Mean, the Week.	29.912	60.1	65.6	55.0				80.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 19, 1886, TO JUNE 25, 1886.

PERIN, GLOVER, colonel and assistant surgeon general. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 54, Department of Dakota, June 14, 1886.

BROOKE, JNO., major and surgeon. Ordered for duty as post-surgeon, Fort McHenry, Baltimore, Md. S. O. 67, Division of the Atlantic, June 23, 1886.

DEWITT, CALVIN, major and surgeon. Ordered for duty in Department of Dakota. S. O. 142, A. G. O., June 21, 1886.

GARDINER, JNO. DE B W, captain and assistant surgeon. Ordered for duty as post-surgeon, Newport Barracks, Newport, Ky. S. O. 67, Division of the Atlantic, June 23, 1886.

GIBSON, ROBERT J., captain and assistant surgeon. Granted leave of absence for thirty-five days. S. O. 43, Division of the Pacific, June 14, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 26, 1886.

BEARDSLEY, GROVE S., medical inspector. Detached from the Navy Yard, Norfolk, and ordered to the "Brooklyn."

BRIGHT, G. A., surgeon. Detached from "Brooklyn" and ordered to Navy Yard, Norfolk.

OBITUARY. — STEPHEN TRUMBULL, M.D.

We regret to announce the death of this young physician which occurred at sea during his passage to Valparaiso, Chili, where his family are and where he intended to establish himself in practice. He was graduated at the Harvard Medical School in 1884, and had just completed a service as house physician at the Rhode Island Hospital. Particulars of the cause of his death are wanting, but it is believed to have been due to isthmus fever.

CORRECTION.

JUNE 26, 1886.

MR. EDITOR, — I regret to notice in this week's *Medical and Surgical Journal*, that the cut illustrating my remarks upon an axis traction appliance, has been inverted. If reversed it gives a much more comprehensible idea of the instrument and of the method of application. Very truly yours,

R. A. KINGMAN, M.D.

BOOKS AND PAMPHLETS RECEIVED.

Hospital for Diseases of the Throat. Statement by the Medical Council to the Committee of Management on the Differences that have lately arisen between these two Bodies. Action of the Committee, etc.

Boston Society of Civil Engineers. Comparative Size of Metric and Old Units, with Reference to Convenience. By Fred. Brooks, Member of the Society. Report of Committee on Weights and Measures. (Reprint from the Journal of the Association of Engineering Societies, May, 1886.)

Report of the Board of Managers of the Pennsylvania Hospital to the Contributors, at their Annual Meeting held June 3, 1886. Comprising the Reports of the Department for the Sick and Wounded and of the Department for the Insane, together with the Accounts of the Treasurer and Stewards. Philadelphia. 1886.

Medicine of the Future. An Address prepared for the Annual Meeting of the British Medical Association in 1886. By Austin Flint (Senior), M.D., LL.D. New York: D. Appleton & Co. 1886.

A Treatise on the Diseases of the Nervous System. By Wm. A. Hammond, M.D. With 112 illustrations. Eighth Edition, with corrections and additions. New York: D. Appleton & Co. 1886.

Official Report of the Memorial Meeting of the New York County Medical Association in honor of the late Austin Flint, M.D., LL.D., held at the Carnegie Laboratory, Bellevue Hospital Medical College, New York, April 19, 1886. (Reprinted from Gaillard's Medical Journal, for June, 1886.)

Is Disease of the Uterine Appendages as frequent as it has been represented? By Henry C. Coe, M.D., M.R.C.S., L.R.C.P. London. (Reprinted from the Journal of Obstetrics and Diseases of Women and Children.)

Report of a Special Committee of the Chamber of Commerce of the State of New York, on the Rules and Regulations of the Health Officers of the Port of New York, relative to the Disinfection of Imported Rags. Adopted by the Chamber. June 3, 1886. New York.

A Lecture on the Code of Medical Ethics. By G. E. Frothingham, M.D., Professor of Ophthalmology, etc., University of Michigan. Delivered before the Student's Social Science Association, December 15, 1885.

Twenty-Second Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of the Training School for Nurses, etc., 1885. Boston. 1886.

Report of the Health of Liverpool during the Year 1885, with Map showing the Localities of the fatal Prevalence of Fever. By J. Stopford Taylor, M.D., Medical Officer. 1886.

Sketch of the Early History of Anatomy. By Francis J. Shepherd, M.D., Professor of Anatomy, McGill University. (Reprint from Canada Medical and Surgical Journal.)

188th International Electrical Exhibition. Report of Examiners of Section xxiii. Electro-Medical Apparatus.

Eleven Cases of Phthisis treated by Intra-Pulmonary Injections of Carbolized Iodine. By John Blake White, M.D. (Reprinted from the Medical Record, May 22, 1886.)

On the Affections of the Skin induced by Temperature Variations in Cold Weather, with Incidental Reference to the so-called "Prairie Itch," "Ohio Scratches," "Michigan Itch," "Texas Mange," "Camp Itch," "Prairie Digs," "Lumbermen's Itch," etc. By James Nevins Hyde, M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago, 1886.

Esoteric Christianity and Mental Therapeutics. By W. F. Evans, Author of "Divine Law of Cure," and "Primitive Mind Cure." Boston: H. H. Carter & Karrick. 1886.

Science and the State. By R. W. Shufeldt, Member Scientific Society of Washington, etc. (Reprinted from the New York Medical Journal, for May 22, 1886.)

Yucca Angustifolia: a Chemical Study. By Helen C. De S. Abbott. (Reprint from the Transactions of the American Philosophical Society, 1886.)

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INDEX TO VOLUME CXV.

Abbot, S. L. Urethran in chorea, 109; acute rheumatic carditis treated with salicylate of sodium, 326, 328.

Abbott, S. W. Wolpert's air-tester, 131.

Abdominal Surgery. Abdominal cellulitis, Mead, J. A., 199; laparotomy for gun-shot wounds of the intestines, Bull, W. T., 266; a case of abdominal section for chronic suppurative peritonitis, Reeve, J. C., 329; discussion on shot wounds of the intestines, Tremaine, W., 527; what are the diagnostic signs of the involvement of the intestines in shot wounds of the abdomen? Bryant, J. D., 528; what should be the first measures of treatment in shot wounds of the abdomen involving the intestines? Moore, E. M., Jr., 528; under what circumstances and how soon after the injury should laparotomy be resorted to in cases of shot wounds of the intestines, and when is the operation contra-indicated? Bull, W. T., 528; what are the essential features of the technique of laparotomy, including the management of the wounded intestine? Hamilton, J. B., 529; what are the best methods of after-treatment in cases of shot wounds requiring laparotomy and suture of the intestines? Nancrede, 529; laparotomy as a diagnostic resource, Thomas, T. G., 549; a case of gastrotomy: digital exploration of œsophagus and removal of a plate of teeth: recovery, Richardson, M. H., 567, 579.

Adams, I. H. Typhoid fever, 17.

Adams, J. F. A. A case of pneumothorax, 397.

Adams, Z. B. An epidemic of malaria in Eastern Massachusetts, 173, 197.

Age. The reparative power of the aged, 191.

Air-tester. Wolpert's air-tester, Abbot, S. W., 131.

Allen, C. A. Medical common-sense, 16.

Althaus, J. Some phases of cerebral syphilis, 378; on tetany and tetanilla, 389, 417; some points in the pathology and treatment of paraplegia dependent on Pott's disease, 405.

Amenorrhœa. The use of permanganate of potash in amenorrhœa, Lyman, G. H., 61.

Amidon, R. W. A case of hæmatoma of the pancreas: death in three days, 594.

Anatomy. Bicuspid condition of the semi-lunar valves, and its relation to aortic valve disease, Osler, W., 32; recent progress in anatomy, Dwight, T., 205; exhibition of the medisected alinjected head of a murderer, Wilder, B. G., 210.

Andrews, J. A. Effects of the electric light upon the eye, 139; the frequent instillation of a two per cent. solution of nitrate of silver in purulent ophthalmia, 187.

Aneurism. Rupture of an aneurism of the thoracic aorta, Read, I. B., 552.

Anidrosis. Congenital anidrosis, Stedman, C. E., 61.

Appendix Vermiformis. Perforating inflammation of the vermiform appendix, with special reference to its early diagnosis and treatment, Fitz, R. H., 13.

Arsenic. Pseudo-tabes from arsenical poisoning, Dana, C. L., 187.

Athetosis, with remarks on its pathology, Hammond, G. M., 407.

Atkinson, I. E. Rubella or rötheln, 237; scarlet fever and scarlatinous eruptions following injuries and operations, 283.

Aubert. A danger from public baths, 266.

Auto-Intoxications, 433.

Ayer, J. B. Whooping-cough at the age of fifty-one: treatment by cresolene, 377; a case of chronic intestinal nephritis, 525; vaccination complicated by a trivial wound, 623.

Bacon, G. A paper on two cases of ear disease due to traumatism, 89.

Bacteria. Demonstration of bacterial cultures from a case of mycotic endocarditis in man, Bruen, E. T., 12; report on bacteriology, Ernst, H. C., 424.

Baelz, E. The physiology of the eye obliquity of the Japanese, 414.

Baker, W. H. Electrolysis in gynæcological surgery, 352; a new portable case for gynæcological instruments, 549.

Bald and toothless future, 415.

Barker, F. The influence of mental impressions on the fœtus, 331.

Baths. The danger of syncope in hot baths, 241.

Beach, H. H. A. Stone in the bladder: lithotomy, 452; stone in the bladder: litholapaxy, 452; tumor of the breast, 452.

Beri-Beri in Brazil, Lane, H. M., 293.

Beevor, C. E. and Horsley, V. Scientific advance in the treatment of tumors of the brain, 69.

Bibliography. American Gynæcological Society Transactions, 1885, 40; Baker, E. C., a guide to the examination of the nose, 381; Blandford, G. F., insanity and its treatment, 530; Buzzard, T., on some forms of paralysis from peripheral neuritis, of gouty, diphtheritic or other origin, 213; California. Ninth biennial report of the state board of health, 553; Dobell, H., on asthma; its nature and treatment, 41; Dujardin-Beaumetz, diseases of the stomach and intestines, 212; East, E., the private treatment of the insane as single patients, 553; Féré, C., traité elémentarie d'anatomie médicale on système nerveux, 142; Fothergill, J. M., a manual of dietetics, 213; Gowers, W. R., diagnosis of diseases of the brain and of the spinal cord, 381; Granger, W. D., how to care for the insane, 407; Hammond, W. A., a treatise on diseases of the nervous system, 382; Harvard University, publications of Harvard University and its officers, 1880–1885, 92; Heath, C., dictionary of practical surgery by various British hospital surgeons, 381; Hill, B., the students' manual of venereal diseases, 65; Index catalogue, volume seven, 288; Insane, handbook for the instruction of attendants on the insane, 407; Kircher, J., puerperal convalescence and the diseases of the puerperal period, 456; Lauder-Brunton, T., disorders of digestion; their consequences and treatment, 212; Landis, H. G., the management of labor and the lying-in period: a guide for the young practitioner, 214; Loring, E. G., text-book of ophthalmoscopy, 64; Lydston, G. F., lectures on syphilis, 65; Maclajan, T. J., rheumatism; its nature, its pathology and its successful treatment, 381; Maryland, sixth biennial report of the state board of health, 580; Massachusetts sixth health supplement, 408; Massachusetts registration report, forty-fourth, 382; Morrow, P. A., venereal memoranda, 65: Murrell, W., massage as a mode of treatment, 600; Nall, S., aid to obstetrics, 142; Obstetrical Society of London, Transactions, 1885, 17; Owen, E., the surgical diseases of children, 41; Parker, W. N., elements of the comparative anatomy of the vertebrates, 180; Pennsylvania, first annual report of the state board of health and vital statistics, 553; Phillips, C. D., materia medica and therapeutics, 213; Piffard, H. G., cutaneous memoranda, 65; Roberts, W., lectures on dietetics and dyspepsia, delivered at the Owens College School of Medicine, 212; Sharkey, S. J., spasm in chronic nerve disease, 480; Sutton, J. B., an introduction to general pathology, 504; Trevis, F., a manual of surgery, 285; Warren, J. C., on the healing of arteries after ligature in man and animals, 600.

Bidwell, W. D. Toxic effect from permanganate of potassium, 147; placenta prævia partialis, 376; regulation of the practice of medicine, 558.

Bigelow, J. S. Fractures of the lower end of the humerus, 588.

Biliousness, 116.

Billings, J. S. Medicine in the United States and its relations to co-operative investigation, 121; scientific men and their duties, 561, 585.

Biography. Anderson, J., 361: Bennett, J. L., 292; Bert, P., 485; Brown, F. D., 488; Burke, J., 265; Cleary, T. F., 508; Codman, W. W., 632; Curly, A. H., 244; Dudley, W. H., 361; Durgin, F. A., 464; Edes, R. T., 290; Emerson, J. S., 316; Fisk, S. M., 484; Gamgee, J. S. 361, 364; Gray, J. P., 582; Hamilton, F. H., 170, 196, 338, 429; Hammond, J. S., 536; Hoadley, J. C., 416; Homans, C. D., 268, 292, 385, 460; Holmes, O. W., 217; Hill, H. H., 70; Jackson, W. W., 289; McBride, T. A., 265; Miner, J. F., 460; Moxon, 145; Parks, L., 512, 533; Purdy, B. S., 93; Scully, F. P., 488; Scavey, C., 148; Slack, H., 582; Wakefield, A. T., 416, 437; Wakley, J. G., 288; White, L. H., 312; Woodbury, F. C., 560; Yates, E. S., 120.

Bishop, P. E. A method of treating placenta prævia, some points of which are not to be found in the standard notes on midwifery, 225.

Bishop, W. I. Mind-reading and muscle-reading, 532.

Blache. Dilatation of the stomach in children, 290.

Black-list. A medical black-list, Dixwell, J., 511.

Blackwood. An unusual case of extra-uterine pregnancy, 46.

Blaisdell, F. Report on obstetrics, 15.

Blake, J. G. Albuminuric retinitis, 49, 60.

Blind. The offspring of the blind, Snell, S., 218.

Blodgett, A. N. Dislocation of the ribs, 486.

Boardman, W. E. The management of cases of rigidity of the os uteri in labor, 149; two cases of labor complicated with fibroid tumors, with remarks, 591, 594.

Bowditch, H. I. Lithograph of Vesalius: Holzeming's pharmacopœia: painting by Watteau, 29.

Bradbury, O. N. Severed digits, 583.

Bradford, E. H. The treatment of lateral curvature, 221.

Bradford, E. H. and Lovett, R. W. Report on progress in orthopedic surgery, 373, 398.

Brain. Brain surgery again, 530.

Breast. Tumor of the breast, Beach, H. H. A., 452; axillary lymphphangitis with lymphorrhagia? or supernumerary mamma with lacteal secretion, Johnson, A. H., 547.

Brooklyn Bridge. The successful leap from Brooklyn Bridge, 92.

Bronson, E. B. Erythanthema syphiliticum, 236.

Brown, J. F. Theory and practice of medicine, 16.

Bruen, E. T. Notes on some cases of diaphragmatic pleurisy, 1; demonstration of bacterial cultures from a case of mycotic endocarditis in man and of specimens showing the experimental production of the disease in rabbits, 12.

Brune, T. B. A reducing substance in urine resembling glucose, 621.

Bryant, J. D. What are the diagnostic signs of the involvement of the intestines in shot wounds of the abdomen? 528.

Buck, A. H. Painless and only slightly painful ulceration of the membrana tympani probably of a tubercular nature, 86; certain technical details relating to operations on the mastoid process, 87.

Buckingham, E. M. Possible air-embolism after labor, with recovery, 282.

Buckley, J. M. Faith healing and kindred phenomena, 311.

Bull, C. S. An analysis of one hundred cases of exudative retinitis occurring in the course of Bright's disease, 90.

Bull, W. T. Laparotomy for gunshot wounds of intestines, 266; under what circumstances and how soon after the injury should laparotomy be resorted to in cases of shot wounds of the intestines, and when is the operation contra-indicated ? 528.

Burnett, C. H. Two cases of chronic purulent inflammation of the attic of the tympanum with perforation of the membrana flaccida treated with peroxide of hydrogen, 88.

Burrell. H. L., and Cushing, H. W. Report on progress in surgery, 177, 227.

Byrne, J. The treatment of procidentia uteri by galvano-cautery, 351.

Bystroff, N. J. Headache in school children, 79.

Cabot, A. T. Care of supra-pubic lithotomy, 455; notes on the treatment of stone in the bladder, 518, 526, 544.

Calculi: their alleged "spontaneous" fracture, 558.

Calculus. Renal calculus, its diagnosis and treatment, Tyson, J., 365; notes on the treatment of stone in the bladder, Cabot, A. T., 518, 526, 544; spontaneous fracture of stone in the bladder, Watson, F. S., 524, 525.

Canfield, H. Health resorts at the South, with remarks on the general subject of climatology, 622.

Carpenter, A. Sewage farming in England, 21.

Carroll, A. L. Lepto-meningitis infantum, 428.

Cellulitis, abdominal, Mead, J. A., 199.

Cerebral Localizations, 603.

Chadwick, J. R. Intestinal resection for malignant stricture of the large intestine, 84; a case of extra-uterine fœtation with presentation of the specimen, 159; the blue discoloration of the vaginal entrance as a diagnostic sign of pregnancy, 355.

Channing, W. Report of a case of epilepsy of forty-five years' duration, with autopsy, 4.

Chapin, C. V. Disinfection and disinfectants, 623.

Charity. Abuse of medical charity: a remedy applied in 3,000 cases of out-door patients: results, Doggett, F. F., 105, 132.

Charleston. The medical college and the Roper Hospital at Charleston, S. C., 314.

Cheever, D. W. A case of chronic obstruction from congenital malformation of the bowels: tentative operation: death, 84; exostosis of facial bones, 596.

Cheltsoff. The effect of bitters on digestion, 21.

Chemistry. Report on medical chemistry, Hills, W. B., 81.

Children. Lowell Island Sanatorium for children, 68; headache in school children, 68; dilatation of the stomach in children, Bache, 290; the etiology and treatment of summer diarrhœa of infants, Haven, H. C., 180; urinary incontinence of children treated by anodynes per rectum, Williams, E. T., 157; cases in the service of Dr. A. T. Cabot, 298; cerebral infantile paralysis, 310; lepto-meningitis infantum, Carroll, A. L., 428; report on diseases of children, Rotch, T. M., 471.

China. Medical Education in China, 19.

Chinese Medicine, 242.

Chloroform. Death from chloroform, 146.

Cholera. The Pope's Cholera Hospital in Rome, 414.

Chorea. Urethran in chorea, Abbot, S. L., 109; the treatment of chorea by cimicifuga, 458; chorea cured by gymnastic exercises during hypnotism, Pari, R., 484.

Chromium. A not well-recognized source of domestic poisoning, with cases, Harrington, C., 135.

Circulatory System. Demonstration of bacterial cultures from a case of mycotic endocarditis in man, Bruen, E. T., 12; the character of inorganic cardiac murmurs, Sawyer, J., 22; a case of "ulcerative endocarditis," Wolcott, G., 25, 39; bicuspid condition of the semi-lunar valves, and its relations to aortic valve disease, Osler, W., 32; report on progress in thoracic disease, Shattuck, F. C., 155; the relations of the inferior thyroid artery and the recurrent laryngeal nerve, Dwight, T., 173; ulcerative endocarditis, Janeway. E. G., 233; possible air-embolism after labor, with recovery, Buckingham, E. M., 282; acute rheumatic carditis treated with salicylate of sodium, Abbot, S. L., 326, 328; pancreatic hæmorrhage and sudden death, Draper, F. W., 393; recent methods of treating hæmorrhoids, 457; two cases of malignant or ulcerative endocarditis, Musser, J. H., 489; the movements of the heart and intestines illustrated by photography, Thompson, W. G., 502; the discovery of the circulation of the blood and its consequences, 505; rupture of an aneurism of the thoracic aorta, Read, I. B., 552; a case of malignant endocarditis, Shattuck, F. C., 574, 577; a case of hæmatoma of the pancreas: death in three days, Amidon, R. W., 594.

Clark, G. A. The medico-legal aspects of suicide in life insurance, 337.

Clinician *versus* patient, 357.

Climate. Health resorts at the South, with remarks on the general subject of climatology, Canfield, H., 622.

Coggin, D. Carded *vs.* absorbent cotton, 510.

Collective Investigation. Committee for collective investigation, International Congress, 607.

Color Blindness. The medico-legal cases, Jeffries, B. J., 137; color blindness among applicants for the navy, Jeffries, B. J., 558.

Co-operative Investigation. Medicine in the United States and its relations to co-operative investigation, Billings, J. S., 121; medicine in the United States and co-operative investigation, 143.

Copeland, W. P. An anodyne for use in vesical irritation, 509.

Corea. Syphilis in Corea, 169.

Corning, J. L. Spinal irritation, its symptoms, pathology and treatment, 541.

Cotton. Carded *vs.* absorbent cotton, Coggin, D., 510.

Councilman, W. T. Certain elements in the blood of malarial fever, 12.

Crosby, G. A. The coming physician, 15.

Currier, D. M. School hygiene, 15.

Cushing, E. W. Fibroid tumor, 209; cases of perforation of the appendix cœci of intestinal obstruction, 575, 578; ovarian tumors, 595.

Cushing, H. W. Phthisis: tubercular synovitis and caries of the wrist: excision with recovery from local condition, 598.

Cutaneous System. Erythema syphiliticum, Bronson, E. B., 236; rubella or rötheln, Atkinson, I. E., 237; report of a case of lymphadenoma (mycosis fungoide) and autopsy, Fox, G. H., 237; a note relative to the bullous eruptions occurring after the ingestion of iodine compounds, Hyde, J. N., 237; precocious gummata, Taylor, R. W., 238; clinical observations regarding the value of resorcin, icthyol and lanolin in cutaneous diseases, Stelwagon, H. W., 260; trophoneurosis of the skin caused by injury of the median nerve, Tilden, G. H., 260; native plants injurious to the skin, White, J. C., 261; chondroma of the upper lip, Robinson, A. R., 261; keratosis follicularis, associated with fissuring of the tongue and leukoplakia buccalis, Morrow, P. A., 261; a clinical study of scleroderma, Graham, J. E., 261; carcinoma cutis, Denslow Le, G. N., 262; clinical notes on scabies, Greenough, F. B., 269; scarlet fever and scarlatinous eruption following injuries and operations, Atkinson, I. E., 283; remarks and queries on and as to the relative frequency of moles and their pathological changes on the head and face, Sherwell, S., 284; notes of a case of exfoliative dermatitis (pityriasis rubra ?) with bullous lesions, Hardaway, W. A., 284; a case of probable tuberculosis of the skin, Tilden, G. H., 285; a few additional notes on psoriasis, Greenough, F. B., 322; report on the progress of dermatology, Tilden, G. H., 409; scarlatina *sine* exanthema, 414; on the exact measurement of the electric current and other practical points in the destruction of hair by electrolysis, Prince, M., 420.

Cutler, E. G. Iodoform poisoning, 73, 101, 110.

Dana, C. L. Some certainties in the therapeutics of epilepsy, 22; pseudo-tabes from arsenical poisoning, 187.

Davenport, B. F. Vanilla poisoning, 119; report of progress relating to food and drugs, 546.

Davenport, F. H. Report of progress in gynæcology, 59; physical and chemical qualities of ordinary cow's milk, 189.

Davis, H. G. Intra-capsular fracture, 314; a cure for neuralgia, 486.

Dead. Toilers among the dead, 146.

Debove. Hysterical apoplexy, 461.

Delafield, F. Pulmonary emphysema, 474.

DeLoffre, A. A. More severed digits, 607.

Demons. Resection of lung and removal of a kidney, 413.

Dennett, W. S. A new test-type, 113.

Dennis, F. S. Some points of special interest in the treatment of compound fractures, including a report of over five hundred consecutive cases, 430.

Denslow, Le G. N. Carcinoma cutis, 262.

Derby, H. The possible retardation of retinitis pigmentosa in the young, 113.

Diabetes. On diet in diabetes, Dujardin-Beaumetz, 465.

Diet in fevers, 604.

Digestive System. Perforating inflammation of the vermiform appendix, with special reference to its early diagnosis and treatment, Fitz, R. H., 113; modern views as to functions of the liver, 18, 42; the effect of bitters on digestion, Cheltsoff, 21; foreign bodies in the alimentary canal, Gouley, J. W. S., 36; a case of stricture of the ileum: laparotomy, Gay, G. W., 77, 84; operations for the cure of intestinal obstruction, Marcy, H. O., 79, 84; closure of artificial anus by intestinal suture, Porter, C. B., 80, 84; a case of chronic obstruction from congenital malformation of the bowels: tentative operation: death, Cheever, D. W., 84; intestinal resection for malignant stricture of the large intestine, Chadwick, J. R., 84; biliousness, 115; the etiology and treatment of summer diarrhœa of children, Haven, H. C., 180; laparotomy for gunshot wounds of the intestines, Bull, W. T., 266; dilatation of the stomach in children, 290; diaphragmatic hernia, Farraresi, 336; pancreatic hæmorrhage and sudden death, Draper, F. W., 393; follicular tonsillitis, Langmaid, S. W., 455; recent methods of treating hæmorrhoids, 457; perityphlitic abscess discharging spontaneously at the umbilicus, Parker, W. T., 485; the movements of the heart and intestines illustrated by photography, Thompson, W. G., 502: two operations for intestinal obstruction, Wylie, W. G., 503; a simple and ready method of inflating the intestine, Homans, J., 510; discussion on shot wounds of the intestines, Tremaine, W , 527; what are the diagnostic signs of the involvement of the intestines in shot wounds of the abdomen ? Bryant, J. D., 528; what should be the first measures of treatment in shot wounds of the abdomen involving the intestines, Moore, E. M., Jr., 528; under what circumstances and how soon after the injury should laparotomy be resorted to in cases of shot wounds of the intestines, and when is the operation contra-indicated ? Bull, W. T., 528; what are the essential features of the technique of laparotomy, including the management of the wounded intestine ? Hamilton, J. B., 529; what are the best methods of after-treatment in cases of shot wounds requiring laparotomy and suture of the intestines ? Nancrede, 529; the cause of circular gastric ulcer, Silbermann, 534; blowing up the colon or the operator, 535; perforation of the intestine in a case of typhoid fever, Janeway, E. G., 552; a case of gastrotomy: digital exploration of œsophagus and removal of plate of teeth: recovery, Richardson, M. H., 567, 579; cases of perforation of the appendix cœci and of intestinal obstruction, Cushing, E. W., 575, 578; a case of hæmatoma of the pancreas: death in three days, Amidon, R. W., 594; a case of intestinal obstruction in an infant caused by the ingestion of wool, White, W. R., 622.

Diphtheria. Communications from the diphtheria wards of the Charité, Henoch, 21; cases of tracheotomy in diphtheritic croup Tupper, A. M., 53; a case of puerperal diphtheria, Forster, E. J. 351.

Disinfection. Disinfection and disinfectants, Chapin, C. V., 623.

Dislocations. Backward dislocation of the fingers upon the metacarpus, Otis, E. O., 202, 207; unique case of dislocation of the ribs Fifield, W. C. B., 453; dislocation of the ribs, Blodgett, A. N., 486 outward dislocation of the patella, Gay, G. W., 502.

Dispensary. Annual report of the Boston Dispensary, 385.

Dixwell, J. A medical black-list, 511.

Doctor as patient, 91.

Doe, O. W. A case of Paris-green poisoning, 301.

Doggett, F. F. Abuse of medical charity: a remedy applied i 3,000 cases of out-door patients: results, 105, 132.

Draper, F. W. Pancreatic hæmorrhage and sudden death, 393; e traordinary cardiac excitement before a first menstruation, 547.

Drilling. Effects of military drill on boys, Sargent, D. A., 245; military drill and gymnastic training in physical culture, Hartwell, E. M., 249; discussion on military drilling, 258.

Driver, S. W. Obstetric gleanings: or expedients and mistakes, 208.

Dujardin-Beaumetz. On complete aliments and on the milk diet, 97; on diet in diabetes, 465: on diet in albuminuria, 513.

"**Dunbar**" case, Paddock, F. K., 49; the Dunbar case: was it a murder or was it a suicide? Fish, D. B. N., 272.

Dwight, T. The relations of the inferior thyroid artery and the recurrent laryngeal nerve, 173; recent progress in anatomy, 205.

Ear. Recent progress in otology, Green, J. Orne, 9; acute and chronic purulent inflammation of the middle ear tract and their complications, Sexton, S., 85; a new operation for the radical cure of chronic purulent inflammation of the middle ear tract, Sexton, S., 85; painless and only slightly painful ulceration of the membrana tympani, probably of a peculiar nature, Buck, A. H., 86; certain technical details relating to operations on the mastoid process, Buck, A. H., 87; fatal termination of a case of sclerosing mastoiditis after chiseling of the bone, Knapp, H., 88; a case of abscess of the mastoid cells where the chief indication for operation was elevation of temperature, Pomeroy, O. D., 88; two cases of chronic purulent inflammation of the attic of the tympanum with perforation of the membrana flaccida treated with peroxide of hydrogen, Burnett, C. H., 88; in the physiology of hearing is there an overlapping of each auditory field the same as in binocular vision, Little, W. S., 88; a paper on two cases of ear disease due to traumatism, Bacon, G., 89; abscess of the brain from suppurative otitis, Van Fleet, F., 431; a new ear-speculum, Spear, E. D., 594.

Edes, R. T. Farewell dinner to Dr. R. T. Edes, 290.

Editorials. Modern views as to functions of the liver, 18, 42; medical education in China, 19; is medicine a progressive science? 43; the diagnosis of infectious diseases, 66; glycogenesis and glycosuria, 66; an island sanatorium for children, 66; the doctor as patient, 91; a list of the publications of Harvard University and its officers with the chief publications of the University, 1880-1885, 92; the successful leap from the Brooklyn Bridge, 92; scarlatina and milk, 115; biliousness, 116; poisoning by iodoform, 118; medicine in the United States and co-operative investigation, 143; leprosy in the Hawaiian Islands, 144; lithæmia, 167; syphilis in Corea, 169; the reparative power of the aged, 191; functions of the thyroid glands, 192; the Somerville poisoning sensation, 192; the State Board of Health to investigate rags as contagion carriers, 214; the hygiene of hot weather, 214; the heat centre, 215; Dr. Oliver Wendell Holmes, 217; the address of Mr. Erichsen at the British Medical Association, 239; State inspection of milk, 240; physical training of American youth, 262; the physiological effects of fear, 263; the overcharge for patent medicines, 264; recent views on "railway spine," 286; the index catalogue, volume seven, 288; cerebral infantile paralysis, 310; faith healing and kindred phenomena, 311; the poisoning of a family by "rough on rats," 312; the formation of new tissue from aseptic blood clots, 333; a medical view of the temperance question, 333; clinician *versus* patient, 357; cysts of the testicle and epididymis, 358; combined sclerosis, 359; the forty-fourth Massachusetts registration report, 382; tuberculosis of the thyroid gland, 383; perforating inflammation of the vermiform appendix, 409; medical sects and clinical instruction in public hospitals, 411: the serpent man, 412; auto-intoxications, 433; hypnotism as a phase of the mind-cure, 434; death by a druggist's error, 436; Thomsen's disease, 457; recent methods of treating hæmorrhoids, 457; the treatment of chorea by cimicifuga, 458; the two hundred and fiftieth anniversary of Harvard College, 459; medical education in the United States, 481; sandal-wood oil as an anti-blenorrhagic, 482; the discovery of the circulation of the blood, and its consequences, 505; the surgery of the pancreas, 506; Pasteur's new communication on rabies, 507; brain surgery again, 530; are all venereal patients liars? 531; mind-reading and muscle-reading, 532: researches on snake poison, 554; on the treatment of retro-deviations of the uterus, 555; the gastronomic value of odors, 556; the treatment of fractures of the lower end of the humerus, 602; cerebral localization, 603; diet in fevers, 604; increase of insane and paupers in New York, 605; annus medicus, MDCCCLXXXVI, 625.

Education. Medical education in China, 19; researches on snake poison, 554; the best equipment for medical study, Gerrish, F. H., 609.

Elliot, J. W. Tubo-ovarian cyst; hæmorrhage into the tube: operation, 161; three cases of suppurating ovarian tumor treated by drainage, 441, 452; stone in a female bladder, 452; new aseptic sponges, 502.

Embolism. Possible embolism after labor, with recovery, Buckingham, E. M., 282.

Emmet, T. A. Pelvic inflammation: cellulitis *versus* peritonitis, 308.

Endocarditis. A case of ulcerative endocarditis, Wolcott, G., 25, 30; a case of malignant endocarditis, Shattuck, F. C., 574, 577.

Englemann, G. J. Electricity in gynæcological practice, 352.

Epilepsy. Report of a case of epilepsy of forty-five years' duration, with autopsy, Channing, W., 4; some certainties in the therapeutics of epilepsy, Dana, C. L., 22; loss of weight in epilepsy, Hallager, F., 509.

Ergot after labor, Goodman, J., 330.

Erichsen. The address of Mr. Erichsen at the British Medical Association, 239.

Ernst, H. C. Report on bacteriology, 424.

Expert Testimony as given in the courts at present, Holt, A. F., 493, 515.

Extra-Uterine Fœtation. A case of extra-uterine fœtation, Chadwick, J. R., 159.

Extra-Uterine Pregnancy. A case of extra-uterine pregnancy, Kemp, E. A., 28; extra-uterine fœtation, with illustrative case, Lusk, W. T., 34; an unusual case of extra-uterine pregnancy, Blackwood, 46.

Eye. A clinical report of nine cases of hemianopsia, Seguin, E. C., 33: albuminuric retinitis, Blake, J. G., 49, 60; pyogenic micro-organisms with demonstrations and experiments, Knapp, H., 89; an analysis of one hundred cases of exudative retinitis occurring in the course of Bright's disease, Bull, C. S., 90; recent progress in ophthalmology, Wadsworth, O. F. and Standish, M., 106; thrombosis and peri-vasculitis of the retinal vessels, Harlan, G. C., 112; a new test-type, Dennett, W. S., 113; the possible retardation of retinitis pigmentosa in the young, Derby, H., 113; the equivalence of cylindrical and sphero-cylindrical lenses, Jackson, E., 114; the combination of cylinder lenses, Hay, G., 114; two hundred and sixty-three cases of cataract extraction with particular reference to the after-treatment, Strawbridge, G., 114; cataract extraction without iridectomy, Knapp, H., 137; report of fifty cases of cataract extraction, Webster, D., 137; death of a patient on the fifth day after the extraction of a hard cataract, Noyes, H. D., 137; the medico-legal cases, Jeffries, B. J., 139; effect of the electric light upon the eye, Andrewa, J. A., 139; a method of overcoming diplopia when prisms are not fully effective, Little, W. S., 139; two epidemics of molluscum contagiosum, Mittendorf, W. F., 140; melano-sarcoma of the conjunctiva and cornea, Mittendorf, 161; the use of hot water in some of the corneal and conjunctival inflammations, Fryer, B. E., 162; asthenopia and the changes in refraction in adult eyes, Norris, W. F., 162; the amblyopia of squinting eyes, Thobald, S., 184; two cases of severe traumatism of eye with partial dislocation of the crystalline lens, Randall, B. A., 185; Badal's operation: laceration of the infra-trochlear nerve for the relief of glaucoma, etc., with cases, Prout, J. S., 185; advancement of Tenon's capsule in strabismus, Knapp, H., 186; a case of tumor of the left occipital lobe, Gruening, E., 186; new formation in the vitreous of both eyes, Prout, J. S., 186; a case of retinitis albuminurica: induced premature labor, Risley, S. D., 187; the frequent instillation of a two per cent. solution of nitrate of silver in purulent ophthalmia, Andrew, J. A., 187; a hint to oculists from the almond-eyed Asiatic, Simmons, G. C., 338; the physiology of the eye obliquity of the Japanese, Baelz, E., 414; pharyngeal and laryngeal nystagmus, 461; report on progress in ophthalmology, Wadsworth, O. F., and Standish, M., 520; color blindness among applicants for the navy, Jeffries, B. J., 558.

Faith healing and kindred phenomena, 311.

Farraresi. Diaphragmatic hernia, 336.

Fear. The physiological effects of fear, 263.

Fehling. The influence of drugs on nurslings, when administered to their nurses, 242.

Fehling's Solution. Reduction of copper in Fehling's solution with chloral hydrate, Sherwin, O. W., 487.

Felons. How to abort a felon, Kelley, H. S., 386; Williams, E. T., 415; abortive treatment of felons, Fish, D. B. N., 463; abortion of felons, wrinkles, new and old, 485.

Felt, M. H. Fashionable follies, 17.

Fevers. Diet in fevers, 604.

Fifield, W. C. B. Unique case of dislocation of the ribs, 453; spontaneous œdema or ascites treated by prolonged drainage through fine canulæ, 624.

Finck, H. T. The gastronomic value of odors, 556.

Fingers. Cases of reunion of cut-off fingers, Ivanoff, S. D., 509; reunion of severed digits, Galloupe, C. W., 511; severed digits, Bradbury, O. N., 583; more severed digits, DeLoffre, A. A., 607.

Fish, D. B. N. The Dunbar tragedy: was it a murder or was it a suicide? 272, abortive treatment of felons, 463.

Fitz, R. H. Perforating inflammation of the vermiform appendix, with special reference to its early diagnosis and treatment, 13.

Food. On complete aliments and on the milk diet, Dujardin-Beaumetz, 97; scarlatina and milk, 115; operation of the acts relative to the adulteration of food and drugs in Massachusetts, 170; physical and clinical qualities of ordinary cows' milk, Davenport, B. F., 180; State inspection of milk, 240; milk supply of large cities and the improper mode in which it is conducted, Pooler, H. A., 426; on diet in albuminuria, Dujardin-Beaumetz, 513; the gastronomic value of odors, 556; diet in fevers, 604.

Formad, H. Cyanotic induration of the kidneys, 33.

Formad, H. F. Intra-cranial hæmorrhage: record and classification of one hundred and forty-three consecutive fatal cases observed in medico-legal practice and in private autopsies in the city of Philadelphia, 302.

Foster, E. J. A new nipple-shield, 61; a case of puerperal diphtheria, 351.

Fox, G. H. Report of a case of lymphadenoma (mycosis fungoide) and autopsy, 237.

Fracture, intracapsular, Davis, H. G., 314.

Fractures. Some points of special interest in the treatment of compound fractures, including a report of over five hundred consecutive cases, Dennis, F. S., 430; fractures of the lower end of the humerus, Bigelow, J. S., 588; compound comminuted fracture of the leg, Hayward, G. G., 597; the treatment of fractures of the lower end of the humerus, 602.

Fraenkel. On the treatment of retro-deviations of the uterus, 555.

French Academy's report *vs.* liquors and liquor saloons, 218.

Fryer, B. E. The use of hot water in some of the corneal and conjunctival inflammations, 162.

Galloupe, C. W. Reunion of severed digits, 511.

Galvin, G. W. Improved inhaler, 181.

Gastric Ulcer. The cause of circular gastric ulcer, Silbermann, 534.

Gastrotomy. A case of gastrotomy: digital exploration of œsophagus and removal of plate of teeth: recovery, Richardson, M. H., 567, 579.

Gavin, M. F. A case of supra-pubic lithotomy, 446.

Gay, G. W. A case of stricture of the ileum: laparotomy: stricture incised and the incision closed with the cœcum: death on the ninth day: autopsy, 77; impalement of the thigh, 502; outward dislocation of the patella, 502.

General Diseases. Spasm of the glottis in rickets, Whittaker, J. T., 11; certain elements found in the blood of malarial fever, Councilman, W. T., 12; typhoid fever, Adams, I. H., 17; communications from the diphtheria wards of the Charité, Henoch, 21; some certainties in the therapeutics of epilepsy, Dana, C. L., 22; the bacillus of typhoid fever, Sternberg, G. M., 32; the attitude of legal medicine *versus* hydrophobia, Spitzka, E. C., 36; scarlatina and milk, 115; leprosy in the Hawaiian Islands, 144; some affections of the nervous system associated with tuberculosis, Weber, L. G., 166; lithæmia, 167; syphilis in Corea, 169; malaria in Eastern Massachusetts, Adams, Z. B., 173, 197; certain points in the diagnosis of some of the infectious diseases, Janeway, E. G., 230; beri-beri in Brazil, Lane, H. M., 293; notes on syphilis of the nervous system, Putnam, J. J., 317; acute rheumatic carditis treated with salicylate of sodium, Abbot, S. L., 326; some phases of cerebral syphilis, Althaus, J., 378; tuberculosis of the thyroid gland, 383; on diet in diabetes, Dujardin-Beaumetz, 465; are all venereal patients liars? 531.

Generative System. Peri-uterine inflammation, Polk, W., 31; report of progress in gynæcology, Davenport, F. H., 59; the use of permanganate of potash in amenorrhœa, Lyman, G. H., 61; a discussion of the statistics of ovariotomy, Irish, J. C., 153, 159; tubo-ovarian cyst: hæmorrhage into the tube: operation, Elliot, J. W., 161; fibroid tumor, Cushing, E. W., 209; a danger from public baths, Aubert, 266; reflex nervous phenomena from injuries to the testicle, Loumeau, 290; the division of the cervix backward in some forms of anteflexion of the uterus with dysmenorrhœa and sterility, Wilson, H. P. C., 305; another modification of Emmet's operation, with a case in point, Sutton, B. S., 307; notes on the treatment of recent laceration of the cervix uteri, Wilson, E., 307; pelvic inflammation: cellulitis *versus* peritonitis, Emmet, T. A., 308; report on genito-urinary surgery, Post, A., 324; the treatment of procidentia uteri by galvano-cautery, Bryne, J., 351; electricity in gynæcological practice, Engelmann, G. J., 352; electrolysis in gynæcological surgery, Baker, W. H., 352; supra-vaginal hysterectomy, Sutton, R. S., 355; cysts of the testicle and epididymis, 358; three cases of suppursting ovarian cysts treated by drainage, Elliot, J. W., 441, 452; the male urethra, Newell, O. K., 443; fibro-myoma of the uterus, Homans, J., 501; spermatorrhœa, Richardson, M. H., 525; extraordinary cardiac excitement before a first menstruation, Draper, F. W., 547; on the treatment of retro-deviations of the uterus, 555; ovarian tumors, Cushing, E. W., 595; the treatment of prolapse of the uterus and vagina, especially in the aged, with illustrative cases, Green, C. M., 615, 624.

Gerrish, F. H. The best equipment for medical study, 609.

Gibney, V. P. Pseudo-hypertrophic paralysis, 163.

Glycogenesis. Glycogenesis and glycosuria, 66; Glycogenesis, Liebmann, G., 219, 242; about glycogenesis, reply to Dr. Liebmann, 242.

Goodman, J. Ergot after labor, 330.

Gouley, J. W. S. Foreign bodies in the alimentary canal, 36.

Graham, J. E. A clinical study of scleroderma, 261.

Gray, L. C. Lesion of both temporal lobes, causing almost absolute loss of memory of events, without word deafness, or deafness, 162.

Green, C. M. Report on obstetrics, 26; the treatment of prolapse of the uterus and vagina, especially in the aged, with illustrative cases, 615, 624.

Green, J. Orne. Recent progress in otology, 9.

Greenough, F. B. Clinical notes on scabies, 269; a few additional notes on psoriasis, 322.

Gruening, E. A case of tumor of the left occipital lobe, 186.

Gun-shot Wounds. Discussion on shot wounds of the intestines, Tremaine, W., 527; what are the diagnostic signs of the involvement of the intestines in shot wounds of the abdomen? Bryant, J. D., 528; what should be the first measurers of treatment in shot wounds of the abdomen involving the intestines? Moore, E. M., Jr., 528; under what circumstances and how soon after the injury should laparotomy be resorted to in cases of shot wounds of the intestines, and when is the operation contra-indicated? Bull, W. T., 528; what are the essential features of the technique of laparotomy, including the management of the wounded intestine? Hamilton, J. B., 529; what are the best methods of after-treatment in cases of shot wounds requiring laparotomy and suture of the intestines? Nancrede, 529.

Gynæcology. Report of progress in gynæcology, Davenport, F. H., 58.

Hæmatoma. A case of hæmatoma of the pancreas: death in three days, Amidon, R. W., 594.

Hæmorrhoids. Recent methods of treating hæmorrhoids, 457.

Hallager, F. Loss of weight in epilepsy, 509.

Hamilton, J. B. What are the essential features of the technique of laparotomy, including the management of the wounded intestine? 529.

Hammond, C. B. Report on surgery, 16.

Hammond, G. M. Athetosis, with remarks on its pathology, 407.

Hair. Destruction by electrolysis, Prince, M., 420.

Hardaway, W. A. Notes of a case of exfoliative dermatitis (pityriasis rubra?) with bullous lesions, 284.

Harlan, G. C. Thrombosis and peri-vasculitis of the retinal vessels, 112.

Harrington, C. A not well-recognized source of domestic poisoning, with cases, 135.

Harrington, F. B. Salt infusion in the treatment of hæmorrhage, 61.

Hartwell, E. M. Military drill and gymnastic training in physical culture, 249, 258.

Harvard University. The two hundred and fiftieth anniversary of Harvard University, 450; some vital statistics of graduates of Harvard, 484.

Haven, H. C. The etiology and treatment of summer diarrhœa of infants, 180.

Hawaiian Islands. Leprosy in the Hawaiian Islands, 144.

Hay, G. The combination of cylinder lenses, 114.

Hayward, G. G. Compound comminated fracture of the leg, 597.

Heat. The hygiene of hot weather, 215; the heat centre, 216.

Henoch. Communications from the diphtheria wards of the Charité, 21.

Hills, W. B. Report on medical chemistry, 81.

Hip. A case of unusual deformity of both hip joints, Monks, G. H., 468, 479.

Holbrook, H. C. Nerve weakness, 17.

Holmes. Dr. Oliver Wendell Holmes: Phœbo ante alias dilectus, 217.

Holt, A. F. Medical expert testimony as given in the courts at present, 493, 515.

Holyoke, F. A simple apparatus for washing out the bladder, 425.

Homans, C. D., 460.

Homans, J. Fibro-myoma of the uterus, 501; a simple and ready method of inflating the intestine, 510.

Homœopathic treatment of moral insanity, 69.

Hosmer, A. Two cases of obstetric interest, 402, 404.

Hyde, J. N. A note relative to the bullous eruption occurring after the ingestion of iodine compounds, 237.

Hygiene, Health, and Boards of Health. School hygiene, Currier, D. M., 15; sewage farming in England, Carpenter, A., 21; the care and disposal of the dead, 46; order to customs officers in regard to importation of old rags, 119; report on water-supply, Shattuck, G. B., 181; the State Board of Health to investigate rags as contagion carriers, 214; the hygiene of hot weather, 215; the lay press and questions of public health, 336; inter-State notification in infectious and contagious diseases, 461; on the hygienic laws and sanitary conditions of ancient Rome, Lanciani, R., 537, 565.

Hydrophobia. The attitude of legal medicine toward hydrophobia, Spitzka, E. C., 36; hydrophobia and Pasteur: two opposing statements, 94; Pasteur's new communication on rabies, 507.

Ice Cream. Poisoning by ice cream, Vaughan, V. C., 218.

Infantile Paralysis, 310.

Infectious Diseases. The diagnosis of infectious diseases, 66; certain points in the diagnosis of some of the infectious diseases, Janeway, E. G., 230.

Inhaler. Improved inhaler, Galvin, G. W., 181.

Insanity. Great wits and madness, 436.

Instruments and Apparatus. A new nipple-shield, Forster, E. J., 61; improved inhaler, Galvin, G. W., 181; a new portable battery and some details of its application, Stabler, A., 404; a simple apparatus for washing out the bladder, Holyoke, F., 425; bladder evacuator, Otis, F. N., 501; new aseptic sponges, Elliot, J. W., 502; carded *vs.* absorbent cotton, Coggin, D., 510; a new portable case for gynæcological intruments, Baker, W. H., 549; a new ear-speculum, Spear, E. D., 594; spontaneous œdema or ascites treated by prolonged drainage through fine canulæ, Fifield, W. C. B., 624.

Iodoform poisoning, Cutler, E. G., 73, 101, 110, 118.

Irish, J. C. A discussion of the statistics of ovariotomy, 153, 159.

Ivanhoff, S. D. Cases of re-union of cut-off fingers, 509.

Jackson, E. The equivalence of cylindrical and sphero-cylindrical lenses, 114.

Janeway, E. G. Certain points in the diagnosis of some of the infectious diseases, 230; ulcerative endocarditis, 233; perforation of the intestine in a case of typhoid fever, 552.

Jeffries, B. J. The medico-legal cases, 139; color-blindness among applicants for the navy, 558.

Johnson, A. H. Axillary lymphangitis with lymphorrhagia? or supernumerary mamma with lacteal secretion, 547.

Jurisprudence. The attitude of legal medicine *versus* hydrophobia, Spitzka, E. C., 36; the "Dunbar" case, Paddock, F. K., 19; medico-legal case: Albino birth: is it white or black? Thorn, W. A., Jr., 94; the Dunbar case: was it a murder or was it a suicide? Fish, D. B. N., 272; intracranial hæmorrhage, Formad, H. F., 302; notes on the "Lawton murder," Taylor, W. H., 318; the medico-legal aspects of suicide in life insurance, Clark, J. A., 337; medical expert testimony as given in the courts at present, Holt, A. F., 493, 515.

Kelley, H. S., Jr. How to abort a felon, 386.

Kemp, E. A. A case of extra-uterine pregnancy, 28.

Kinloch, R. A. The medical college and the Roper Hospital at Charleston, S. C., 314.

Knapp, H. Fatal termination of a case of sclerosing mastoiditis after chiseling of the bone, 88; pyogenic micro-organisms with demonstrations and experiments, 89; cataract extraction without iridectomy, 137; advancement of Tenon's capsule in strabismus, 186.

Knapp, P. C. Recent progress in diseases of the nervous system, 253; a case of professional neurosis of co-ordination, or unusual origin, 577.

Krackowizer Prize, 502.

Lanciani, R. On the hygienic laws and sanitary conditions of ancient Rome, 537, 565.

Lane, H. M. Beri-beri in Brazil, 293.

Langmaid, S. W. Follicular tonsillitis, 455.

Laparotomy. A case of stricture of the ilium: laparotomy, Gay, G. W., 77, 84; laparotomy for gun-shot wounds of the intestines, Bull, W. T., 266; discussion on shot wounds of the intestines, Tremaine, W., 527; what are the diagnostic signs of the involvement of the intestines in shot wounds of the abdomen? Bryant, J. D., 528; what should be the first measures of treatment in shot wounds of the abdomen involving the intestines? Moore, E. M., Jr., 528; under what circumstances and how soon after the injury should laparotomy be resorted to in cases of shot wounds of the intestines, and when is the operation contra-indicated? Bull, W. T., 528; what are the essential features of the technique of laparotomy, including the management of the wounded intestine? Hamilton, J. B., 529; what are the best methods of after-treatment in cases of shot wounds requiring laparotomy and suture of the intestines? Nancrede, 529; laparotomy as a diagnostic resource, Thomas, T. G., 549.

"Lawton Murder," Taylor, W. H., 318.

Leale, C. A. Fahlberg's saccharine, 553.

Lee, C. C. The future influence of surgery and surgical resources upon obstetrics, 62.

Leprosy in the Hawaiian Islands, 144.

Liebmann, G. On glycogenesis, 219.

Life Insurance. The medico-legal aspects of suicide in life insurance, Clark, J. A., 337.

Lithæmia, 167.

Little, W. S. In the physiology of hearing is there an overlapping of each auditory field the same as in binocular vision? 88; a method of overcoming diplopia when prisms are not fully effective, 139.

Liver. Modern views as to functions of the liver, 18, 42; glycogenesis and glycosuria, 66; hypertrophic cirrhosis of the liver, Mason, A. L., 281.

Lloyd, J. H. Moral insanity: a plea for a more exact cerebral pathology, 211.

Louis, King of Bavaria: autopsy, 46.

Loumeau. Reflex nervous phenomena from injuries to the testicles, 290.

Lovett, R. W. The delayed removal of tracheotomy tubes with cases, 56.

Lowell Island Sanatorium for children, 68.

Lusk, W. T. Extra-uterine fœtation, with illustrative case, 34.

Lyman, G. H. The use of permanganate of potash in amenorrhœa, 61.

Lyman, H. M. Tetany, 12.

Mackenzie, M. Is medicine a progressive science? 43.

McNutt, S. J. Multiple tumors of the cerebrum, probably of specific origin, occurring in an infant, 164.

Maine. Letter from Maine: Dr. H. H. Hill: medical department of Bowdoin College: Maine Medical Association, 70.

Malaria. Malaria in Eastern Massachusetts, Adams, Z. B., 173, 197; oleum eucalypti in malarial affections, Musser, 385.

Mamma. Axillary lymphangitis with lymphorrhagia? or supernumerary mamma with lacteal secretion, Johnson, A. H., 547.

Marcy, H. O. Operations for the cure of intestinal obstruction, 79, 84.

Mason, A. L. Hypertrophic cirrhosis of the liver, 281.

Massey, G. B. The cause of electrotonus and the normal formula of polar reactions, 164.

Materia Medica and Therapeutics. The effect of bitters on digestion, Cheltsoff, 21; the use of permanganate of potash in amenorrhœa, Lyman, G. H., 61; urethran in chorea, Abbot, S. L., 109; toxic effect from permanganate of potassium, Bidwell, W. D., 147; operation of the acts relative to the adulteration of food and drugs in Massachusetts, 170; salicylate of cocaine in asthma, Mosler, 193; overdose of hydrobromate of hyoscin, Webber, S. G., 207; a contra-indication of paraldehyde, Sommer, 241; report on therapeutics, Williams, F. H., 276, 296; acute rheumatic carditis treated with salicylate of sodium, Abbot, S. L., 326; ergot after labor, Goodman, J., 330; concerning some hypnotics, Webber, S. G., 350; the treatment of procidentia uteri by galvano-cautery, Byrne, J., 351; electricity in gynæcological practice, Engelmann, G. J., 352; electrolysis in gynæcological surgery, Baker, W. H., 352; whooping-cough at the age of fifty-one: treatment by cresolene, Ayer, J. B., 377; oleum eucalypti in malarial affections, Musser, 385; sandal-wood oil as an anti-blenorrhagic, 482; report of progress relating to food and drugs, Davenport, B. F., 546.

Maternal Impressions. The influence of maternal impressions on the fœtus, Barker, F., 331.

Mead, J. A. Abdominal cellulitis, 199.

Medicine in the United States and its relations to co-operative investigation, Billings, J. S., 121.

Menstruation. Extraordinary cardiac excitement before a first menstruation, Draper, F. W., 547.

Metcalfe, J. T. Professional letters of recommendation, 386.

Michael, W. The medical college and the Roper Hospital at Charleston, S. C., 314.

Microbes. Conditions affecting the growth of microbes in potable water, 337.

Military Drill. Effects of military drill on boys, Sargent, D. A., 245, 258; military drill and gymnastic training in physical culture, Hartwell, E. M., 249, 258.

Milk. Physical and chemical qualities of ordinary cow's milk, Davenport, B. F., 180; State inspection of milk, 240.

Milk-supply of large cities and the improper method in which it is conducted, Pooler, H. A., 426.

Mills, C. K. Address, American Neurological Association, 140.

Mind. Homœopathic treatment of moral insanity, 69; moral insanity: a plea for a more exact cerebral pathology, Lloyd, J. H., 211; increase of insane and paupers in New York, 605.

Mind-cure. Hypnotism as a phase of the mind-cure, 434.

Mind-reading. Mind-reading and muscle-reading, 532.

Minot, C. S. The actual as compared with the supposed structure of the placenta, 209.

Minot, F. Extensive phlebitis and pelvic abscess following abortion, 279, 282.

Mitchell, S. W. Researches on snake poison, 554.

Mittendorf, W. F. Two epidemics of molluscum contagiosum, 140.

Mittendorf. Melano-sarcoma of the conjunctiva and cornea, 161.

Monks, G. H. A case of unusual deformity of both hip-joints, 468, 479; on rupture of the tendon of the long head of the biceps brachii muscle, 496, 501.

Moore, E. M., Jr. What should be the first measures of treatment in shot wounds of the abdomen involving the intestines? 528.

Moral Insanity: a plea for a more exact cerebral pathology, Lloyd, J. H., 211.

Morrow, P. A. Keratosis follicularis associated with fissuring of the tongue and leukoplakia buccalis, 261.

Mosler. Salicylate of cocaine in asthma, 193.

Muscles. Thomsen's disease, 457.

Musser. Oleum eucalypti in malarial affections, 385.

Musser, J. H. Two cases of malignant or ulcerative endocarditis, 489.

Nancrede. What are the best methods of after-treatment in cases of shot wounds requiring laparotomy and suture of the intestines? 529.

Nephritis. A case of chronic interstitial nephritis. Ayer, J. B., 525.

Nervous System. Report of a case of epilepsy of forty-five years' duration, with autopsy, Channing, W., 4; tetany, Lyman, H. M., 12; nerve weakness, Holbrook, H. C., 17; a clinical report of nine cases of hemianopsia, Seguin, E. C., 33; scientific advance in the treatment of tumors of the brain, Beevor, C. E., and Horsley, V., 69; headache in school children, 70; urethran in chorea, Abbot, S. L., 109; lesion of both temporal lobes, causing almost absolute loss of memory of events, without word deafness, or deafness, Gray, L. C., 162; pseudo-hypertrophic paralysis, Gibney, V. P., 163; multiple tumors of the cerebrum, probably of specific origin, occurring in an infant, McNutt, S. J., 164; the cause of electrotonus and the normal formula of polar reactions, Massey, G. B., 164; report of the committee on electrical dosage, 165; notes on the brain, Wilder, B. G., 165; some affections of the nervous system associated with tuberculosis, Weber, L. G., 166; lithæmia, 167; the relations of the inferior thyroid artery and the recurrent laryngeal nerve, Dwight, T., 173; pseudo-tabes from arsenical poisoning, Dana, C. L., 187; the treatment of facial spasm, Sinkler, 188; intra-cerebral hæmorrhage in the young, Sachs, 188; auctioneer's cramp, Zenner, 189; exhibition of the medisected allnjected head of a murderer, Wilder, B. G., 210; moral insanity: a plea for a more exact cerebral pathology, Lloyd, J. H., 211; recent progress in diseases of the nervous system, Knapp, P. C., 253; reflex nervous phenomena from injuries to the testicle, Lumeau, 290; intracranial hæmorrhage, Formad, H. F., 302; cerebral infantile paralysis, 310; notes on syphilis of the nervous system, Putnam, J. J., 317, 328, 341: tenderness of the spine in health and disease, and the therapeutic effects of blistering over the fourth and fifth dorsal vertebræ, Prince, M., 347; combined sclerosis, 359; operations on nerves, Richardson, M. H., 368, 377; some phases of cerebral syphilis, Althaus, J., 378; on tetany and tetanilla, Althaus, J., 389, 417; some points in the pathology and treatment of paraplegia dependent on Pott's disease, Althaus, J., 405; athetosis with remarks on its pathology, Hammond, G. M., 407; lepto-meningitis infantum, Carroll, A. L., 428; abscess of the brain from suppurative otitis, Van Fleet, F., 431; the treatment of chorea by cimicifuga, 458; hysterical apoplexy, 461; chorea treated by gymnastic exercises during hypnotism, Pari, R., 484; a cure for neuralgia, Davis, H. G., 486; loss of weight in epilepsy, Hallager, F., 509; spinal irritation, its symptoms, pathology and treatment, Corning, J. L., 541; a case of professional neurosis of co-ordination, of unusual origin, Knapp, P. C., 577; cerebral localizations, 603.

Neuralgia. A cure for neuralgia, Davis, H. G., 486.

Newell, O. K. The male urethra, 443, 480.

New York Skin and Cancer Hospital, 558.

Nichols, A. H. Fatal poisoning by chloride of zinc applied to an epithelioma of the lip: with remarks, 443.

Nichols, J. T. G. Induced labor at the eighth month on account of pelvic deformity, 541.

Nipple-shield, Forster, E. J., 61.

Nibisnn, N. The reunion of severed digits, 386.

Northrup, W. P. Laryngeal diphtheria: intubation and pathological anatomy, 598.

Norris, W. F. Asthenopia and the changes in refraction in adult eyes, 162.

Noyes, H. D. Death of a patient on the fifth day after the extraction of a hard cataract, 137.

Obstetric gleanings: or expedients and mistakes, Driver, S. W., 208.

Odors. The gastronomic value of odors, 556.

Orthopraxy. A contribution to the etiology of Pott's disease, Sayre, L. H., 35; the treatment of lateral curvature. Bradford, E. H., 221; report on progress in orthopædic surgery, Bradford, E. H., and Lovett, R. W., 373, 398.

Osler, W. Bicuspid condition of the semi-lunar valves, and its relation to aortic valve-disease, 32.

Otis, E. O. Backward dislocation of the fingers upon the metacarpus, 202, 207.

Otis, F. N. Bladder evacuator, 501.

Ovariotomy. A discussion of the statistics of ovariotomy, Irish, J. C., 153, 159.

Paddock, F. K. The "Dunbar" case, 49.

Palmer, S. E. A case of puerperal eclampsia, 349.

Pancreas. Pancreatic hæmorrhage and sudden death, Draper, F. W., 393; the surgery of the pancreas, 506.

Paraldehyde. A contra-indication of paraldehyde, Sommer, 241.

Pari, R. Chorea cured by gymnastic exercises during hypnotism, 484.

Paris-green. A case of Paris-green poisoning, Doe, O. W., 301.

Parrish, W. H. The high mortality of the recent cæsarean operations in the United States, with the report of a case, 356.

Pasteur's new communication on rabies, 507.

Patent Medicines. The overcharge for patent medicines, 264; endorsing proprietary medicines, "John Collins, of Podunk," 226.

Pathology. Recent progress in pathology and pathological anatomy, Whitney, W. F., 448, 498.

Physical Training. Effects of military drill on boys, Sargent, D. A., 245; military drill and gymnastic training in physical culture, Hartwell, E. M., 249; discussion on military drill, 258; physical training of American youth, 262.

Physiology. Modern views as to functions of the liver, 18; glycogenesis and glycosuria, 66; on glycogenesis, Liebmann, G., 219, 242; about glycogenesis: reply to Dr. Liebmann, 242; the physiological effects of fear, 263.

Placenta. The actual as compared with the supposed structure of the placenta, Minot, C. S., 209.

Placenta Prævia. A method of treating placenta prævia, some points of which are not to be found in the standard works on midwifery, Bishop, P. E., 225; placenta prævia partialis, Bidwell, W. D., 376.

Pleurisy. Notes on some cases of diaphragmatic pleurisy, Brucu, E. T., 1.

Poisons. Iodoform poisoning, Cutler, E. G., 73, 101, 110, 118; vanilla poisoning, Davenport, B. F., 110; a not well-recognized source of domestic poisoning, with cases, Harrington, C., 135; toxic effect from permanganate of potassium, Bidwell, W. D., 147; poisoning by ice cream, Vaughan, V. C., 218; pseudo-tabes from arsenical poisoning, Dana, C. L., 187; the use and abuse of tea, 194; overdose of hydrobromate of hyoscin, Webber, S. G., 207; a case of Paris-green poisoning, Doe, O. W., 301; the poisoning of a whole family by "rough on rats," 312; fatal poisoning by chloride of zinc applied to an epithelioma of the lip: with remarks, Nichols, A. H., 343.

Polk, W. Peri-uterine inflammation, 31.

Pomeroy, O. D. A case of abscess of the mastoid cells where the chief indication for operation was elevation of temperature, 88.

Pooler, H. A. The milk-supply of large cities and the improper method in which it is conducted, 426.

Porter, C. B. Closure of artificial anus by intestinal suture, 80, 84.

Post, A. Report on genito-urinary surgery, 224.

Pott's Disease. A contribution to the etiology of Pott's disease, Sayre, L. H., 35.

Practice of Medicine. The coming physician, Crosby, G. A., 15; theory and practice of medicine, Brown, J. F., 16; regulation of the practice of medicine, Bidwell, W. D., 558.

Pregnancy, affections connected with. Report on obstetrics, Blaisdell, F., 15; Green, C. M., 26; a case of extra-uterine pregnancy, Kemp, E. A., 28; extra-uterine fœtation, with illustrative case, Lusk, W. T., 34; an unusual case of extra-uterine pregnancy, Blackwood, 46; salt infusion in the treatment of hæmorrhage, Harrington, F. B., 61; congenital anidrosis, Stedman, C. E., 61; the future influence of surgery and surgical resources upon obstetrics, Lee, C. C., 62; the management of cases of rigidity of the os uteri in labor, Boardman, W. E., 149; a case of extra-uterine fœtation, Chadwick, J. R., 159; a case of retinitis albuminurica: induced premature labor, Risley, S. D., 187; obstetric gleanings or expedients and mistakes, Driver, S. W., 208; the actual as compared with the supposed structure of the placenta, Minot, C. S., 209; a method of treating placenta prævia, some points of which are not to be found in the standard works of midwifery, Bishop, P. E., 225; extensive phlebitis and pelvic abscess following abortion, Minot, F., 279, 282; possible embolism after labor, with recovery, Buckingham, E. M., 282; ergot after labor, Goodman, J., 330; a case of puerperal eclampsia, Palmer, S. E., 349; a case of puerperal diphtheria, Forster, E. J., 321; the blue discoloration of the vaginal entrance as a diagnostic sign of pregnancy, Chadwick, J. R., 355; the high mortality of the recent cæsarean operation in the United States, with the report of a case. Parrish, W. H., 356; placenta prævia partialis, Bidwell, W. D., 376; two cases of obstetric interest, Hosmer, A., 402, 404; induced labor at the eighth month on account of pelvic deformity, Nichols, J. T. G., 548; two cases of labor complicated with fibroid tumors, with remarks, Boardman, W. E., 591, 594.

Prince, M. Tenderness of the spine in health and disease and the therapeutic effects of blistering over the fourth and fifth vertebræ, 347; on the exact measurement of the electric current and other practical points in the destruction of hair by electrolysis with special reference to the use of the absolute galvanometer, 420.

Prizes. The Ernest Krackonizer prize, 502.

Prout, J. S. Badal's operation: laceration of the infra-trochlear nerve for the relief of glaucoma, with cases, 185: new formation in the vitreous of both eyes, 186.

Putnam, J. J. Notes on syphilis of the nervous system, 317, 328, 341.

Rags. Order to customs officers in regard to importation of old rags, 119; the State Board of Health to investigate rags as contagion carriers, 214.

Railway Spine, 286.

Randall, B. A. Two cases of severe traumatism of the eye with partial dislocation of the crystalline lens, 185.

Reamy, T. A. Address before American Gynæcological Association, 331.

Read, I. B. Rupture of an aneurism of the thoracic aorta, 552.

Recent Progress. Otology, Green, J. Orne, 9; obstetrics, Green, C. M., 26; gynæcology, Davenport, F. H., 59; medical chemistry, Hills, W. B., 81; ophthalmology, Wadsworth, O. F. and Standish, M., 106; thoracic disease, 155; surgery, Burrell, H. L. and Cushing, H. W., 177, 227; anatomy, Dwight, T., 205; nervous system, Knapp, P. C., 253; therapeutics, Williams, F. H., 276, 296; genito-urinary surgery, Post, A., 324; orthopædic surgery, Bradford, E. H., and Lovell, R. W., 373, 398; dermatology, Tilden, G. H., 400; bacteriology, Ernst, H. C., 424; pathology and pathological anatomy, Whitney, W. F., 448, 498; children, Rotch, T. M., 471; report on progress in ophthalmology, Wadsworth, O. F. and Standish, M., 520; report of progress relating to food and drugs, Davenport, B. F., 546.

Reeve, J. C. A case of abdominal section for chronic suppurative peritonitis, 329.

Registration. Forty-fourth Massachusetts registration report, 382.

Respiratory System. Notes on some cases of diaphragmatic pleurisy, Bruen, E. T., 1; spasm of the glottis in rickets, Whittaker, J. T., 11; an improved method of measuring the chest, Wilkins, 17; report on progress in thoracic disease, Shattuck, F. C., 155; salicylate of cocaine in asthma, Mosler, 193; whooping-cough at the age of fifty-one: treatment by cresolene, Ayer, J. B., 377; a case of pneumothorax, Adams, J. F. A., 397; resection of lung and removal of a kidney, Demons, 413; follicular tonsillitis, Langmaid, S. W., 455; pulmonary emphysema, Delafield, F., 474; phthisis: tubercular synovitis and caries of the wrist: excision with recovery from local condition, Cushing, H. W., 598; phthisical lung, injected with carbolized iodine, White, J. B., 598; laryngeal diphtheria: intubation and pathological anatomy, Northrup, W. P., 598.

Richardson, M. H. Operations on nerves, 368, 377; spermatorrhœa, 525; a case of gastrotomy: digital exploration of œsophagus and removal of plate of teeth: recovery, 567, 579.

Rickets. Spasm of the glottis in rickets, Whittaker, J. T., 11.

Risley, S. D. A case of retinitis albuminurica: induced premature labor, 187.

Robinson, A. R. Chondroma of the upper lip, 261.

Rotch, T. M. Report on diseases of children, 471.

Rome. On the hygienic laws and sanitary conditions of ancient Rome, Lanciani, R., 537, 565.

Saccharine. Fahlberg's saccharine, Leale, C. A., 553.

Sachs. Intracerebral hæmorrhage in the young, 188.

Salt Solution. Subcutaneous injection of salt solution, Tuttle, W. H., 362; salt infusion in the treatment of hæmorrhage, Harrington, F. B., 61.

Sandal-wood oil as an anti-blenorrhagic, 482.

Sargent, D. A. The effects of military drill on boys, 245, 258.

Sawyer, J. The character of inorganic cardiac murmurs, 22.

Sayre, L. H. A contribution to the etiology of Pott's disease, 35.

Scabies. Clinical notes on scabies, Greenough, F. B. 269.

Scarlatina. Scarlatina and milk, 115; scarlatina *sine* exanthema, 414.

School Hygiene. Currier, D. M., 15.

Scientific Men and their duties, Billings, J. S., 561, 585.

Sedgwick, W. F. The purification of drinking-water by filtration, 470, 476.

Seguin, E. C. A clinical report of nine cases of hemianopsia, 32.

Serpent-man, 412.

Sewage farming in England, Carpenter, A., 21.

Sexton, S. Acute and chronic purulent inflammation of the middle ear tract and their complications, 85; a new operation for the radical cure of chronic purulent inflammation of the middle ear tract, 85.

Shattuck, F. C. Report on progress in thoracic disease, 155; a case of malignant endocarditis, 574, 577.

Shattuck, G. B. Report on water-supply, 181.

Sherwell, S. Remarks and queries on and as to the relative frequency of moles and their pathological changes on the head and face, 284.

Sherwin, O. W. Reduction of copper in Fehling's solution with chloral hydrate, 487.

Silbermann. The cause of circular gastric ulcer, 534.

Simmons, G. C. A hint to oculists from the almond-eyed Asiatic, 338.

Simpson, J. Y. The functions of the thyroid gland, 618.

Slokier. The treatment of facial spasm, 188.

Snake-poison. Researches on snake poison, 554.

Snell, S. The offspring of the blind, 218.

Societies. American Academy of Medicine, 432; American Dermatological Association, 234, 259, 283; American Gynæcological Society, 305, 329, 351; American Neurological Association, 140, 162, 187, 210; American Ophthalmological Society, 89, 112, 137, 161, 184; American Otological Society, 85; American Public Health Association, 362; Association of American Physicians, 11, 31; Boston Society for Medical Improvement, 109, 328, 377, 452, 525, 623; Boston Society for Medical Observation, 207, 351, 454; British Medical Association, 239; Congress of American Physicians and Surgeons, 313; Essex North District Medical Society, 404; Greece Royal Medical Society, 336; International Medical Congress, 119; Massachusetts Medical Society, 29, 476; Massachusetts Medical Benevolent Society, 456; Massachusetts Medico-Legal Society, 426; New Hampshire Medical Society, 14; New York Academy of Medicine, 62, 378, 405, 474, 502, 598; New York County Medical Association, 34, 230, 429, 549; New York State Medical Association, Fifth District Branch, 426, 527; Obstetrical Society of Boston, 60, 282, 404, 547; Philadelphia Pathological Society, 302; Rhode Island Medical Society, 622; Suffolk District Medical Society, 84, 159, 180, 208, 258, 479, 501, 577, 579, 594, 596.

Somerville poisoning sensation, 192.

Sommer. A contra-indication of paraldehyde, 241.

Souther, W. P. The reuniting of severed digits, 339.

Spear, E. D. A new ear-speculum, 594.

Spermatorrhœa, Richardson, M. H., 525.

Spinal Irritation, its symptoms, pathology and treatment, Corning, J. L., 541.

Spitzka, E. C. The attitude of legal medicine *versus* hydrophobia, 36.

Sponges. New aseptic sponges, Elliot, J. W., 502.

Stabler, A. A new portable battery and some details of its application, 404.

Stedman, C. E. Congenital anidrosis, 61.

Stelwagon, H. W. Clinical observations regarding the value of resorcin, icthyol, and lanolin in cutaneous diseases, 260.

Sternberg, G. M. The bacillus of typhoid fever, 32.

Strawbridge, G. Two hundred and sixty-three cases of cataract extraction with particular reference to the after-treatment, 114.

Suicide. The medico-legal aspects of suicide in life insurance, Clark, J. A., 337.

Surgery. Report on surgery, Hammond, C. B., 16; recent progress in surgery, Burrell, H. W., and Cushing, H. W., 177, 227; backward dislocation of the fingers upon the metacarpus, Otis, E. O., 202, 207; on rupture of the tendon of the long head of the biceps brachii muscle, Monks, G. H., 496, 501; notes on the treatment of stone in the bladder, Cabot, A. T., 518, 526; brain surgery again, 530; exostosis of facial bones, Cheever, D. W., 596.

Sutton, B. S. Another modification of Emmet's cervix operation, with a case in point, 307.

Sutton, R. S. Supra-vaginal hysterectomy, 355.

Syphilis. Syphilis in Corea, 169; some phases of cerebral syphilis, Althaus, J., 378; Syphilis of the nervous system, Putnam, J. J., 317, 328, 341; are all venereal patients liars? 531.

Taylor, R. W. Precocious gummata, 238.

Taylor, W. H. Notes on the Lawton murder, 318.

Tea. The use and abuse of tea, 194.

Temperance. Medical view of the temperance question, 333.

Testicle. Reflex nervous phenomena from injuries to the testicle, Lumeau, 290.

Tetany, Lyman, H. M., 12; tetany and tetanilla, Althaus, J., 389, 417.

Theobald, S. The amblyopia of squinting eyes: is it a determining cause or a consequent of the squint? 184.

Thorn, W. A., Jr. Medico-legal case: Albino birth: is it white or black? 94.

Thomas, T. G. Laparotomy as a diagnostic resource, 549.

Thomsen's Disease, 457.

Thompson, W. G. The movements of the heart and intestines illustrated by photography, 502.

Thornton, W. P. Perityphlitic abscess discharging spontaneously at the umbilicus, 485.

Thyroid Gland. Functions of the thyroid gland, 192; tuberculosis of the thyroid gland, 383; the functions of the thyroid gland, Simpson, J. Y., 618.

Tilden, G. H. Trophoneurosis of the skin caused by injury of the median nerve, 260; a case of probable tuberculosis of the skin, 285; report on the progress of dermatology, 400.

Tonsillitis. Follicular tonsillitis, Langmaid, S. W., 455.

Tracheotomy. Cases of tracheotomy in diphtheritic croup, Tupper, A. M., 53; the delayed removal of tracheotomy tubes with cases, Lovett, R. W., 56.

Tremaine, W. Discussion on shot wounds of the intestines, 527.

Tuberculosis. Some affections of the nervous system associated with tuberculosis, Weber, L. G., 166.

Tumor. Fibroid tumor, Cushing, E. W., 209; three cases of suppurating ovarian tumor treated by drainage, Elliot, J. W., 441; tumor of the breast, Beach, H. H. A., 452; two cases of labor complicated with fibroid tumors, with remarks, Boardman, W. E., 591, 594; ovarian tumors, Cushing, E. W., 595.

Tupper, A. M. Cases of tracheotomy in diphtheritic croup, 53.

Tuttle, A. H. Subcutaneous injection of salt solution, 362.

Typhoid Fever. Incubation of typhoid fever, 145; typhoid fever, Adams, I. H., 17; the bacillus of typhoid fever, Sternberg, G. M., 32; the treatment of typhoid fever in the New York Hospitals, 510; perforation of the intestine in a case of typhoid fever, Janeway, E. G.,552.

Tyson, J. Renal calculus, its diagnosis and treatment, 365.

Urethra. The male urethra, Newell, O. K., 443, 480.

Urinary System. An experimental study of glomerulo-nephritis, Welch, W. H., 31; cyanotic induration of the kidneys, Formad, H., 33; albuminuric retinitis, Blake, J. G., 49, 60; glycogenesis and glycosuria, 66; urinary incontinence of children treated by anodynes per rectum, Williams, E. T., 257; report on genito-urinary surgery, Post, A., 324; renal calculus: its diagnosis and treatment, Tyson, J., 365; resection of lung and removal of a kidney, Demons, 413; the male urethra, Newell, O. K., 443, 480; a case of supra-pubic lithotomy, Gavin, M. F., 447, 454; stone in the bladder: lithotomy, Beach, H. H. A., 452; stone in a female bladder, Elliot, J. W., 452; case of internal urethrotomy, Watson, F. S., 454; case of supra-pubic lithotomy, Cabot, A. T., 455; sandal-wood oil as an anti-blenorrhagic, 482; bladder evacuator, Otis, F. N., 501; an anodyne for use in vesical irritation, Copeland, W. P., 509; on diet in albuminuria, Dujardin-Beaumetz, 513; notes on the treatment of stone in the bladder, Cabot, A. T., 518, 526, 544; spontaneous fracture of stone in the bladder, Watson, F. S., 524, 525; a case of chronic interstitial nephritis, Ayer, J. B., 525; calculi: their alleged "spontaneous" fracture, 558; a reducing substance in urine resembling glucose, Brune, T. B., 621.

Vaccination complicated by a trivial wound, Ayer, J. B., 623,

Van Fleet, F. Abscess of brain from suppurative otitis, 431.

Vaughan, V. C. Poisoning by ice cream, 218.

Vital statistics of graduates of Harvard, 484.

Wadsworth, O. F. and Standish, M. Recent progress in ophthalmology, 106; report on progress in ophthalmology, 520.

Wallace, T. C. Are all venereal patients liars ? 583.

Water. Report on water-supply, Shattuck, G. B., 181; conditions affecting the growth of microbes in potable water, 337; the purification of drinking water by filtration, Sedgwick, W. F., 470, 476.

Watson, F. S. Case of internal urethrotomy, 454; spontaneous fracture of stone in the bladder, 524, 525.

Wehber, S. G. Overdose of hydrobromate of hyoscin, 207; concerning some hypnotics, 350.

Weber, L. G. Some affections of the nervous system associated with tuberculosis, 166.

Webster, D. Report of fifty cases of cataract extraction, 137.

Welch, W. H. An experimental study of glomerulo-nephritis, 31.

Wells, D. On the occupations of women and over-pressure, 437.

White, J. B. Phthisical lung, injected with carbolized iodine, 598.

White, J. C. Native plants injurious to the skin, 261.

White, W. R. A case of intestinal obstruction in an infant caused by the ingestion of wool, 622.

Whitney, W. F. Recent progress in pathology and pathological anatomy, 448, 498.

Whittaker, J. T. Spasm of the glottis in rickets, 11.

Whooping-cough at the age of fifty-one: treatment by cresolene, Ayer, J, B., 377.

Wigglesworth, E. Annual address before the American Dermatological Association, 234.

Wilder, B. G. The accurate collocation of a suture and fissure in the human fœtus, 140; notes on the brain, 165; exhibition of the medisected alinjected head of a murderer, 210.

Wilkins. An improved method of measuring the chest, 17.

Williams, E. T. Urinary incontinence of children treated by anodynes per rectum, 257; how to abort a felon, 41; milky tumors of the axilla, 583.

Williams, F. H. Report on therapeutics, 276, 296.

Wilson, E. Notes on the treatment of recent laceration of the cervix uteri, 307.

Wilson, H. P. C. The division of the cervix backwards in some forms of ante-flexion of the uterus with dysmenorrhœa and sterility, 305.

Wines, F. H. Statistics on the public wards of the United States, 194.

Woerishoffer, Mrs. The gift of Mrs. Woerishoffer to the New York Academy of Medicine, 437.

Wolcott, G. A case of "ulcerative endocarditis," 25, 30.

Wolpert's air-tester, 131.

Wylie, W. G. Two operations for intestinal obstruction, 503.

Zenner. Auctioneer's cramp, 189.

Original Articles.

NOTES ON SOME CASES OF DIAPHRAGMATIC PLEURISY.[1]

BY EDWARD T. BRUEN, M.D.,
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It has been my fortune to make a number of post-mortem examinations in which diaphragmatic pleurisy has been found present in marked form. In considering the clinical symptomatology, as studied ante-mortem, the results have yielded very varied evidence as to the practicability of recognizing this disease at the bedside. The object of this paper is to briefly state, from the clinical standpoint, the diagnostic features of diaphragmatic pleurisy. The statements I have to offer I have entitled notes, since they have been based on cases which have passed under my observation, without attempting a review of the interesting historical literature of the disease. It is unquestionable that the positive diagnosis of diaphragmatic pleurisy may only be established at the post-mortem table, since the process is often latent, and frequently possesses few distinctive physical signs.

Diaphragmatic pleurisy, as a primitive disease, is certainly infrequent, when traumatic causes are excluded. It is oftener a complication attendant upon acute inflammatory processes in the adjacent pulmonary lobes, the costo-parietal pleura, or in the liver or peritoneum. Inflammation of the diaphragmatic pleura also occurs in some cases of pyæmic inflammation of the serous membranes.

Under the foregoing conditions, invasion of the diaphragmatic pleura may be characterized by special symptoms, which may entitle one to designate this class of cases as acute inflammation of the diaphragmatic pleura.

Inflammation of this portion of the pleura may also be sub-acute or chronic, but developed in consequence of contiguous sub-acute or chronic inflammatory processes, or malignant growths. In such examples, the process in the diaphragmatic pleura may become specialized by symptoms which should lead the clinician to differentiate the diaphragmatic pleurisy from the associated pathological changes.

My notes upon cases manifesting the acute form of this disease would seem to show that, in such cases, many of the more prominent and differential symptoms may be masked by the greater importance of the primary disease. For example, in a case of croupous pneumonia of the apex of the lung, occurring in the Philadelphia Hospital during my present term of service, in which the process advanced through the lobes of the right lung, finally reaching the lower lobe by the end of the fifteenth day of the illness, diaphragmatic pleurisy was developed. The patient was delirious with typhoid state marked; yet the development of the new complication was characterized by pain over the hypochondriac region, extending over the flank to the inferior dorsal region of the right side, by hiccough, and irritation of the phrenic nerves, as shown by tenderness on pressure along their course. The hiccough was not constant, but was aroused by the passage of food into the stomach, or by its presence in that viscus, or accumulation of gas in the abdominal viscera, and was augmented when the patient, by moving, increased the frequency of respiration. Hiccough was sometimes similarly excited, but was always diminished in frequency or subdued by the use of morphia hypodermically, but was not relieved by the anti-spasmodics which are useful when the diaphragmatic irritability is traceable to the central nervous system.

It is stated that in diaphragmatic pleurisy, the position of the sufferer during a paroxysm of pain and dyspnœa corresponds with that observed under like conditions in emphysematous subjects, that is, inclined forward, so as to lessen the diaphragmatic movement. But in this case, as in most instances of diaphragmatic pleurisy in connection with acute types of disease, the position was not characteristic. The post-mortem confirmed the ante-mortem diagnosis.

The symptoms of diaphragmatic pleurisy associated with peri-hepatitis, or inflammatory processes originating in the peritoneum, are very often obscured and rendered inconspicuous by the conditions associated with these processes. For instance, the enlargement of the liver, or the distension of the intestines with gas, may so sensibly modify the freedom of the diaphragmatic movement that the respiration may be costal, and the immobility of the diaphragm, one of the prominent symptoms of diaphragmatic pleurisy, may not be differentiated, and assigned to its true cause.

The symptom of hiccough may be suppressed by similar conditions, while the posture of a patient suffering from diaphragmatic pleurisy is not usually at all characteristic. Very often, however, the characteristic pain over the situation, elsewhere designated, the added disablement of the respiratory function may be noticeable. Friction fremitus between the liver and edge of the ribs should lead one to suspect diaphragmatic pleurisy.

Concurrently with inflammation of the diaphragmatic pleura, friction râles may be audible along the line of union of the diaphragm with the lung. The râles are probably produced in the bronchial tubes in the lung bordering the diaphragm, and are caused by the hypostatic congestion which ensues upon the want of functional play of the lower zone of the chest. The icteroid tint and clay-colored stools may be associated symptoms in diaphragmatic pleurisy, concurrent with perihepatitis. In most of the cases which I have seen, the right side of the diaphragmatic pleura was invaded.

The termination of acute diaphragmatic pleurisy is intertwined with the associated pathological processes, and the gravity of a case is not necessarily increased if the symptom of hiccough is subordinate. In some apparently primary cases, a favorable issue may occur. In support of the foregoing statements, and as a typical example, let me briefly state the pertinent features of the case of X, a negro thirty-one years of age, who entered the Philadelphia Hospital, March 5. On examination, the diaphragm appeared fixed, the liver pushed below its normal position. The organ was also swollen and enlarged. Pain distributed over the diaphragmatic zone and at points elsewhere mentioned as characteristic. Friction râles were distinctly audible along the line of approximation of the visceral with the diaphragmatic pleura. Dyspnœa was marked, with jerky, enfeebled respiratory murmur, especially over lower lobe of the lung, together with slight dulness on percussion. The cardiac action was rapid. Subsequently, disseminated areas of consolidation appeared through the right lung, from apex to base, apparently due to congestion, since the normal physical signs reappeared within a week. Concurrently, an œdematous boss as large as a silver dollar, occupied the anterior axillary line over the right lobe of the liver; one or two other similar swellings appeared over the right inferior axillary region. These bosses were so soft and fluctuating as to lead me to make an exploratory aspiration of the liver. The needle was introduced three times fruitlessly, so far as finding pus, but without injury to the patient. The areas of œdema seemed to me attributable to sudden interference with the circulation through the diaphragmatic and intercostal lymphatic systems, on account of the suspended functional play of the diaphragm and intercostal muscles upon which the circulation of these lymphatics depends. Similar œdema of the intercostal muscles occurs in certain cases of emphysema. There was no hiccough. This case terminated in complete recovery after the expiration of five weeks.

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[1] Read at the first annual meeting of the Association of American Physicians, at Washington, June 17, 1886.

To show, however, that the acute forms of diaphragmatic pleurisy may progress to a marked degree without (even to expectant attention) the manifestation of diagnostic symptoms, I append a recent post-mortem held June 12th, at the Philadelphia Hospital, on a young colored man, aged nineteen. The lesions of acute miliary tuberculosis were found through the right and left lungs, secondary, on clinical ante-mortem evidence, to costo-parietal pleurisy. The right diaphragmatic pleura was found thickened to an inch by the deposit of lymph covering a dense layer of miliary nodules of tubercle, with comparatively little change in the costal pleura. The abdominal aspect of the diaphragm was also covered with miliary nodules, indicating that the extensive tubercular peritonitis which was formed had probably been developed through transferrence of elements from the pleural process through the diapbragmatic lymphatics, by which there is a connective channel between the pleural and peritoneal lymphatics.

During life the diagnosis of the miliary tuberculosis and of the costo-parietal pleurisy was positively established, but the only symptom which suggested involvement of the diaphragmatic pleura was the numerous friction râles heard along the upper border of the fifth rib and near the margin of the seventh rib in axillary line, and this, although it was known that a considerable amount of fluid was contained in the pleural cavity. The râles were doubtless developed by the friction between the diaphragmatic pleura over the convexity of the liver, and the visceral pleura over the concavity of the lower pulmonary lobe. The lung itself rendered hard and inelastic by the tubercular infiltration, projected in rigid immovable form into the pleural cavity, displacing the effusion around it.

As already indicated in the outset, the sub-acute or chronic forms of diaphragmatic pleurisy, although combined with other lesions, impart certain conspicuous characters to the symptoms, which are less obscured by the intercurrent disease than in many cases of the acute forms of the disease. The following case may be appealed to as reasonably typical: J. G., aged forty-four, admitted to Philadelphia Hospital 8.12,1885. Dates his illness to a cold two years ago, and has had cough ever since. When examined, the usual physical signs revealed fairly marked emphysema, with indurative consolidation of the right apex. It was noted, however, that the liver was displaced downward three inches from the eighth rib in the axillary region, the dulness in the nipple line extended two inches on line with inferior margin of ribs. A localized spot of tenderness was found two and one-half inches from the edge of ribs near a line prolonged from the inner border of the sternum, resembling the *button diaphragmatique*) of De Mussy. Tenderness was felt in the lower intercostal spaces behind, near the spine, and also along the course of the phrenic nerves, near the borders of the sternum, and especially under the lower insertion of the sterno-cleido mastoid muscle. The attitude of the patient was always inclined forward, especially during attacks of pain, which came on paroxysmally several times daily, notably when food was taken. Sometimes exudations of gas occurred during a paroxysm of pain, which seemed to give relief. The most conspicuous feature was fixation of the diaphragm, which occasioned superficial shallow breathing. The respiration was mostly costal and limited to the upper part of the chest. Inspection showed retraction of the hypochondriac and epigastric regions, and also of the interspaces between the lower ribs to a greater degree than could be accounted for by the emphysema. It was held that the diaphragmatic pleurisy had been secondary to costo-parietal pleurisy, the characteristic symptoms separating the diaphragmatic disease from the associated emphysema, being the posture, the fixation of the diaphragm, the areas of tenderness, the paroxysmal pain. The retraction of the epigastic and hypochondriac regions was due to the forward inclination of the person, assumed to lessen the play of the diaphragm, and facilitate superior costal respiration. It was necessary, in this case, to exclude from the clinical picture gastric ulcer, since the tenderness over the epigastrium was very local; circumscribed peritonitis, and gall-stone, (the latter suggested by the icteroid tint which was always more marked after a paroxysm of pain), were also set aside by appropriate methods. The post-mortem in this case confirmed the diagnosis. On both sides the diaphragmatic pleura was thickened and adherent to the pulmonary lobes. The lungs were emphysematous with induration of the right upper lobe. There were adhesions over the axillary region between the costo-parietal and visceral layers of the pleura on the right side. Phrenic nerves apparently normal.

One must be prepared for wide variations in the symptoms of this interesting disease, for the power of adaptation possessed by the system is very great, as we can see illustrated by the long period during which an adherent pericardial sac can be tolerated. Moreover, even deficiency of diaphragmatic structure may occur without marked symptoms. In a case reported to the Philadelphia County Medical Society by the writer, very great thickening to the extent of three inches occurred in the entire pleura of the left lung. Between the first and fourth ribs, near the sternum, the costal cartilages had been bulged outward over the area of thickened pleura. The lungs upon the left side were infiltrated by desquamative pneumonic processes with cavities. The muscular tissue of the diaphragm was entirely absent, as was also the pericardial tissue. These latter changes were doubtless congenital. The liver was folded upon itself, and drawn up into the chest cavity as high as the second rib at its outer portion. The absence of the pericardium permitted the heart to yield to the traction of the pleural adhesions, and the apex was tilted upward and to the left, so that during life the apex pulsation was felt in the fourth interspace four and one-half inches from the left border of the sternum. The patient dated his symptoms to a period eight years prior to his death. He complained especially of pain in and around the chest, with shortness of breath accompanied with asthmatic attacks. The patient was thirty-two years old at death, consequently as the first twenty-four years of his life had been free from distress, it was reasonable to ascribe the above symptoms to the onset of the pleurisy.[2]

In a case very fully reported by Tyson,[3] the diaphragmatic pleura of the right side was covered with gray granulations, and thickened, as was also the costal surface of the right pleura, and yet none of the so-called diagnostic symptoms of diaphragmatic pleurisy had been recorded. But in a case of intra-thoracic cancer, involving pleura, diaphragm and chest-walls, reported by Pepper,[4] I would call attention to certain symptoms. "Marked pleural effusion on right side, with violent orthopnœa. The physical signs were localized chest pain, absence of respiratory sounds and dulness on the right side. These signs gradually diminished, and in a month the patient was much better. There was return of resonance, diminution in pain, and much improvement in general health. During the whole period of the patient's illness there was marked disturbance of the liver, with heavily coated tongue and torpid bowels. The effusion returned in about two months with the orthopnœa. There then appeared for the first time distinct prominences upon the chest walls, with severe pain. The first prominence appeared over the ninth rib posteriorily four inches from the spine. The second appeared below the sternal end of the right clavicle, the third on the right side in the line of the arm-pit, about the tenth rib. . . . Sleep was disturbed by the intense pain, which was constant, but also increased paroxysmally. The pain was most felt at the points of prominence, but also extended down the nerves of the right arm."

The post-mortem record showed the tumor mass on the posterior surface was very large and extensive, and involved both layers of the pleura and also the superficial layer of lung tissue at a few points. It reached from the third rib down to the diaphragm and was fully an inch thick in some places. The mass low down on the right side was smaller, also involved both layers of the pleura and was continuous with a large growth which involved the whole thickness of the diaphragm. The anterior part of this muscle was chiefly affected: the growth in places was fully one-half to two inches in thickness, and the disease extended across the median line where it was continuous with the mediastinal growth before described. At one spot over the convexity of the liver, there was an extension of cancerous disease to the capsule and superficial layer of the tissue of that organ. There was no pleural effusion, though during life small amounts of fluid had from time to time been withdrawn by aspiration. The tender spots, while directly traceable to the growths, yet occupied the characteristic situations of tenderness indicative of diaphragmatic disease. Again, Dr. Daland of Philadelphia, has related to me the notes of a case occurring in a woman, under his care, who died from cancer of the breast, in whom, on post-mortem, the right lung was found completely adherent to the diaphragm by a union which must have seriously crippled the expansion and contraction of that lobe, and indeed that side, and yet she presented no symptoms of pulmonary embarrassment by which the lesion could have been suspected.

The diagnosis of a disease in which there is often so little that is distinctive, must necessarily be a difficult problem. I have shown by the relation of several post-mortem examinations that this process can exist in advanced form on one side of the diaphragm at least without special symptoms. If the diaphragmatic pleurisy should complicate any form of pulmonary disablement, or pathological process in the liver, or circumscribed peritonitis of the superior part of the abdominal cavity, one may note that the subjective sense of respiratory distress, and the objective symptoms are disproportionate to these conditions, and therefore the possibility of the existence of diaphragmatic pleurisy should be considered.

The more important diagnostic symptoms which, if present, indicate diaphragmatic pleurisy may be ranged in the order of their frequency and importance, as follows: subjective sensation of pain over the zone which borders the diaphragmatic plane, pain on pressure at the *button diaphragmatic* of De Mussy, namely,[5] one or two fingers' breadth from the middle line on a level with the tenth rib, or at the intersection of a line drawn from the osseous part of the tenth rib and one drawn along the border of the sternum. De Mussy explains the greater pain at this point by the greater play of the ribs and consequent friction against the inflammed nerve. Whether the nerve is actually inflammed, or simply irritated, must as yet await investigation by further post-mortem examinations. The pains may be constant, yet also paroxysmal, or evoked by pressure, by increased respiratory motion, by irritation of the diaphragm, by swallowing, or vomiting, or by the pressure of the distended abdominal viscera. Radiating pains around the chest and upper abdominal zone may occur. Fixation of the diaphragm is an equally important symptom, and secondarily, the enforced thoracic character of the respiration is a very striking phenomena. There will usually be feeble, or absent respiratory murmur near the diaphragmatic zone.

Dry or moist friction râles may be audible along the convex surface of the diaphragmatic pleura. The percussion resonance may be dull when there is much exudation, but more commonly I have found it tympanitic, since the partial paresis of the diaphragmatic muscle permits the pressure of the abdominal viscera to raise it somewhat above its usual area. In certain cases the posture of the patient may be bent forwards with retraction of the hypochondriac region and epigastric hollowness, but the dorsal decubitus is very often maintained. The respirations are quickened in acute cases, so that there may be dyspnœa, or orthopnœa, but these symptoms may be almost entirely absent in sub-acute or chronic cases on account of compensatory costal respiration. Cough is a variable symptom, and the same may be said of hiccough; both are very often absent. Finally, in the writer's experience, diaphragmatic pleurisy has been chiefly a thickening with adhesions rather than accompanied by much fluid exudation. Hence the importance of noting the foregoing symptoms since the presence of much fluid exudation would be much more obvious, by means of percussion, auscultation and other physical signs.

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[2] See Trans. Phila. County Med. Soc., Vol. 5, p. 111.
[3] See Trans. Path. Soc., Phila., Vol. 5, p. 122.
[4] Trans. Path. Soc., Phila., Vol. 7, p. 71.
[5] Arch. Gen. de Med., 1853, vol. 2, p. 274.

Aside from any discussion of the differential diagnosis as separating diaphragmatic pleurisy from costo-parietal pleurisy, or processes in the lower pulmonary lobes, or in the pericardium; and aside from a discussion of the differential symptoms separating the disease under discussion from perihepatitis, or circumscribed peritonitis in the upper part of the abdominal cavity, one must consider in certain cases the diagnosis by exclusion of gastric ulcer, and this particularly if the *button diaphragmatique* should be manifest. Multiple ulcers of the stomach may advance without symptoms quite to the period of perforation into the peritoneal cavity, but the pain in certain other cases of this disorder has a wide distribution radiating to the back and along the shoulders. In gastric ulcer the symptoms may be aggravated by the ingestion of food, and vomiting may follow. In diaphragmatic pleurisy the ingestion of food may cause pain by the distension of the stomach, which will induce pressure against the diaphragm; with this there may be coughing, and even vomiting. The differential diagnosis may only be settled after a rigid analysis of the etiological relations of the array of symptoms. In some cases the paroxysmal character of the pain, the icteroid tint may suggest gall stone, especially if there is also localized peritonitis around the duct. Circumscribed peritonitis or peritonitis of the tubercular variety may exist and it may be quite impossible to differentiate the processes. Pain, dyspnœa, hiccough, and vomiting may be common to both conditions, and moreover, both conditions may be intertwined.

Rheumatism of the diaphragm is recognizable by its relation with the rheumatic diathesis; pain on respiratory effort may be acute and is felt over the diaphragmatic zone, and at the insertions of the muscle. In chronic pericarditis the symptoms may resemble diaphragmatic pleurisy, especially by the symptoms of dyspnœa and pain, over the costo-ziphoid region. I need not, however, develop the physical signs which should enable one in most cases to decide the existence of the former affection, but when the diaphragmatic pleura on the left side is concurrently affected, the differential diagnosis may be very difficult, or impossible.

The prognosis of diaphragmatique pleurisy is intertwined with the intercurrent pathological process, and in its acute forms has already been discussed. When the process is sub-acute or chronic, although adhesions may form, the powers of adaptation possessed by the pulmonary system are so great that the duration even of double diaphragmatic pleurisy may be indefinite. The most serious symptom in my experience is hiccough, which is especially uncontrollable in this relation.

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REPORT OF A CASE OF EPILEPSY OF FORTY-FIVE YEARS' DURATION, WITH AUTOPSY.[1]

BY WALTER CHANNING, M.D.

The patient, a female eighty-one years of age, died in February of the present year (1886). She was small in statue, of wiry, active build, and capable of enduring considerable physical strain. In old age she was lithe and active as a child, and possessed the characteristic of her family — of retaining the natural color of her hair, with few gray hairs, up to the day of death. She belonged to a long-lived family, a sister living to upwards of ninety-five, and another relative to over one hundred. She inherited no insanity, but some members of the family were nervous, impulsive, and quick-tempered. She was herself rather quick and impulsive in her feelings, and had such unusual ways of doing things that she was sometimes called eccentric.

She was married, had one child, and was in fair general health up to 1841, when she sustained a severe injury by being thrown from a carriage on to a stone wall, striking on her forehead. The point struck was in the middle of the forehead, about an inch above the supra-orbital arches, and exactly in the median line. An indistinct cicatrix at the point described has always been apparent on near inspection. It was round, and about the size of a half dollar. A relative states that the attending physician performed the operation of trepanning, or trephining, and the circular shape of the cicatrix, both of the scalp and skull, would seem to bear out the assertion that the latter operation might have been done. A later medical attendant says that he never heard of it, but the probabilities are that it was performed.

The accident was followed by symptoms of concussion, and for several weeks the patient was unconscious and delirious. She slowly recovered from the accident, not regaining her former physical strength. Up to the year 1859 she continued in fair health mentally and physically, though growing more peculiar and eccentric. During these twenty years she passed through the change of life.

In 1859 she had the first attack of *grand mal* now known to the friends. That she had previously been subject to seizure of nocturnal epilepsy in the form of *petit mal*, the statements of some observers and the change in her condition furnish strong presumptive evidence. The attack of 1859 was characteristic. Others occurring soon after made it necessary to have her always in the company of some one else, in order that no accident might occur. These attacks were accompanied or followed by slight local paralysis, and the mouth became permanently drawn to the right side. Mental irritability also began to develop, accompanied sometimes by excitement, and later by delusive ideas and violence.

She finally became unmanageable at home, and in 1867 she was taken to the McLean Asylum. The record book of the Asylum refers to the accident, and says that "sight was lost for some time after the accident. After she could read, the slightest pressure on the base of either eye made her blind. There was also paralysis of the auditory nerves, hearing returning first in one ear, then in the other. Speech was also impaired. She had been having the epileptic seizures for six years, and her general health had been poor. Sometimes she would have several during the twenty-four hours, then none for several days. Brown-Séquard had treated her, and for the year previous to admission, she had had no fits, but the general and mental condition had grown poorer. At admission seemed very feeble; speech was a little affected, there being a slight clipping of some words; the memory was weak; she had been excited at home, and turned against those about her." She remained at the asylum four months. During this time, she took forty grains of bromide of potass three times daily, and had only one fit. She was discharged as practically recovered so far as the attack of mental trouble was concerned.

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[1] Read March 18, 1886, before the Boston Medico-Psychological Society.

From the time of her discharge to the summer of 1871, she was well enough to be at home, though having occasional attacks. In September of that year she was seized with a succession of epileptic convulsions, which followed each other in rapid succession to the number of twenty-five. After these she was excited and violent, and was kept for three days in a camisole. She turned against her husband, accusing him of being in league with the servants to poison her. She was then sent to the asylum at her own request, remaining nearly two months. She took one hundred and twenty grains of the bromide of potass daily, and had only two epileptic seizures. She was quite comfortable when discharged.

In 1875 she again had numerous attacks of *petit mal*, which had occasionally shown themselves since her last discharge. Becoming violent and unmanageable, she was again admitted to the McLean Asylum in a more excited condition than at any previous time. She soon became quiet, but had seizures of *petit mal* at frequent intervals, combined with irritability and various insane ideas. She now began to make many and extraordinary demands, such as having an aurist, oculist, hair-dresser, chiropodist, female physician, etc., summoned immediately, and was extremely angry because her wishes were not immediately complied with. In the spring of 1876 she was discharged, being at that time somewhat better.

She was again admitted to the McLean Asylum in the summer of 1877 in about the same condition as at the last time, except that she was perhaps more violent, being brought to the asylum bound to an iron bedstead. She remained at the asylum until January, 1879, having periodical attacks of *grand* and *petit mal*, and growing mentally rather more feeble.

At this time she came under my care. On admission I made the note: "Her history points to attacks of nocturnal epilepsy, alternating with day attacks; reduced in flesh; complexion bad; pulse weak, 80; quite bright in conversation; memory fair; says she is very poor, and must save carefully; picks up threads wherever she sees them; wishes to do her washing, mix various strange drinks, etc." At that time mouth was drawn to the right side; there was no impediment in her speech; sight was good; heard well on the left side, not so well on the other side; walked naturally; face marked with numerous scars received probably in past epileptic seizures.

A few days after admission, a severe maniacal attack developed, following an attack of nocturnal epilepsy. She slept none at all at night; had on almost no clothing; kept on her feet constantly, and occupied her time in washing, dressing, greasing her furniture, tearing her clothing, etc. This attack lasted two weeks, and was followed by a period of comparative quiet, in which she drove out daily, took her meals at the table, etc. At this time (February, 1879), I made this note: "To-day, while talking, eyes became fixed; this was quickly followed by unconsciousness and slight convulsion (a tremor more properly), the latter lasting half a minute. For an hour after this seizure actions were peculiar and unnatural. After this time tired, but as well as before the attack."

In May, 1879, I made the note: "Attacks of *petit mal* average once or twice a week, and occur about one-fourth of times at night."

July, 1879, I entered in my record book: "Since the last report, has been through the usual states of excitement, depression, quiet and irritability. This morning had one of her seizures of *petit mal*, followed by mental confusion. She now (9 A.M.) shows no indication of such an attack, and, as is often the case, is brighter and apparently better after than before the seizure."

In August she was not so well again, and I wrote: "As usual in her excited state, makes a great variety of requests, and is with difficulty restrained from carrying out her wild projects. To-day she wishes to go to Hovey's and Pierce's to buy a great variety of presents; she wants mucilage, a box of cologne, ammonia for furniture polish, locks of various persons' hair to make ball ear-rings, currants to make currant jelly for her own house, perfumes of different kinds, patent medicines, etc. Must go to the tin-smith's, carpenter's and other places."

In September she was much depressed, sitting most of the time quiet and listless in her own room.

In October she had much improved. Took a natural interest in her surroundings, drove and walked daily, called on her friends, and appeared almost well.

In November, she had passed again into a state of excitement. At that time she intended to get up a national fair, for which she had arranged an elaborate programme, and she gave me a list of twenty articles to buy. She had also prepared a mixture of water, figs, sugar-wine, and cuticura soap, which she said she drank with great benefit herself, and insisted on all persons taking.

She had at this time an attack of *grand mal*, but it seemed to have no connection with the general excitement.

November 22d, I made this note: "Has continued to grow more excited since last report. She will talk somewhat as follows: Has thirteen questions to ask as there are thirteen States; has put water into bottle of salt three times three because she was married in '33; has put ammonia into vessels with finely cut-up hairs to dissolve them; has bought four kinds of perfumes, one drop of each she proposes to put into rockers of her chair; wants poetry she has composed arranged to the best music, and have it sung publicly, and with the proceeds help her fair; wants four paper-weights bought and given to four prominent poets, one monster weight for the State-house; wants handsome pedometer bought for each State in the country; wants her brother's watch exhibited; wants to see the carpenter, plumber, baker, caterer, her old servants and numerous other people; wants her carriage repaired, and will present $5.00 to each person who works on it.

The next day she said she would write a book equal to the Bible, from an inspiration she had the night before; was soaking her teeth in spring-water, spitting everything sweet into one vessel and everything bitter into another.

On the fifth of December following, she had a severe attack of *grand mal*, left side was almost motionless, then severely convulsed, convulsions extending to the entire body; left eye closed as she came out of attack; speech for half an hour after consciousness returned, indistinct; would constantly repeat the same words.

This attack was the worst one she had had up to that date.

In the course of two weeks she again became quiet and rational.

It should be stated that the sense of smell and taste seemed to be almost, if not entirely absent. This fact I did not discover until she had been under my care for some time. Her mouth was usually dry, and she often said she could never shed tears, which was a fact, as I never knew her to shed a tear in six years under my care.

In looking back over the year 1879, the patient's mental condition seemed to have presented many of the characteristics of *folie circulaire*, the periods of excitement and depression being very marked, and the latter followed usually by a period of comparative lucidity, and mental stability; each period was, to be sure, quite short, and in that respect differing from *folie circulaire*.

A remarkable feature of the case, was the accompanying epileptic phenomena, which sometimes produced mental perturbation, but not at all at other times.

I do not mean to say that all the symptoms of mental instability were not dependent on epileptic discharges, but as observed externally, they took the form of *folie circulaire*.

The years 1880 and 1881 were not particularly eventful, the number of epileptic seizures averaging about the same. The patient's mind weakened a little, but so very little that it was hardly noticeable.

There were in these years more severe attacks of *grand mal*. The periods of excitement were about the same; the quiet periods of longer duration.

All this time her general health was excellent; her appetite was good, and when at her best it was not easy to see that the strain of repeated epileptic attacks had affected her general condition. Very frequently she would say that she had never had a headache in her life, and could not imagine how it would feel to have a pain in her head.

In 1882 I noticed a change in the character of the maniacal attacks; instead of a prolonged period of excitement followed by depression, there was now a change on alternate days. In September, 1883, I wrote: "She is now emerging from a condition of alternate mania and melancholia occurring on alternate days. The symptoms of each form of disease are perfectly typical. One day she gives away everything, and is about to die; the next day there is the excitement and incoherent language of acute mania, with destruction of clothing, drinking of urine, etc."

The next record of interest was in February, 1883, up to which time she had improved. The alternating character of the disease grew less marked, and after several attacks of *petit mal* on January 11th, followed by great violence, she daily grew more rational.

In February I wrote: "Very rarely knows about epileptic seizures, but knew one was coming two nights ago; she says her vision was first affected, she saw a small rain-bow, which increased in size and seemed very beautiful, then this disappeared, and she felt a peculiar sensation in her abdomen in the region of the left ovary, which gradually grew higher and higher."

In May, 1883, I wrote: "Has been depressed and excited on alternate days. Slept very poorly every other night, and more irritable on excited days. Increased violence characterizes her advancing age. Has about two attacks of *petit mal* weekly, usually at night." Later in this month she had a severe seizure of *grand mal* preceded by several of *petit mal*. On coming out of the attack the right side was found to be motionless, with mouth drawn to the left and left eye closed; could not speak for several hours and then incoherently. The paralysis began to pass off in two days and was entirely gone in five days. Hallucinations of sight were marked at this time, though her mind was quite clear.

For three months following she was comparatively comfortable; then the alternating attacks began. In December, 1883, I wrote: "She is one day bright, active and quite rational, and the next stupid, depressed and inclined to think she will die immediately. On the bright day her appetite has been good, and on the depressed day poor. The night of the depressed day good; the night of the excited day not so good."

At this time she described the pre-epileptic aura, as "a face in a star, with one bright and one dull eye. The bright eye has numerous bright rays of light, like eye-lashes projecting from it." After this vision comes, as described before, a pain in the epigastric region.

In April, 1884, after a period of alternating insanity in February, and comparatively good health in March, she had an epileptic seizure followed by a temporary paralysis of the left side. She used meaningless words, generally misplaced, for some days after this attack.

In September of the same year, I wrote: "Since the above record, has had a variety of epileptic seizures, both *grand* and *petit mal*, and by day and night. Her memory and general intelligence have weakened considerably. She now lives much in the past, and often mistakes those about her for old friends. The right side is usually principally affected during a seizure, and her power of clear articulation has been permanently impaired. She finds it difficult to select the right word, and is much irritated if not understood. She has occasional days of great irritability and violence, when she savagely attacks her nurse."

October and November following were months of comparative calm, and she was able to go to her meals, and drive, and walk a little, though her mind was weakened, as above recorded.

In December she was again violent. She attacked and pounded her nurse, seized her by the hair, tearing it out in handfuls, and was very furious. She had only six characteristic epileptic seizures during the month, though numerous attacks of violence, suspiciousness, depression, and cheerfulness. Her condition was very unstable, changing almost from one hour to another.

During the year 1885, the tendency was very slowly, but steadily downward. She was then in her eighty-first year, and the weakness, or lack of rallying power of advanced age, began to show itself. The number of epileptic and violent attacks were also greatly increased over any previous year, and tended to further reduce her strength.

In January, after an attack of *petit mal*, she saw and talked to an imaginary dog, heard him growl and was afraid of him. The same day she was violent and attempted to bite, and bit her own hands. She seemed to think she was a dog herself, and later during the year, when much excited, she imitated the actions and noises of animals, principally dogs.

She also began to make imaginary letters and write during this month, sometimes for an hour at a time, slowly going through the motions, dotting the i's, crossing the t's, and so forth.

On the 13th of January, there was cataleptic contraction of the arms. She would bend them at the elbow upward, and keep them bent until they were put down, then she would slowly raise them again.

On the 14th of January she saw a lion, and was afraid of him. She also made the motions of writing, and tried to spell the words. At this time she could not speak clearly, and some days had difficulty in walking.

On the 17th, she had an attack of *petit mal;* when she saw a dog, was very violent and called "murder."

She had a severe seizure of *grand mal* on the 27th, and thought she saw a bear. The next day another seizure occurred, when she saw a long dog, and tried to keep her feet away from it.

On the 30th, there were thirteen seizures, ten occurring in an hour and a half. Of these, two were severe *grand mal* seizures. On the 31st, there were one *grand mal*, and one *petit mal* seizure.

During the month of January, she had, altogether, twenty-three epileptic seizures, not including four severe attacks of violence, which were probably also due to epileptic discharges. There were not more than four quiet days. Nights were fairly good. No two days were alike. At different times in the same day, she was quiet, drowsy, depressed, irritable, suspicious, excited, and violent.

In February, between two seizures, thought she saw a black cat. She was not afraid of it, and tried to purr like a cat. During this month she had six epileptic seizures, and eight attacks of violence. The latter were only once near the time of an epileptic seizure, and then just before. They seemed to take the place of the epileptic seizures. There was more depression during this month, and more good days.

During March, there were three attacks of violence and thirteen epileptic seizures. About one-fourth of the days were quiet, and as natural as could be expected, with the gradual loss of mental power. One day she saw a dog behind a fence, and she tried to catch and pound him. The general character of the month was like that of February.

In April, there were three attacks of violence, and ten epileptic seizures. Most of the days she was drowsy, suspicious, or irritable. Speech was growing more confused, and she realized little that was going on around her. She walked with more difficulty than before.

In May, four attacks of violence and ten epileptic seizures. The month was about like April.

During June, there were seven attacks of violence and seven epileptic seizures, several of the latter being severe. After one of them, she talked about a cow jumping over a fence. Her mind was now quite feeble; she lived almost entirely in the past, her conversation referring to her own home and family.

July was an unusually good month, as she got out to drive on thirteen different days. She saw a gray mare during this month, and did some imaginary writing. She had two attacks of violence and six epileptic seizures.

August was a trying month with her, as she had sixteen epileptic seizures, many of them severe, and two attacks of violence. When excited, she would often bite, and scratch like an animal during this month.

In September, there were seven epileptic seizures, most of them severe, and two attacks of violence.

In October, there were three attacks of violence and twelve epileptic seizures. Most of this month, when quiet, she was in a dazed or drowsy condition. She was settling into this state more and more as time went on, and only roused partially from it. She was less noisy in her violence, and, on the whole, less violent.

During November there were five attacks of violence, and nine epileptic seizures, none of the latter of unusual severity. She was less dazed this month, and went to drive several times. She was unable to walk without assistance, and the right side was weaker than the left, and becoming more so. Her food she began to swallow with difficulty. She had bitten and growled like an animal several times, when excited, during the month.

In December there were no attacks of violence, and eleven epileptic seizures, two of these being severe. She had grown slightly more feeble during this month. The right side was weaker, and she had lost the power to masticate or swallow solid food.

Altogether, during the year there had been one hundred and thirty characteristic seizures and forty-two attacks of violence, which were of undoubted epileptic origin. If we add both kinds together, we have a total of one hundred and seventy two epileptic attacks, which was a much larger number than in any previous year, as before stated, though they had not been before so carefully observed and counted.

During the month of January, 1886, she had nine epileptic seizures and four attacks of violence. The last epileptic seizure on the 31st was very severe, lasting some time, and being followed by several attacks of vomiting and twitching of the right eye and side.

After this time she was not able to sit up, though placed on a sofa. She also swallowed with difficulty, the milk, etc., remaining in her throat. Most of the time she was in a stupor, breathing heavily, and sometimes with difficulty. She sank gradually, and died on February 12th.

The autopsy was made fifty-two hours after death by Dr. A. N. Blodgett, assisted by myself, and the report is as follows: —

The body is that of a woman, of spare figure and medium height. The relative proportions of skull to face, and of the face to body, are apparently normal. Upon the body is an old cicatrix, occupying a position in the median line, and three cm. above the line of the supra-orbital arches. Higher on the forehead, are the appearances of other old cicatrices. The scalp is normal; nowhere are any signs of depression or other abnormal conditions observed. The calvarium is thick and heavy, the frontal sinus is absent. The dura mater cerebralis is not unusually adherent to the calvarium. The convexity of the dura is the seat of four small grayish excresences, varying in size from three to six mm., and rising about one mm. above the general niveau of the surrounding surface. The superior longitudinal sinus is empty. The dura is much thickened, bearing a close resemblance in some parts, especially over both anterior lobes, to a thick aponeurosis. It is unusually adherent to the pia, and when separated from the latter, is seen to present a marbled, or rather an embossed surface, as it is perceptibly thickened, and much more opaque in those parts which correspond to the intervals between the cerebral convolutions. The pia is everywhere quite vascular, and firmly adherent to the substance of the brain, from which it is difficult to separate it without injury to the cerebral tissues. About one hundred cc. of serous fluid is discharged from the cavity of the dura mater.

At a point corresponding to the cicatrix of the supra-orbital ridge, is seen on the inner surface of the skull, a surface about two cm. in diameter, which is the seat of a moderate, irregular hypertrophy, with three small, prominent bony protuberances extending about two mm. above the general surface of the bone around. From the posterior border of the crista Galli, and extending as far backward as the optic groove, is a surface ca. three cm. long by fifteen mm. broad, to which the dura mater and the substance of the brain are so firmly adherent that they cannot be separated without laceration. The normal surface of the ethmoidal plate has been replaced by a dense and firm layer of bone, in which the perforations of the ethmoid are not preserved. The surface of the body of the sphenoid is raised above the normal level, and is thickly covered by small, elevated projections, to which portions of dura mater are inseparably attached. The entire surface is injected, and presents the appearances of chronic, progressive, osseous hypertrophy. The brain was removed with some difficulty, owing to the softened condition of the anterior lobes.

The vertebral arteries were the seat of extensive atheroma, and the inner coats were very loosely attached to the outer, so that they were easily separable. The entire basilar artery was the seat of the same atheromatous change, which had here intruded upon the inner surface of the vessel, so that its lumen was reduced in diameter at least one-half. The same condition existed in both posterior communicating arteries, and was especially marked in the carotids of both sides. This was also the case in the anterior cerebrals, and the anterior communicating artery was found to be entirely closed, being reduced to the appearance of fibrous cord. Thus the entire "Circle of Willis" was the seat of extensive atheromatous disease, the lumen of the basilar artery was reduced one-half by the encroachment of the same pathological process, and the walls of the vessel were much weakened. The calibre of the anterior communicating artery was obliterated at one point, so that there was no possibility of arterial supply to the opposite side of the brain through this channel. The anterior cerebral arteries were the seat of numerous small, aneurismal dilatations, as were the middle cerebral arteries of both sides. This condition existed through the entire fissure of Sylvius, on each side, and was noticed also in the primary ramifactions of the distributing branches.

The frontal convolutions were flattened, the gray matter was thinned upon its periphery, and the convolutions presented the appearance of being subject to considerable pressure.

The ventricles contain but the normal amount of fluid, the consistence of the brain-matter is normal, and there is no appearance of pathological changes in these parts of the brain. Sections were made through the thalamus optici and through the entire hemispheres, as well as through the cerebellum, without discovering any notable signs of disease. Portions of the choroid plexus showed circumscribed patches of grayish color, due, apparently, to fatty changes of limited area.

Diagnosis ex Sectione. Pachymengitis circumscripta. Hypertrophea duræ mat. Meningitis subacuta chronica. Atheroma arteriarum omn. Atresia arteriæ basilaris cerebri. Endarteritis obliterans arteriæ ant. com. Aneurisma circumscripta mult. Encephalitis circumscripta chronica. Hypertrophea basis cranii in os. front. et. sphen. med.

This case presents many features of interest, only a part of which I can consider this evening. The long duration, forty-five years, and the period of life which it covered are unusual. Few individuals have sustained so many and such severe attacks without succumbing much earlier.

No doubt the pyschical form existed for the first twenty years after the accident, probably occurring as epilepsia mitior, or *petit mal*, and as nocturnal or larvated seizures. As time went on, the motor zones, as well as other portions of the brain, became more and more irritated, giving rise to the attacks of epilepsia gravior. That there is no pathological difference in the two forms, would seem to be borne out by this case. Either one was apt to occur, or one ran into another, and there was no regularity or periodicity to any of the attacks. It can only be said that every few days, the number of times increasing as the disease progressed, there seemed to be a necessity on the part of the brain to bring about a discharge to restore its equilibrium. As has been stated by Seppilli in his experiments on animals, and other authors in regard to man, the intensity of the attack may be entirely different at different times in the same individual. It may be diminished, abolished, or exaggerated under the action of various causes. The attacks depend largely on the excitability of the cerebral motor centres.

The attacks of violence to which I have referred as being of epileptic origin, are interesting as being one of the substitutive forms of epilepsy, and resembling or similar to those occurring in cases of larvated epilepsy, so-called for want of a better name. Had the patient above described belonged to the criminal classes, or had her social environment been lower and attended by a severe and anxious struggle for the means of living, the automatic and unconscious act of violence might have taken a homocidal or suicidal direction. Echeverria[2] quotes Laségue, who pointed out the difference between the impulsive outbursts of ordinary insanity and epilepsy, as saying that unconsciousness stands prominently as the characteristic, distinctive of any act of violence perpetuated during the manifestations of the epileptic neurosis. "In either case," Echeverria says, "the original source of the transient fit is a morbid conception, whether impressed upon the sensorial regions of the brain by a precursory real emotion, or outer imitation, . . . or by some subjective inner feeling, the offshoot from a delusional groundwork that brings forth the excitation of sensory motor processes concerned in the insane abrupt act, automatically accomplished and elaborated in both cases in a coherent, logical manner, which necessarily involves a more or less considerable degree of deliberation." These last words are not correct as conveying the right idea of many of my patient's acts of violence, though the general explanation of the act seems extremely apropos. There were, however, attacks where a certain amount of coherence and deliberation were apparent. Thus on one occasion the patient got out of her window on to the roof of a little piazza. She was obliged to first place a chair on the roof, then with great care to step on to it, and then down. A very slight jar would have thrown her on to the ground. When once on the roof she felt she had accomplished her object to get the advantage of her nurse, and she remained quiet until brought back.

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[2] Journal Mental Science, 1885.

The varieties of insanity displayed in this case were extraordinary, and each kind was typical. Some of them occurred directly in connection with the epileptic attack, but others, as has been before stated, seemed to be independent, and the two varieties of symptoms, namely, those caused by the epilepsy and those caused by other exciting cerebral conditions, seem to run along together, or to jar against each other, producing many peculiar complications. In view of the extensive and peculiar post-mortem appearances, it is more easy to understand how this was possible.

The autopsy seems to show that the original injury was followed by an acute meningitis, which degenerated into a chronic meningitis, and the enormous hypertrophy, which is apparent on inspecting the dura mater is conclusive evidence of this fact. In this connection the following concerning the dura mater is of interest:

C. K. Mills, M.D., and J. W. White, M.D., report a case of epilepsy in which the operation of trephining was performed, and speak of the general nature of the spasms, which were not localized, nor confined to one limb nor one side of the body. They think the spasmodic seizures "were probably due to irritation of the dura mater, what might be called dural, or meningeal spasms. They were not due to irritation of the cortical motor zone, the form of spasm sometime spoken of as Jacksonian epilepsy. Lesions of the motor cortex cause disorders in the opposite side of the body; irritative lesions cause monospasm, or unilateral spasm of the opposite side.

The researches of H. Ducat[2] on cerebral traumatisms, have thrown considerable light on the rôle which the dura mater and its nerves play in these cases. Irritation of these branches of the trigeminal, or fifth pair of nerves which go to the dura mater, produces in addition to hyperæsthesia, pain and vaso-motor disturbances, reflex spasms of peculiar character. Strong, powerful stimulation of the dura mater continued and developed was shown in certain physiological experiments of Bochefontaine to determine movements in both sides of the face, in the neck, and all four limbs. The movements of the limbs on the same side were more energetic than those on the opposite side.

The insane condition, apart from the epileptic, could be accounted for by the flattening of the frontal convolution, the thinning of the gray matter upon its periphery, and the indications of pressure.

The osseous hypertrophy of the middle portion of the sphenoid and ethmoid bones was remarkable. There was extraordinary roughening, and the appearances were similar to those that might be found in an old fracture. Not that any fracture had ever existed, but it seemed as if the force of the original blow had been projected backward and centred at this point, resulting in chronic inflammation, both of the meninges and bone. And it further seemed that this inflammatory trouble and the extraordinary growth and adhesion of the dura mater to the bone had gradually interfered with the circulation of the blood, through the circle of Willis, being in part the occasion of the thickening and occlusion of certain of its component vessels.

The nearness of the tempero-sphenoidal lobes may account for the loss (in part or in whole, it was not possible to determine which), of taste and smell, these lobes being given by Ferrier as the seat of these senses.

A further question which suggests itself is as to whether the occlusion of the anterior communicating artery and an evident degree of softening of the frontal convolutions had a bearing on the weakness of the right side?

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RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M.D.

THE REMOVAL OF OSSEOUS TUMORS FROM THE EAR.[1]

THESE tumors are of two kinds, rapidly-growing, spongy osteomata of slight density, and the typical ivory exostoses or hyperostoses. The former is stated to be the more common form and is usually pedunculate, and of much greater vascularity than the ivory growths. Scrofula, rheumatism, gout, and syphilis, have been heretofore considered as predisposing causes on most unsatisfactory evidence, the author thinks, but believes that most frequently they originate in the active inflammatory processes accompanying chronic suppuration of the middle ear, which produce periostitis. Microscopically, the osteomata show Haversian canals bearing bloodvessels from the periosteum, with intervening, concentrically-placed lamellæ and bone-corpuscles, while the ivory hyperostoses consist of extremely dense, and but slightly vascular, osseous tissue, similar in hardness to dentine, and more compact than the temporal bone, with lamellæ not disposed concentrically around vessels, but running parallel to the surface. Where suppuration has not existed, the author thinks that slight, long-continued irritation of the meatus, such as may result from daily bathing in salt water, may be a cause of these growths.

In regard to treatment, an arrest of the tympanic suppuration is first necessary before attacking the osseous growth. The spongy osteomata can frequently be removed by an écraseur, dental forceps, or elevator; for the larger and more solid growths, the author considers the dental engine the only instrument which can be safely recommended. He uses to protect the deeper parts of the ear, a spoon-like, steel guard, the pattern of which is taken first in thin copper, and adapted to the particular case, so as to pass by the side of, and behind the exostosis. A small drill is then applied near the top of the growth without previous removal of the skin, and this opening gradually enlarged by increasing the size of the drills till the growth has been destroyed. Several operations are often necessary before the whole tumor is removed. Three assistants are necessary; one for the anæsthetic, one to work the engine, and one to hold the guard. The author reports fifteen cases operated upon successfully in this manner.

In two varieties of these tumors, the author considers no operation should be attempted. It is not requisite where two tumors from opposite walls come in contact, leaving a triangular space either above or below; for their contact prevents their further growth, and although deafness may result from the closure of the small opening by cerumen, this can be readily cleared away. It may be unjustifiable, on account of the risks of the operation where the growth is ivory-like, and situated in the deepest part of the meatus.

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[3] Journal Nervous and Mental Diseases, January, 1886.

[1] By George P. Field, M.R.C.S. British Medical Journal, February 20 and 27, 1886.

The conclusions of the author are "(1) that aural exostoses must not be considered as at all necessarily the outcome of gout, rheumatism, or syphilis; (2) that their origin can, with strong probability, be attributed in many, if not in all cases, to some preceding local irritation; (3) that they can be safely and most effectually treated by drilling, when a suitable guard is employed to protect adjacent structures; (4) that their speedy removal is indicated whenever they hinder the elimination of secretions and discharges from the auditory canal, cause pain by pressure, or impair or prevent audition."

OTHEMATOMATA.

Virchow,[2] who had asserted[3] that he had never seen a pankratiastic ear in a healthy man which had been brought on by violence, now acknowledges that he has seen such a one in a Japanese wrestler, which was brought on by striking the side of the head against the opponent's chest.

Gudden had, twenty-five years ago, taken the ground that all othœmatomata were of traumatic origin. Franz Fisher, however, observed spots of proliferation, and softening in the cartilage of the auricle, which he regarded as the important changes predisposing to these tumors. Virchow had already confirmed these observations of Fisher, but now acknowledges that while this structural predisposition exists in many cases, in certain other cases the tumors have a purely traumatic origin, as in this Japanese.

TUBERCLE BACILLI IN THE EAR.

Eschle, Voltolini, and Trathan have already recognized tubercle bacilli in the otorrhœa of phthisical patients, but Habermann[4] has now found them in the tympanic tissues.

In a woman aged thirty-two, whose autopsy revealed tuberculosis-pulmonum and tuberculosis granularis subacuta universalis, he found the left tympanum filled with caseous pus containing large numbers of tubercle bacilli, the tympanic mucous membrane hyperæmic and swollen, infiltrated with small cells, which had penetrated into the bone, and this infiltration showing, in spots, caseous masses. In these miliary collections, and also in the diffuse infiltration, abundant tubercle bacilli were found. Similar changes were seen both in the mucous layer and the membrana propria of the drum-membrane. The infiltration was most marked at the lower edge of the drum-membrane, where the mucous layer and membrana propria had ulcerated. Habermann considers it a case of infection from the sputa in coughing.

STATISTICS OF OTORRHŒA ACCOMPANYING TUBERCULOSIS OF THE LUNGS.

Moldenhauer examined the records of the Medical Clinic at Leipzig, and found that of two hundred and ninety-four phthisical patients received, in only seven was suppuration of the ears noticed which could be referred to the general disease. This gives a percentage of 2.4, whereas the laryngeal diseases of a tuberculous nature amounted to twenty-six per cent.

DISEASE OF THE LABYRINTH IN CEREBRO-SPINAL MENINGITIS.

Accurate contributions to the pathology of the labyrinth are so rare that the following dissections of the labyrinths in a case of cerebro-spinal meningitis are particularly valuable.

It is reported by Steinbrügge[5] and was in the case of a man aged twenty, who died on the seventh day of his illness, and the autopsy confirmed the clinical diagnosis of cerebro-spinal meningitis. Testing of the hearing was impossible during life on account of the comatose condition of the patient.

Microscopically the left meatus auditorius internus was filled with a jelly-like exudation, as was also the entrance of the aquæductus cochleæ; the neighborhood of the aquæductus vestibuli showed small ecchymoses. The meatus externus, drum-membrane and tympanum were normal.

Microscopically in the left labyrinth between the nerve-trunks and their arachnoideal sheaths and also between the nerve-fibres were collections of cells, many of them resembling pus corpuscles, others larger with coarsely granular contents, and still others round and called ring-cells; there was great injection of the bloodvessels between the nerve-fibres but the fibres themselves showed no changes. The aquæductus cochleæ was filled with cellular masses and in several fortunate sections Steinbrügge was able to follow the passage of the pus through the aquæduct into the cochlea. The scala tympani contained collections of pus-corpuscles and "ring-cells" and the periosteum was in places loosened, but the scala vestibuli showed only the detritus of a coagulated exudation and no pus. The only changes in Corti's organ were hyperæmia and extravasations of blood. The vestibule showed less inflammatory changes than the semi-circular canals; in the upper and posterior canals there was very marked destruction, the bone deprived of periosteum and the canals filled with necrotic masses of bony particles, coagulated exudation and periosteal tissue. The facial nerve showed the same changes as the acoustic, and the right labyrinth the same conditions as the left, but in a lesser degree.

The author is not inclined to ascribe to the simple penetration of the pus into the labyrinth from the meninges the pathogenetic importance which used to be given it, for he regards the general disease as due to an organized specific virus, probably the coccus already described by Leichtenstern, which, being very minute, can penetrate the labyrinth from the cerebro-spinal fluid more easily than the pus-cells can, and there sets up necrotic processes, even without pus, which destroy the delicate labyrinthine structures.

The total and permanent deafness, frequently the result of cerebro-spinal meningitis, he regards in most cases not as a paralysis caused by the pressure of the exudation on the nerve-trunk, as has been often assumed, but due to the destruction of the terminal nerve-fibres in the labyrinth. The exudation which undoubtedly occurs in and upon the nerve-trunks of both the acustic and facial nerves is absorbed, although in exceptional cases there may be cicatricial contraction of the neurilemma and consequent impairment of the function of the nerve.

ABSCESS OF THE BRAIN FOLLOWING OTORRHŒA, CURED BY OPERATION.

This is the second successful case of evacuation and cure of an otorrhœal abscess within the cranial cavity by operation, the first being reported by Schondorff.[6]

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[2] Virchow's Arch., 101, p. 357.

[3] Onkologie, I, 138.

[4] Prager Med. Wochenscrift, No. 6, 1885.

[5] Zeitschrift für Ohrenheilkunde, xv, 4.

[6] Archiv. für Klin. Chirurgie, 1884.

The present case is reported by Truckenbrod[7] of Hamburg. A man of twenty-eight with an otorrhœa on the left side, of eighteen months' duration, showed pyæmic symptoms with tenderness of the bone, for which the mastoid process was opened and at the depth of five millimetres, fœtid caseous pus was evacuated.

Temporary relief resulted, but fourteen days after there was a return of the fever, with right facial paralysis, aphasia, and amnesia, with œdema above and behind the ear. Three centimetres upwards and backwards from the meatus was a carious fistula which was enlarged into the cranial cavity and offensive pus was seen exuding between the dura mater and the bone. After further exposure of the dura mater an exploratory puncture showed pus and on incision of the dura a teacupful of extremely offensive pus was evacuated from a cavity the size of a small orange. This was washed out with a one per cent. sublimate solution, drained and the wound dressed with corrosive sublimate bandage.

The fever subsided in a few days, the aphasia slowly improved, in ten days the patient was out of bed and in six weeks left the hospital. Two months after a return of fever required another puncture and further drainage of the abscess and this was followed by a rapid and perfect healing. Five months after the patient remained well, and was following his profession of an architect, only showing occasionally a momentary loss of a word.

Reports of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.[1]

FIRST DAY. — THURSDAY, JUNE 17. — AFTERNOON SESSION.

SPASM OF THE GLOTTIS IN RICKETS,

by James T. Whittaker, M.D., Cincinnati, O.

The author emphasized the fact that this accident belongs almost exclusively to rickets and dwelt upon the value of recognition of this fact, because rickets is, generally speaking, a curable disease, and the spasm of the glottis disappears with the successful treatment of its cause, while treatment addressed to the larynx directly, remains without effect.

The speaker next quoted from a number of authorities to show that this relation between the two affections is not so universally recognized in this country and England, as in Germany and France. The two latest authors of text-books in Germany, Strimpell and Sichorst, declare, one that two-thirds and the other that nine-tenths of all spasm of the glottis depends upon rickets.

Spasm of the glottis is often the first sign to unmask rickets, for the other evidences of the disease are often attributed to other causes. Thus general malaise is attributed to dentition, intestinal catarrh to errors in diet, fever and sweating to malaria, bone deformities to premature efforts upon the feet, etc.

Spasm of the larynx indicates the stage rather than the degree of rickets, in that it occurs mostly in cases of rapid advance of the disease and does not appear in cases of slow progress. So in the spring and fall, when rickets advances in leaps, spasm of the glottis has occurred in epidemic form.

The essayist discussed next the various theories of rickets which continue to elude investigation to a degree characterized as exasperating, but facts accumulate which go to give it place among the chronic infections. The exemptions of hot climates and mountains, Iceland, the Faroe Islands, the complete immunity of Davos, notwithstanding the improper feeding and improper hygiene of sucklings at these places show that faults in diet cannot be the cause of it, and the symptomatology of it fits better among the chronic infections produced by specific causes.

Spasm of the glottis in the absence of any constant lesion falls among the neuroses. The question as to the reflex or direct character to the irritation producing it was decided after a review of the evidence in favor of the latter, and since Rosenbach has demonstrated the micro-organism of tetanus which often begins with and may go no further than trismus, the maintenance of a mycotic theory for the laryngospasm of rickets may be adopted as the best provisional explanation. The mode of onset and character of the accident were next detailed and the symptomatology illustrated with a typical case.

The inefficiency of anæsthetics and all direct means of treatment, as by intubation, tracheotomy, etc., were mentioned next, and douches, flagellations, electricity, cold air, direct appeals to the skin on the first appearance of attack, were described as the best means of combating and more especially of preventing the attack. Cod liver oil, and more especially phosphorus which may be looked upon almost in the light of a specific were considered the best means of speedily relieving the rickets, and thus removing the cause of the laryngeal spasm. It has the most favorable prognosis of all kinds of laryngospasm, as Monte lost but eight of three hundred and twenty-nine cases.

DISCUSSION.

Dr. A. Jacobi, of New York. This is a subject in which I am much interested. As has been said, this is almost always due to rickets. Its causation may be the pressure of the enlarged glands about the neck irritating the nerve. When the rickets disappears, the spasm of the glottis also disappears. The disease may be primary or secondary. In forty-nine out of fifty cases of spasm of the larynx, the cause is rickets, and in forty-eight of these it is rickets of the cranium and of the meninges of the brain. When the cranium is opened we find congestion. Cranio-tabes need not be developed to any marked extent. Where we have a succulent cranium, we have succulent meninges and a succulent brain. There is meningeal hyperæmia and meningeal effusion in such cases. In regard to prognosis, if you have six weeks during which to carry out proper treatment, you may be sure that the child will lose its laryngismus stridulus, but during that time, the child may die in an attack.

Dr. William Pepper, of Philadelphia. In a case of spasm of the glottis in whooping-cough seen recently with Dr. Morris J. Lewis, the attacks were so severe that on several occasions, the child apparently died. Nitrite of amyl was successfully used for the relief of these attacks. It was found that a combination of one part of nitrite of amyl with nine of sulphuric ether gave the best results.

Dr. Jacobi. I have recently used nitro-glycerine

[1] Continued from page 616.

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[7] Zeitschrift für Ohrenheilkunde, xv, Nos. 2 and 3.

for a similar purpose; I have used it in inflammatory hydrocephalus in young infants, and I believe with fair results.

NOTES ON SOME CASES OF DIAPHRAGMATIC PLEURISY.[2]

by EDWARD T. BRUEN, of Philadelphia.

DEMONSTRATION OF BACTERIAL CULTURES FROM A CASE OF MYCOTIC ENDOCARDITIS IN MAN, AND OF SPECIMENS SHOWING THE EXPERIMENTAL PRODUCTION OF THE DISEASE IN RABBITS,

by T. MITCHELL PRUDDEN, M.D., of New York.

The communication was a preliminary one, the experiments not having yet been completed. For some years the presence of bacteria has occasionally been observed in the cardiac and peripheral lesions of malignant ulcerative endocarditis. It has, however, been found that not only not all cases of acute vegetative endocarditis, but not even all cases of ulcerative endocarditis present bacteria in their lesions. The speaker thought that the anatomical distinction was not clearly enough drawn between simple and malignant ulcerative endocarditis. Of eleven cases of well-marked ulceration of the valves which he had studied within the past four years, only four showed the presence of bacteria.

In only one case of malignant ulcerative endocarditis was he able to isolate and study the living bacteria. This was a case of pyæmia following cuneiform osteotomy for club-foot. The tests applied showed the bacterium to be the staphylococcus pyogenus aureus.

The experiments on animals were then described, and the following conclusions were drawn. If we sum up the results of combined morphological and biological examination of the cases thus far studied, we find that the sphero-bacteria found in the cardiac and peripheral lesions were the stryphococcus pyogenus and the staphylococcus pyogenus aureus and albus, either alone or together.

The intravenous injection of either of these or a mixture of them, into the rabbit after mechanical or chemical injury of the endocardium is capable of inducing lesions strictly analogous, if not identical with those found in malignant ulcerative endocarditis in man. The coccus sepsis of Nicolain is capable of producing similar results.

Neither the endocardial injury nor the intravenous injection of bacteria alone, are sufficient to induce the the cardiac lesion. Both are necessary.

As far as the observations go, they tend to confirm the view that malignant ulcerative endocarditis is simply one of the forms of pyæmic lesion determined by the predisposing conditions of the endocardium. Whether or not there are other forms of the disease induced by other species of bacteria or having no relation to bacteria at all, are questions which are more likely to be settled by experiment than by conjecture.

Adjourned.

FRIDAY.— SECOND DAY.— MORNING SESSION.

The first paper was by W. T. COUNCILMAN, M.D., of Baltimore, on

CERTAIN ELEMENTS FOUND IN THE BLOOD OF MALARIAL FEVER.

It has long been known that changes in the blood occur in this disease. It is now known that in the red corpuscles, there are certain bodies which appear to be living organisms, and these occur only in this disease. These are found by taking a drop of blood and spreading it on a slide, so that there shall be but a single layer of corpuscles. These are stained with a weak solution of fuchsin. The nuclei of the white corpuscles will be intensely stained, the red slightly stained, and in some of the red corpuscles will be seen brightly stained bodies of irregular shape. These exhibit distinct amœboid movements. The variety of their changes of form was illustrated by drawings. Certain hyaline bodies also found were described. The speaker then referred to the work of other investigators in this field, and gave a review of the results which they had obtained.

TETANY,

by H. M. LYMAN, M.D., of Chicago.

Tetany may be defined as a more or less generalized, intermittent, usually tonic convulsion of the muscles of the limbs and trunk, sometimes involving the face and visceral organs, usually painful, but never attended with loss of consciousness. The disorder is functional, and is based upon no distinctive pathological lesions of the central nervous organs. It is manifested in a series of attacks, which occur at intervals varying in length from a few hours to weeks, or even months. These attacks are sometimes very abrupt in their onset; oftentimes they are preceded by headache, disturbances of the digestive organs, and various disorders of sensation in the skin and muscles, after which the characteristic paroxysms appear. During the paroxysms, the flexor muscles are usually the seat of contracture, but sometimes the extensor muscles of the limb are principally involved, so that the fingers and toes may be spread apart and extended. Sometimes the flexor muscles about the elbow are principally involved. Single muscles alone may be attacked. These contractions may be very energetically developed, with considerable pain, or they may be sluggish and painless. The pain is usually due to the muscular spasm, but neuralgia may be associated with the cramp, and the skin may sometimes become inordinately sensitive. The pain may, at other times, become located about the joints, which then present the characteristic appearance of rheumatism. Diminished sensibility in certain parts of the body may be sometimes observed during or after an attack. The special senses are rarely disturbed. The action of the heart is seldom changed, except by transient palpitations; and only when the respiratory muscles are involved in severe cases, is there any difficulty in breathing. A febrile movement is only remarked when inflammatory complications are present. Electrical tests indicate an increased excitability of the motor nerves, which may sometimes even include the facial nerves.

The disease is rarely fatal, although death has occasionally resulted from prolonged spasm of the respiratory muscles. The duration of the disorder is quite variable, and relapses are rather frequent.

Having no relation with any particular lesion of the nervous centres, tetany appears to be dependent upon a functional instability of the nervous and muscular organs. This instability is usually the result of diseases that affect the organs of digestion and the processes of nutrition. Congenital weakness, and the period of debility that precedes or follows any acute disease, may then afford occasion for the manifestation of this particular disorder.

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[2] See page 1.

The principal diseases with which tetany may be confounded, are tetanus, organic diseases of the brain and spinal cord attended with contracture, epilepsy, especially the so-called cortical or Jacksonian variety, professional cramp, and spasmodic phenomena of ergotism.

The treatment must be directed in a general way against the fundamental instability of the individual constitution. Mild attacks require no special therapy, but severe attacks often demand the energetic use of narcotics and anæsthetics for their relief.

DISCUSSION.

Dr. John T. Carpenter, of Pottsville. I have one observation to make bearing upon the causation of this affection, and that is with reference to its association with septic poison. The first time I noticed this association was in a child two years of age, with an abscess of the buttocks. The muscles of the eye and of one arm and hand were affected. There was no clonic spasm. Later, the muscles of the jaw became involved. The mouth could not be opened. Under chloroform, the jaws were separated and a piece of soft wood placed between the teeth. To my surprise, the entire spasm relaxed in the course of five minutes. The disease, however, progressed, and the child died. I attribute the condition to absorption of poison from the abscess. In studying my cases of tetany, particularly of the milder variety, I think that I am able to trace them to septicæmia.

Dr. A. Jacobi, of New York. In a large number of these cases, we have reason to believe that there is meningeal hyperæmia. An occasional cause which has not been mentioned is masturbation. This I have seen in one case, in which the attacks always followed masturbation. The attacks had not occurred before the age of puberty. We know that severe nervous attacks may come on during sexual excitement. I recall the case of a young woman who was thrown into catalepsy every time she cohabited, and had the attacks only at such times.

PERFORATING INFLAMMATION OF THE VERMIFORM APPENDIX, WITH SPECIAL REFERENCE TO ITS EARLY DIAGNOSIS AND TREATMENT,

by Reginald H. Fitz, M.D., of Boston.

A historical statement was made of the origin of the terms typhilitis, perityphilitis, and perityphilitic abscess. The want of exact agreement as to what was understood by these terms was emphasized. Attention was called to the importance of bearing in mind that in the vast majority of cases, the primary disease was an inflammation of the cæcal appendix. The term appendicitis was preferred to typhilitis, as avoiding the possibility of a misunderstanding, and as localizing the disease in its usual place of origin.

The paper was based upon an analysis of two hundred and fifty-seven cases of unquestionable perforating ulcer of the appendix, and of two hundred and nine cases diagnosticated as typhilitis, perityphilitis, and perityphilitic abscess. In the latter series, the diagnosis was clinical, not anatomical.

The important features in the etiology of appendicitis were considered, also the limitations as to sex and age. It was found that the disease occurred most frequently among previously healthy youths and young adults, especially males; that a fæcal concretion or foreign body was present as a local cause in more than three-fifths of the cases. Attacks of indigestion and acts of violence, especially when indirect, were exciting causes in one-fifth of the cases. The action of these causes was favored by a constipated habit, or by congenital or acquired irregularities in the position and attachment of the appendix.

The first characteristic symptom of a perforating appendicitis was found to be a sudden, severe, abdominal pain. This occurred in eighty-four per cent. of the cases, and usually in the right iliac fossa, where tenderness could always be found, even when the pain was referred to some other locality. The pain was attributed to the actual perforation or the detachment of fresh adhesions.

Fever was the next characteristic symptom, and occurred in the course of twenty-four hours. Finally came the swelling which made its appearance in the course of three days.

The chief source of danger from the appendicular peritonitis arose from its becoming generalized. Such a result followed most frequently between the second and fourth days. More than two-thirds of the patients died during the first eight days and two-thirds of these between the fourth and eighth days inclusive.

The question of a differential diagnosis was then discussed. The termination in resolution was referred to. It was considered to take place in about one-third of the cases as approximately determined from the recorded cases of typhlitis and perityphlitis. Even resolution might be undesirable since the number of cases of recurrent disease is considerable, and might have been prevented by appropriate treatment.

The reader recommended at the outset, the opium treatment with rest and a liquid diet, the food being given in small quantities, frequently repeated. If it became evident that general peritonitis was imminent at the end of twenty-four hours after the sudden intense pain the appendix should be exposed and removed. Usually the symptoms were not so urgent that the appearance of the swelling could not be awaited. Although Willard Parker advised that the abscess might be opened as early as the fifth day, the practice has been to operate at a later date. Forty-seven per cent. of the cases were operated upon in the second week and twenty-six per cent. after the third week.

More favorable results in the future were to follow the earliest possible opening of the swelling. This in most instances was at the outset, a sac formed by a circumscribed peritonitis. It was usually present on the third day of the disease, dating from the pain, its first marked characteristic symptom. Negative results from a diagnostic puncture did not contraindicate the operation.

DISCUSSION.

Dr. William Pepper, of Philadelphia. I desire to relate two cases which bear upon this point. On Saturday last, while making a post-mortem examination for another purpose, I examined the appendix, as is my usual custom. The appendix contained two hard concretions looking like date-seeds and some hardened fæces. These must have been there for a long time, but there were no evidences of inflammation. It was clear that the presence of these masses had been tolerated for a long time without exciting any local trouble.

A few days before that, I made a post-mortem examination in the case of a man aged forty, who for years had sacrificed every interest in life for his business. On Monday he had some nausea and vomiting for which he took a laxative. He returned to his home in the evening feeling badly and sent for a physician. There was vomiting, some fever. There was marked abdominal pain which was relieved by the use of opium suppositories. On the fourth day I examined him, but could detect no tumor in the right iliac region. There was frequent and free micturition. This symptom would have a bearing upon the possible existence of intestinal obstruction. Another marked symptom was tenesmus. Several large stools had followed the laxative. Enemas of warm oil produced no evacuation. Rectal examination gave a sense of indistinct dulness, but showed no hard tumor. Collapse set in on the fifth day and the patient died on the seventh day.

The question of laparotomy was carefully discussed. It was not performed at first because of the uncertainty of the diagnosis, and later when the diagnosis became evident, because of the condition of collapse. At the autopsy no peritonitis was found. There was a contraction of the ascending colon at its junction with the transverse colon, but not sufficient to cause complete obstruction. A circumscribed abscess was found around the vermiform appendix, which was dilated. There was a large perforation. No concretion was found.

These cases have impressed upon me the view of which I am convinced, namely, that perforation of the appendix is only the explosion of an old catarrhal appendicitis; that it is not an acute idiopathic affection.

The diagnosis in these cases is a matter of great difficulty in the early days, except where it is associated with considerable pericæcal inflammation.

I agree with Dr. Fitz, that early operation gives the only chance of saving the patient. I should not think the third day any too soon. The difficulty is to arrive at a sufficiently clear diagnosis at that early date to justify laparotomy as an exploratory operation.

Dr. J. T. Dana, of Portland, Me. I am sure that it is not rare to find inflammation of the appendix as a latent affection. In a case which I recently saw the first symptom was the occurrence of general peritonitis. By exclusion I made the probable diagnosis of perforation of the vermiform appendix. The case resulted fatally in seventy-two hours. At the autopsy general peritonitis was found, and there was an opening in the appendix through which a concretion had escaped. A second was found within the appendix. There had been no previous symptoms to call attention to disease of the appendix. This illustrates a class of cases of which I have seen not a few.

Dr. A. L. Loomis, of New York. This is a positive paper, and it gives us some positive data on which to base our modes of action in this condition. From my experience I should say that it was impossible in the majority of cases to make an early diagnosis by the ordinary means of diagnosis. Of the symptoms given by the patient the most certain indication seems to be given by the occurrence of a chill. When pain is marked it will usually be localized in the left side, but not necessarily. Recognizing the importance of the early diagnosis, I decided several years ago in such cases to put the patient under the influence of an anæsthetic and examine by the rectum and externally. In the first case that I adopted this plan, the chilly sensation had preceded my visit twenty-four hours. By bi-manual palpation, I satisfied myself that there was an increase in the region of the appendix. I expressed the opinion that perforation had occurred and recommended operation. This was refused. Peritonitis set in within twenty-four hours and the patient died. In two other cases I have made the diagnosis by the same plan. It must be remembered that the vermiform appendix does not occupy the same position in all individuals.

As soon as the diagnosis of perforation is made out, the operation should be performed.

Dr. E. G. Janeway, of New York. These cases of appendix disease may be divided into three classes. In one an inflammatory process of the cellular tissue, with or without the formation of pus is established. This may go on to recovery. If pus forms, surgical procedures should be resorted to. In another class of cases there is a circumscribed collection of pus in the peritoneal cavity. In this class operation should be resorted to as soon as the presence of pus is determined. In the third class we have as a result of the perforation of the appendix, general peritonitis.

The pain and tenderness in these conditions are not always on the right side. As has been said, the position of the appendix is not constant.

In these cases you can generally find on careful examination in the region of the cæcum, at some point a feeling of deep-seated induration, and at this point there is tenderness.

The Association then went into

EXECUTIVE SESSION.

The officers elected for the ensuing year are as follows: —

President, Dr. S. Weir Mitchell, of Philadelphia.

First Vice-President, Dr. Francis Minot, of Boston.

Second Vice-President, Dr. R. Palmer Howard, of Montreal.

Secretary, Dr. George L. Peabody, of New York.

Recorder, Dr. James T. Whittaker, of Cincinnati.

Treasurer, Dr. W. W. Johnson, of Washington.

Council, Dr. William H. Draper, of New York, Dr. Robert T. Edes, of Boston, Dr. H. M. Lyman, of Chicago, Dr. Samuel C. Busey, of Washington, Dr. Frederick C. Shattuck, of Boston, Dr. William Osler, of Philadelphia, and Dr. W. W. Welch, of Baltimore.

The proposition with reference to the formation of

THE ASSOCIATION OF AMERICAN PHYSICIANS AND SURGEONS,

was presented and approved. The following committee was appointed to confer with other organizations: Drs. William Pepper, of Philadelphia, Robert T. Edes, of Boston, R. P. Howard, of Montreal, James T. Whittaker, of Cincinnati, and Francis Delafield, of New York.

(To be continued.)

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THE NEW HAMPSHIRE MEDICAL SOCIETY.

The ninety-sixth annual meeting convened at Concord, N. H., June 15, 1886, the President, George A. Crosby, M.D., of Manchester, N. H., in the chair.

DELEGATES.

Dr. Jenks and Dr. Hutchinson from the Rhode Island Medical Society.

MEMBERS PROPOSED AND ELECTED.

Drs. G. M. Kimball, Thomas Hiland, Ellen A. Wallace, Concord; A. H. Taft, Manchester; J. B. Raynes, Bradford; George A. Allen, Bradford, Mass.; O. W. Goss, Lake Village; Ed. F. Houghton, Claremont; A. W. Blair, Orford; Bradford Allen, Nashua; W. W. Wilkins, Manchester; Charles A. Blake, State Workhouse, Mass.

THE COMING PHYSICIAN.

The president in his address, after reviewing briefly the past and present state of the profession, asked: Shall the practice of medicine sink to the level of a trade where every competitor supplements his skill as an artisan by all the tricks of cunning and diplomacy of which he is capable? Shall the body of the profession be broken up into fragmentary joints, each little segment calling itself a specialist, until the organs of the body are parcelled out as booty is divided among thieves? Shall the grand old column be broken up into detachments that shall ultimately destroy one another, because men honestly differ as to the means employed to subdue disease? Shall certain drugs and certain methods be considered Catholic and all else irregular and to be damned by bell, book, and candle? These are some of the dangers that have beset the onward progress of medicine in the past, and which are liable to retard its progress in the future. If we do not understand the wonderful worth and greatness of life our intellect will never be able to cope with the difficulties of our profession and enable us to withstand the temptations by which we are surrounded. Every created object is holy, as being God's workmanship. But as human life is the most marvelous and mysterious of all the emanations from the Deity it is entitled especially to reverential treatment. When the first Napoleon requested that lethal doses of opium should be given to those that were sick and would surely fall into the hands of an implacable enemy, the great surgeon replied: "It is my duty to save life not to destroy it."

The president spoke of the prevalence of abortion and its deleterious influence, physically and morally, upon society; and urged upon the medical profession their duty to exercise their utmost influence against the growing evil and to educate the people to a proper realization of the brink upon which they are standing. He then discussed the existing laws relating to coroner's inquests. You have in the coroner an officer armed practically with the utmost power of the law. He decides in the first place whether an inquest be necessary or not. Thus it is not difficult for him to close the door to all judicial investigation of a crime, and even to aid in the concealment of evidence by authorizing speedy burial. He may thus shield the guilty and injure public safety. On the other hand the opportunities for a man, prompted by malice or vindictiveness, or the desire for cheap notoriety, are enough to make us tremble. With full judicial powers of examination and commitment, with his chosen constable, selecting his own jury, with supreme control of the investigation, which, with the consent of part of his jury, he may make secret, with the selection of his medical witnesses, and the power to summon and hear, or omit and exclude whomsoever he will, uncontrolled by superior authority, and responsible, practically, to no one for his action, he may bring ruin upon a life, or forever cloud and embitter it, throwing suspicion on the character of the living and blackening the memory of the dead. In one word, he may make an inquest in the worst sense of the term, an inquisition. The sole purpose of the coroner's inquest is the detection of crime. When suspicion exists his functions are two-fold, one is to determine with certainty whether the death has resulted from natural causes or from violence; the other is, to determine, if it be found to be a case of violence, how that violence was caused and whether it constitutes a crime. One is a question of medical investigation; the other a question for legal determination. Let us try and have some law passed, relegating to each profession the functions belonging to them. Have medical examiners appointed in each county whose duty it shall be to take immediately possession of the body and ascertain the cause of death; if resulting from natural causes to turn it over to the undertaker; if from some unnatural cause, to report to the judicial officer whose duty it should be to take cognizance of crime.

The speaker then pointed out the duty of the physician to educate the community in sanitary science, the ventilation, heating, and drainage of dwellings and school-houses.

Therapeutics should be better understood. We are fast drifting into a refined dillettante style of prescribing and losing sight of the true value of a drug. Pharmaceutical chemists are filling our tables with fancy combinations, having a captivating nomenclature that would paralyze our ancestors were they to revisit us. Highly ornamental and extravagently written monographs, advertisements and recommendations of their preparations thrust upon us by agents, and making the principal portion of our mail, are crowding from our shelves books on therapeutics and materia medica. So many good old remedies have been lost sight of by these new styles that I am inclined to advise that we hold on to the few we have left a short time longer and let them produce their own chemical changes whilst wrestling with disease inside the body and not give up entirely to these new-fangled patent-back-action remedies that will hit most anything.

SCHOOL HYGIENE.

Dr. D. M. Currier read an exhaustive essay upon this subject. He complimented the New Hampshire State Board of Health for the work they had accomplished in this direction. He suggested the ventilation of rural school-houses by constructing an incoming or cold air duct under the timbers of the floor, reaching from outside and opening directly upwards under the stove, and furnished with a valve to regulate the flow. Completely surround the stove by a galvanized iron case. Ventilation could be provided by placing a register in the chimney near the floor. The chimney should be large, and the smoke-pipe should pass through it to the top, thus creating a powerful ventilating draught.

REPORT ON OBSTETRICS.

Dr. Frank Blaisdell closed his somewhat lengthy paper with the following summary: I have thus tried to indicate as well as I could in the limited time allowed a paper of this kind, the following: First, that the effects of modern civilization upon our child-bearing population is such, that our women are unfitted for the highest duties of motherhood, judged from a physiological standpoint. Secondly, that there are in certain cases of confinement definite indications for the use of the forceps as a prophylactic agent in preventing results which often follow expectant treatment, and that the time of election for the physician to interfere, when interference is necessary, is preferably, the earliest time possible rather than to wait. Thirdly, that the use of anæsthetics in labor is too indiscriminate; they should not be used in every case of labor, but should be prescribed according to indications the same as any other remedy of like power, and that hæmorrhage is not the result of any particular anæsthetic agent, but the effect of the agent upon reflex uterine action. Fourthly, that there is considerable reason to believe that the utility of the membranes as dilators has been overrated. Fifthly, that the treatment of placenta prævia by Carr's method of pulling away the placenta entire, letting it precede the child, with rapid delivery of the child, has been eminently successful with those who have tried it, of saving both mother and child. And sixthly, that it is just as well to let the perineum alone in ordinary labor. I am aware that some of these views differ somewhat from the views advocated in our text books, but I have been led to them by considerable thought and a quite busy obstetric practice of nearly ten years. I have also seen many things in the writings of some of our best obstetricians that has strengthened me. None of you dislike meddlesome midwifery, as that term is generally understood, more than I, but I do believe in a mediatorial midwifery, a midwifery that will interfere to prevent suffering, that will assist nature when she falters, and will remove those conditions that will prevent her doing her perfect work and save a woman from the consequences that too often follow a too implicit faith in a power given to women in its perfectness and completeness by the Almighty, but misused, perverted, and oftentimes rendered ineffectual by the bad influences of our national life, and the follies of our progenitors; a midwifery that I believe would have led any one of you to have interfered and have saved Rachel to Jacob when she died in labor on the plain near Ephrath.

MEDICAL COMMON-SENSE.

Dr. C. A. Allen closed with the following words: The time is coming when there will be no sects among educated physicians. The present war between the friends and opponents of the National Code but points the way. It will not be this year nor the next. It will be when the world has grown wiser and has learned to value at its true worth any creed that uses its name as an advertising medium only. It will be when elementary medicine is taught in our common schools; when common-sense shall reign in the minds of the people and they have learned that *pathy* does not make the doctor. It will be when our lawyers, our ministers and our teachers shall add a general knowledge of medicine to that of their regular calling. It will be when doctors depend upon their profession rather than to prop it up with statutory laws.

THEORY AND PRACTICE OF MEDICINE.

Dr. J. F. Brown discussed briefly the character and treatment of cholera infantum, typhoid fever, small pox, diphtheria. In the treatment of diphtheria he has always put in practice a mild caustic medication with antiseptic remedies at the outset. A mild solution of nitrate of silver every hour alternated with a soothing lotion, with tonic constitutional remedies. Some of the worst cases set in very insidiously, and before the family are aware of its severity, the whole system is saturated with the virus. With reference to the management of deep-seated, large and indolent ulcers, the difficulty is, after getting the sore into a granulating condition, to cause it to heal over without subjecting the ulcer to strapping and constant care on the part of the surgeon. Another plan is by the elastic stockings, which are invaluable in some cases.

In what is known as the oakum treatment of ulcers, the diseased surface must be brought into a healthy condition, and all effete matters removed by nitric acid or nitrate of silver with poultices. Then pick up oakum fine and soft, make a pad twice as large and proportionately thick with a fine piece of soft cloth laid over it and simple cerate dressing laid on the ulcer and the pad placed over it with oakum extending over the edges on all sides to make the pressure equable. Then bandage nicely.

I have adopted a method for the prevention of pitting of the face in small pox which I obtained from an old number of Braithwaite's Retrospect. I have modified it to some extent. What is desired is to stop ulceration before it has gone through the true skin. Insert a strong solution of nitrate of silver, about twenty grains to the fluid ounce into each pock. The manner of doing it is to prick the pustule with a lancet and press out the pus or serum, then put in the nitrate of silver solution on the point of the lancet. The large pocks immediately are less inflamed and less painful. The small ones scab over and fall off in a few days, leaving the face smooth.

REPORT ON SURGERY.

Dr. C. B. Hammond read a lengthy article upon antiseptics. The ease with which bichloride of mercury is prepared, and its freedom from odor, makes it one of the most agreeable antiseptics. In the amputation of fingers, especially, it is rare to fail of obtaining good results by the following method. Having checked all oozing and bleeding, unite the flaps with carbolic catgut sutures, and place over the edges of the flaps a small piece of oiled silk. Over this, place a thick layer of borated absorbent cotton which has previously been wrung out in a solution of bichloride of mercury of the strength of 1-3000, taking care that the cotton shall come well down on the healthy skin. Over this, place another layer of dry, borated cotton and a piece of absorbent lint and a bandage. Remove this dressing in from five days to a week, and substitute a similar one for about the same length of time. I have been accustomed to use bichloride of mercury in the strength of 1-3000 as a post-partum vaginal douche, and find that even at this strength it may produce bad results; at least, I have seen a troublesome diarrhœa occur, which ceased upon discontinuing the injection. There is danger in its use for irrigating large wounded surfaces at the strength of 1-2000, and for any irrigation, that strength is sufficient.

The use of glycerine in dressings was discussed, and also the use of muriate of cocaine as an anæsthetic.

A case of recovery after herniotomy, performed for the relief of a strangulated femoral hernia, was reported, remarkable for the time that elapsed from the first symptoms to the date of operation, which was eighty-six hours.

FASHIONABLE FOLLIES.

Dr. M. H. Felt made an onslaught upon numerous novelties in medicinal preparations, speculative theories, and fashionable specialists.

TYPHOID FEVER.

Dr. I. H. Adams presented a short paper upon this subject, discussing the diverse opinions as to its origin.

NERVE WEAKNESS.

Dr. H. C. Holbrook spoke of functional nervous disorders, briefly tracing their sources, progress, and symptoms. In the treatment of chronic neuropathic disorders, the general condition of health and nutrition must not be overlooked. Tonics are indicated in most cases, and of these, a bitter, like salicin or cinchonidia, in combination with strychnia, diluted phosphoric acid and the chloride of iron, gives the best result in the largest number of cases. Elixir of phosphate of iron, quinine, and strychnia is a powerful tonic, but in some cases cannot be borne, except in small doses. Sedatives should not be used too freely. Opium and chloral hydrate should be very sparingly tried, for these patients form the opium and chloral habit most readily. A nerve, made over-irritable by anæmia, can be quieted more effectually by enriching the blood than by giving a drug. Sedatives should never be used to the exclusion of tonic remedies. Bromides may be given for a long time without injurious effect, combined with some powerful reconstituent. The use of drugs which directly affect the nervous system was briefly discussed, and also general electrization and dry cupping.

AN IMPROVED METHOD OF MEASURING THE CHEST.

Dr. Wilkins. The improvement consists, first, in a double tape-measure, or, in other words, a measure that commences to enumerate from a common centre; second, the establishment of a middle, anterior perpendicular line of the chest, from which to take comparative measurements of the two sides. The method was described at length, and its advantages pointed out.

The death of Dr. C. F. Bonney, of Manchester, was reported by Dr. Howe, and the death of Dr. Joseph H. Smith, of Dover, by Dr. Hill.

Reports of delegates to other societies, and to the Dartmouth Medical College were received.

A Committee was appointed to consider the preparation of a history of the Society, Dr. I. A. Watson, Chairman.

The following officers were elected: President, Prof. C. P. Frost, of Hanover; Vice-President, Dr. S. W. Roberts, of Wakefield; Treasurer, Dr. D. S. Adams, of Manchester; Secretary, Dr. G. P. Conn, of Concord; Anniversary Chairman, Dr. M. H. Felt, of Hillsborough Bridge.

Recent Literature.

Transactions of the Obstetrical Society of London. Vol. XXVII, for the year 1885. London: Longmans, Green & Co. 1886.

This volume of Transactions contains, as usual, a large amount of valuable material which has appeared in the society reports, as given from time to time in the current medical literature, but which becomes additionally available when collected in book form. Some of the articles have been noticed in the half-yearly report on the Progress in Gynæcology. The most noteworthy contributions in the present volume will be briefly referred to.

Dr. Duncan's paper "On Extirpation of the Entire Uterus," after giving the details of two vaginal extirpations, urges very strongly the claims of supra-vaginal amputation, on the grounds of its being the safer operation, and that the ultimate results are better. He supports his position ably by statistics.

Dr. John Williams's paper on "The Circulation in the Uterus" is of special importance, on account of its bearing on the question of the interference with the circulation caused by flexion, a fact which he denies. An abstract of this paper was given in the Journal a few months ago.

Two papers by J. Matthews Duncan, one on "Ulceration," the other on "Hypertrophy of Lupus of the Female Generative Organs," both illustrated by plates are important contributions to our knowledge of these conditions.

Dr. Williams has a second paper on "Serous Perimetritis," and gives the histories of three cases. A very interesting article is one by Dr. W. O. Priestly, describing some of the lying-in hospitals in the north of Europe, and referring to the advantages of the antiseptic system in obstetric practice. He gives very fully the methods employed at the Maternity Hospitals at Copenhagen, Helsingfors, and one at St. Petersburg.

The last of the more important papers is one by Dr. Herman "On the Suppuration and Discharge into Mucous Cavities of Dermoid Cysts of the Pelvis." He discusses the course of such cases, the prognosis and treatment, and gives short abstracts of numerous illustrative cases.

Besides these more lengthy communications, there are a large number of interesting shorter articles. The present volume compares very favorably with those of former years.

— Dr. Govan, of Rockland County, stated at the New York Medical Association that he had used aniline oil for the purpose of producing local anæsthesia when laying open felons and performing other minor operations. There was absolutely no pain, even when cutting down to the bone, when the finger had first been dipped for a short time in the oil.

— In Vienna it is customary to give medical men their fees at the end of the attendance, so that the payment is understood to be equivalent to a notice that no more visits are to be paid without further request. A legal case recently turned on this point. A tailor having a child sick with some febrile complaint, sent for a physician, who was unable at that stage, to make a positive diagnosis. He was tendered his fee, and in accordance with the implied understanding, made no further visits. The child was later discovered to have small-pox. On judicial inquiry the physician was acquitted, and the father punished for concealing the character of the disease, and for taking work into his house while the child was sick. We are moved to the reflection, if this method of dismissal was in vogue in this country, how many years, in some cases, the physician would have to remain in attendance.

Medical and Surgical Journal.

THURSDAY, JULY 8, 1886.

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MODERN VIEWS AS TO FUNCTIONS OF THE LIVER.

THE ancients possessed very vague notions as to the functions of the liver. Hippocrates classed bile with atrabile among the four humors, an excess of which engendered disease, and taught the necessity of purgatives to eliminate bile. Galen believed the bile to be excrementitious, and that its ready and constant elimination was demanded in the interest of good health. But Galen had other notions as to the hepatic functions. To him, the liver was the centre of animal heat and of the circulation, and the blood-making organ *par excellence*. It is singular that modern experimentation should have gone far to confirm these speculative views of Galen as to the influence of the liver in both thermogenesis and hæmatopoiesis. To this we shall allude in another number.

To the ancients, bile was purely excrementitious. In the seventeenth and eighteenth centuries, it became known that it was recrementitious also, and the heretofore prevalent notion that this fluid served only a depuratory purpose in the economy, came to be hotly contested. Bertholin, Aselli, and Haller assigned to it an important rôle in promoting digestion. The discovery of the lacteal vessels by Aselli in 1622, and of the thoracic duct by Prequet, in 1647, opened up to the comprehension of physiologists a new way by which chyle might be conveyed from the bowel into the blood quite independently of the portal vein and the liver, and the latter at once fell from its high position as a blood-former to which Galen had raised it.

Haller, from anatomical considerations, reasoned that bile was an essential adjuvant to the digestive process,[1] as the chyme underwent admixture with the fluid before its final elaboration. This view, however, at the beginning of this century, was almost entirely speculative, and in practice, bile was treated in accordance with Galen's notion, as being both noxious and excrementitious. Abernethy was, amongst English physicians, the most conspicuous advocate of the condition called *biliousness*, and was the apostle of blue pill and black draught. In this country, Rush first promulgated the notions of biliousness which have since so widely prevailed.[2] There was a classic train of symptoms: headache, furred tongue, loss of appetite, and nausea — if vomiting occurred, bile was present in the vomited matters — the stools were generally dark and offensive, the urine was loaded with lithates. The clinical observer was struck by the marked relief which, in these cases, always followed the exhibition of purgatives which evacuated bile.

The therapeutics of that period, though indefinite in theory, were quite simple in practice. The word *biliousness*, so much in use, was a convenient one for a time when the knowledge of the digestive, and especially of the hepatic functions, was so meagre and so obscure. It covered a vast amount of ignorance of matters connected with derangements of those functions, while apparently explaining everything, and the pathological state having been affirmed, the "cleansing calomel" and the black draught followed, as a matter of course. It was considered good practice also to precede the mercurial by small doses of tartar emetic, to provoke the liver to empty itself of all the bile that it contained. Nor were practitioners of that day unmindful of the necessity of a spare diet in biliousness, and their treatment (despite the incompleteness of their theory) was often attended by beneficial results; only a "bilious" condition was often diagnosticated and treated where serious organic disease underlay the morbid phenomena.

We have to come down to the century in which we live to find recorded any precise physiological experiments made to ascertain the office of the liver, and especially of the bile. These date from the ligation by Blundell, Brodie, and others, of the common bile duct. It was noticed that animals speedily died after this experiment, killed, as was then supposed, by bile-poisoning. Schwann, however, showed that the establishment of biliary fistulæ in animals, in which the bile was all lost — not retained in the system — was also followed by death, the fatal issue being preceded by rapid emaciation; this proved that the bile had some other use besides being simply excrementitious.

Still later in this century, Bidder and Schmidt performed some notable experiments of the same kind on dogs; they found that the animal lost daily, by the fistula, bile to the amount of one-fiftieth of its weight; if, however, the daily rations of the animal were increased proportionally to this loss, life could be indefinitely prolonged. These experiments, confirmed by Kolliker and Muller, go to show that bile is not indispensable to digestion, but its continuous waste by a fistula is incompatible with life without compensation for this loss by a copious alimentation.[3]

The speedy death of the animals in which the common bile duct was tied does not seem to be due so much to the toxic nature of the biliary ingredients retained, as to exhaustion consequent on the imperfect assimilation of food; many pathological facts bear out this inference. Thus Dr. Budd mentions several cases "in which the passage of bile into the intestines was entirely prevented by complete closure of the ductus communis, and in which, nevertheless, life was prolonged for many months. In one of them, the jaundice first occurred in a woman four months pregnant, who, nevertheless, bore a living child at full period, and suckled it up to the time of her death, which happened when the child was three months old."[4] The greater part of the elements of bile are substances which, when re-absorbed, can be appropriated to nutrient uses in the economy: such are the mucus, the chloride of sodium, the phosphate of lime, the sulphur, the phosphate, carbonate and lactate of soda; the resinoid principles, the coloring matters, and the cholesterine are truly excrementitious.[5]

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[1] Haller's Elementa Phys. (quoted by Longet).

[2] Bartholow. Pepper's Syst. of Med., Vol. II, p. 965.

[3] Longet's Traité de Phys., Vol. I, p. 288.

As for the emaciation which follows the establishment of a biliary fistula, this is a fact that has been determined by many experimenters, and while there is much obscurity on this point, there seems to be good evidence that bile aids the saponification and absorption of fats. It has been proved that jaundiced patients digest fats incompletely, and the same is true, according to Bidder's and Schmidt's very accurate experiments with dogs with biliary fistula; only one-fifth or one-seventh the usual quantity of fat is absorbed. Brodie, Mayo, Tiedmann and Gruelin, Leuret, and Lassaigne, have found the chyle in the lacteal vessels nearly transparent and free from fat under such conditions.[6]

Light may be obtained respecting the offices of the bile when we come to study the sources of that fluid, but this consideration must be reserved for another number.

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MEDICAL EDUCATION IN CHINA.

The difficulties in the way of educating the natives of China to any satisfactory degree in the knowledge of scientific medicine are very great, involving, first, the dispossession of their minds of the crudities and absurdities of their traditions on such matters, the necessity of instructing them in one of the European languages in which there is a medical literature, and the securing of clinical opportunities, to say nothing of the task of cultivating in them a truly scientific spirit of inquiry. So far has this been true that even the assistants in the European hospitals in China have never been able to acquire more than a certain manual dexterity. Dr. Myers, however, at the David Manson Memorial Hospital of Takow, Formosa, has had the honor to be the founder of what promises to be a successful as well as most important work in this direction. The *Hongkong Telegraph*, under date of May 20, gives a most interesting account of it. Two young Chinamen have completed, with marked credit to themselves, the first half of a full medical course at this hospital.

The regulations under which it is proposed to grant a certificate of competency, and which we think might in some respects be advantageously adopted by some of the American medical schools are these:—

No candidate will be accepted who is not thoroughly able to read and understand English.

The first examination, to be held not earlier than at the end of the candidate's second year of study, to be on anatomy, physiology, inorganic chemistry, and elementary surgery.

Examiners to be independent medical men at either Hongkong or Shanghai, who are to have the sole conduct of the examination of the aforesaid subjects, and whose decision is to be final.

On passing the first professional examination, the candidate is to study for a further period of two years, at the end of which time he may present himself for examination before another independent Board of Examiners, at either Hongkong or Shanghai, when he will be examined on practice of medicine, midwifery, clinical medicine, clinical surgery, including use of instruments medical and surgical, and bandaging, with materia medica, and pharmacy. On passing this, the examiners will sign the final certificate of competency, which will then be handed over to him.

No candidate can be admitted to the first examination unless he produce to the examiners a certificate, duly authenticated, that he has studied for the space of two years, under a legally qualified medical man, all the subjects he professes, at a hospital or medical school to be approved by the Board of Examiners, and no candidate can offer himself for examination at the final unless he can produce certificates of having studied the professed subjects during the required period.

The certificate of competency, drawn up in English, Chinese, or Latin, is divided into two parts, the examiners for the respective divisions signing immediately under their certificates, the whole confirmed by the Surgeon and Instructor of the D.M.M. hospital, and further authenticated by the signatures of the Hospital Committee. To prevent fraud, the photograph of the holder, stamped with the die of the hospital, is affixed to the diploma, and sundry other precautions are taken.

About two and a half years ago, two promising students from the Central School, Hongkong, named respectively Chan Chun Kai and Li Tsun Fun, volunteered to go to Formosa, and study for the required periods, the hospital offering to find them board and lodging, together with instruction.

They have lately been presented for their first examination before a Board of Examiners composed of surgeons of the British Army and Navy and colonial medical officers with one native who is well educated in chemistry. The requirement of the Hospital that the Board be as cosmopolitan as possible seems to have been complied with.

The *Telegraph* says that it was as formidable a board as could possibly be got together outside of the

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[4] Carpenter's Human Phys., Am. Ed., 1862, p. 380.
[5] Longet's Traité de Phys., Vol. I, p. 297.
[6] Ib., Vol. II, p. 311.

United Kingdom, and indeed, looking at the eminence of its members, no less from an official than professional standpoint, it is quite open to question whether a stronger or more authoritative tribunal could be obtained, even in England.

The papers which they submitted in anatomy, chemistry, surgery and physiology, occupying three or four hours apiece, are before us, and would be no light test to the students in the best of our own schools. When we consider that the test was framed and applied by men of such character, having had no connection with the instruction of the students, and in a city remote from where the instruction was given, and that the two candidates obtained in the average of the subjects 72.6 and 70.5 per cent., respectively, we are forced to the conclusion that somebody has been doing pretty good work in the beginning of medical education in China, and are led to the reflection that could a board equally independent of the teaching bodies, and as strict in its requirements, be entrusted with the authority to grant diplomas in medicine in this country, there would be considerable falling off in the number of diplomas which the recurring seasons bring forth.

MEDICAL NOTES.

— The New York Legislature has passed a law for the regulation and control of the practice of veterinary medicine. The law requires the registration of all practitioners, with the evidence of proper qualification afforded by a diploma from some legally incorporated college, or a certificate from an incorporated veterinary society. New York is the first and only State in the Union to recognize and protect this profession, as it was the first to establish veterinary schools, and to organize a State veterinary society.

— The Ohio State Medical Society, at its forty-first annual session at Akron, June 2, 3, 4, 1886, elected the following officers: President, Thomas MacEbright, of Akron; First Vice-president, J. M. Weaver, of Dayton; Second Vice-president, W. S. Battles, of Shreve; Third Vice-president, X. C. Scott, of Cleveland; Fourth Vice-president, Jesse Snodgrass, of Kenton; Secretary, G. A. Collamore, of Toledo; Assistant Secretary, E. C. Bush, of Zanesville; Treasurer, T. W. Jones, of Columbus. The next meeting will be held in Toledo.

— The Kentucky State Medical Society, at its thirty-first annual meeting, held at Winchester, June 23, 24, 25, 1886, elected the following officers: President, M. R. Watkins, of Louisville; Senior Vice-president, J. M. Harwood, of Shelbyville; Junior Vice-president, J. H. McKinley, of Winchester; Permanent Secretary, J. Steel Bailey, of Stanford; Assistant Secretary, T. C. Simpson, of Bardstown; Treasurer, Edward Alcorn, of Hustonville; Chairman Committee of Arrangements, J. C. Brooks, of Paducah. Next place of meeting, Paducah, the third Wednesday in June, 1886.

— *Il Morgagni* (May 29) mentions the following case, recorded by Polyakoff in the *Meditsinskœ Obezpénye*, No. 10, 1885. A robust peasant, aged twenty-seven, of Syarai, Russia, after nine years' married life, became pregnant for the seventh time in June. In the latter period of the pregnancy, the abdomen assumed vast proportions, and on the 1st of March, the woman gave birth to five female fœtuses at short intervals, three presented by the occiput, two by the feet. Each had a sac with separate amnion, but the chorion was common to all. The first fœtus was deformed and still-born; the others lived some minutes after birth. The single placenta weighed a pound and a half, and the umbilical cords were attached to its extremity. Four of the fœtuses were well formed; but the first born was microcephalic, and had not the full number of fingers or toes. The umbilical cord attached to this fœtus had an artery and a vein, but each of the others had three vessels.— *Lancet.*

BOSTON.

— The first class in veterinary medicine was graduated from Harvard University, June 30. It consisted of five members.

— The jury disagreed in the second trial of Stogdale vs. Baker, in which our readers will remember a patient of the Free Hospital for Women brought suit against Dr. W. H. Baker for malpractice, in performing an operation upon her, as she alleged, without her knowledge or consent, in that hospital. A similar suit against the Hospital some months ago, was decided against the plaintiff.

NEW YORK.

— Dr. Joseph Wiener, a well-known German physician, who has practised for many years in New York, has presented to the Park Commissioners a colossal bust of Washington Irving, executed by Beer, of Paris. It will be placed on a pedestal eight feet high, in Central Park.

— A very large rhinoceros, which was recently landed from Europe and taken to the Central Park menagerie, died of pneumonia one week after its arrival there. At the autopsy, which was conducted by Dr. Liautard, it was found that the carcass weighed a little over seven thousand pounds, and the skin alone, eight hundred pounds, requiring eight men to lift it. The thickness of the hide varied from one and a half to two and a half inches. The pneumonic consolidation involved the upper portion of the right lung, and the left was unaffected.

— A warning to amateur doctors, as well as to druggists, is afforded by a case just decided. A German suffering from malaria was informed by a friend that hydrate of chloral would cure his trouble, and accordingly, he purchased some and took a considerable quantity (the dose is not given in the report). He was afterwards ill for six weeks, and claiming that it was caused by the chloral, and attributable to the carelessness of the druggist of whom he purchased it, on the ground that the latter should have warned him respecting the powerful character of the medicine, he sued the druggist for $2,000 damages. At the trial, it was urged, on behalf of the defendant, that the plaintiff informed him that he knew all about the drug, but the jury rendered a verdict awarding the latter $200 damages.

Miscellany.

THE EFFECT OF BITTERS ON DIGESTION.

Dr. Cheltsoff, Chief of Professor Botkin's clinic, according to the *Lancet* (May 15), thinks that extracts of the so-called "pure bitters," which are usually prescribed with the view of stimulating the secretion of gastric juice and of aiding digestion, so far from having any beneficial effect of that kind, are absolutely injurious, inasmuch as they retard the digestive functions. He has made a series of experiments with extracts of aurantium, gentian, trifolium, absinthium, calumba, cascarilla and quassia, on (1) gastric digestion and the secretion of gastric juice; (2) pancreatic digestion and the secretion of pancreatic juice; (3) the secretion of bile; (4) fermentation; and (5) nitrogenous metamorphosis. The conclusions at which he arrived were that bitter extracts, even in small doses, interfere with artificial gastric digestion, and also with the gastric digestion of animals, but not to so great an extent. Large doses of bitter extracts diminish the secretion of gastric juice, though small doses effect a slight and transitory increase of it, the digestive power of the fluid being, however, in all cases diminished. Bitter extracts have no effect on the secretion of pancreatic fluid, but they, nevertheless, retard hypogastric digestion. The action of bitter extracts on the secretion of bile is various; extract of absinthium, extract of trifolium, and large doses of extract of cetrarin slightly increase it, usually at least, but not invariably; while extract of quassia, extract of calumba, and small doses of extract of cetrarin, have no effect at all. Bitter extracts have no antifermentative effect, and do not hinder suppuration. Lastly, assimilation of nitrogenous substances is diminished by the use of these extracts.

COMMUNICATIONS FROM THE DIPHTHERIA WARDS OF THE CHARITE.

Henoch's report on diphtheria, as observed in the wards of the Royal Charité, at Berlin (*Charité Annalen*, Vol. X, p. 490), embodies much interesting and valuable material. Its conclusions are thus summarized in the *Therapeutic Gazette* for June.

Diphtheria increases, as appears from the publications of the bureau of statistics, yearly in Berlin, both regarding frequency and malignancy. The same observations could be made at the Charité. From the years 1876–1883, the number of diphtheria patients increased enormously, namely, from twenty-six to one hundred and eighty-three. About two-thirds of all cases belonged to the period between the second and sixth year of life. The mortality rate is most unfavorable in the first three years of life.

Of three hundred and nineteen cases observed, two hundred and eight died (an enormous percentage). It must be taken into consideration, however, that, aside from a grave epidemic nature and the naturally unfavorable conditions of a large old hospital, only genuine cases of diphtheria are included in the above statement.

Of the three hundred and nineteen cases, one hundred and seventy-four took their course without exceeding the region of the pharynx; of these, ninety-five were cured and seventy-nine died. This great number of cases with a lethal exit, which did not terminate under symptoms of croup, confirm the frequently-noted fact that the very gravest septic forms of diphtheria show no tendency to extend downward, not even when they attain a duration of seven days and more. One hundred and forty-five cases assumed a croupous nature, and were all operated upon, with the exception of seven cases. These seven patients perished, while of the one hundred and thirty-eight operations, only sixteen (about eleven and a half per cent.) were successful. These figures show that in spite of all the dangers which lie in the diphtheritic infection itself, the termination in croup slays the greatest number of victims. Henoch regards the combination of grave septic symptoms with those of croup as the only tenable contraindication to the operation of tracheotomy. Among the causes of death after tracheotomy, we find, besides affections of the respiratory organs mentioned, diphtheritic collapse, erysipelas, and (in three instances), convulsions appearing twelve to forty-eight hours after the operation; for these no valid reason could be assigned, even after the autopsy. Otitis media was observed only in three cases; rhinitis diphtheriticus, however, in very many instances, even in those which terminated in a cure.

The conjunctiva palpebrarum was but rarely, and only in grave cases, affected. Erythemata occurred in three cases, scarlet fever in many, nephritis in some. When, in presence of nephritis, symptoms of cardiac weakness set in, injections of camphor, ether, and strychnine were employed, to which, in some instances, Henoch attributed the recovery. In diphtheritic paralysis, hypodermic injections of one to four mg. of strychnine constituted Henoch's routine treatment. Of prolonged diphtheritis, Henoch noted also a few cases, one of which lasted over two months up to its recovery.

In conclusion, Henoch declines to admit that any of the vaunted specific measures can be regarded as reliable.

SEWAGE FARMING IN ENGLAND.

On June 3d, inst., Dr. Alfred Carpenter delivered an address to the Croydon Farmers' Club, which was of much more than local interest. The sewage of Croydon flows by gravitation to the two sewage farms of Beddington and Norwood. The Beddington farm of six hundred acres disposes of the sewage of 66,000 persons; it has been in operation for more than twenty years; it has never given rise to any nuisance or any disease in the neighborhood; the land has risen from £1 to £9 per acre in value, and is still as capable of doing its work as it was when it was first used. This is a most important tribute to the value of sewage irrigation, and proves that the oft-repeated statement that land soon gets "sick" of sewage is, at any rate, not universally true. The *Lancet* says: "The whole address was full of matter for thought, and should be reprinted as one of the most valuable of the recent contributions to the solution of the hardest of sanitary problems.

"Some years ago we reported on the two Croydon farms, and we gather from the above address that they have undergone no important alteration since that time. There is a great natural fall to help the irrigation, and the sewage can easily be carried to the growing crop of rye-grass before putrefaction has advanced. This, Dr. Carpenter claims, is a great advantage, as he has satisfied himself by experiments that rye-grass is almost carnivorous in its power of assimilating crude sewage. We are inclined to agree in this view, although the evidence adduced is scarcely conclusive. The sewage flows, or did flow at the time of our inspection, over the soil, and not through it, the system being correctly described as surface, as distinguished from downward, filtration. It is wonderful how effective, when properly managed, such filtration is in removing organic matter from sewage, and the long-continued success of the Croydon experiment seems to indicate that it is in some cases, if not in all, the best mode of working. The soil in the Norwood farm is stiff clay, and would be ill-adapted for underdrainage, whereas, even in wet weather, a satisfactory effluent can be obtained from the surface.

"Dr. Carpenter insists with great sense on the necessity of making the sewage irrigation intermittent. There is no doubt that the occasional failure of what is certainly, when practicable, the best method of sewage disposal has often been due to the neglect of this precaution. Even Italian rye-grass, which, as the Rugby Commission long ago proved, is the only crop suited for the continuous assimilation of sewage, requires some time for the digestion of its food; and it is, above all, desirable that a week or more should elapse between the last application of sewage and the cutting of the grass. The economical disposal of the crops is a distinct and almost equally important question. The grass should be cut frequently, before flowering, and the suggestion that a stock and dairy farm should be associated with the sewage farm is well worthy of consideration; it would probably pay, in a good many places."

SOME CERTAINTIES IN THE THERAPEUTICS OF EPILEPSY.

Dr. C. L. Dana has written a paper with the above title, which is published in a recent number of the *New York Medical Journal.* His conclusions are summarized in the following statements: —

I. Diet, exercise and proper hygienic treatment rank above all other single therapeutic measures.

II. The bromides take the second rank in the treatment of epilepsy.

All bromides act alike in this disease. If one does not cure another will not. Occasionally changing and mixing reduces the attacks for a time, and benefits the stomach.

III. The best bromides are those of potassium, sodium, ammonium, and hydrogen (hydrobromic acid); possibly we may add nickel.

IV. Bromides may be given in daily doses of ʒj, increased gradually until the attacks are suppressed, or the dose reaches ʒiv to ℥j daily. Few patients can tolerate more than this latter dose. Thorough bromidization should be always tried, if necessary to stop fits, and it may be occasionally repeated. But bromidization is sometimes injurious, even making the disease worse, and it must always be employed with caution.

V. When the fits are suppressed, the bromides should be carefully reduced, but never entirely stopped for at least two years after the last fit.

VI. In most cases, and especially in nocturnal epilepsy, an extra large dose of bromide should be given at night.

VII. It is very important that bromides should be chemically pure, that their use should be continued a very long time, and that their depressing effects should be offset by tonics and all possible roborant measures.

VIII. The best non-specific adjuvants (drugs) to the bromides are potassium iodide (in syphilitic epilepsy), potassium bicarbonate (in lithæmic and rheumatic states), carbonate of ammonium, the hypophosphites, arsenic, iron and quinine.

IX. The other chief adjuvants to the bromides are diet, exercise, a regular life, hydrotherapy, counter-irritation on the neck, and, in the line of drugs, zinc, belladonna, strychnine, valerian and the nitrites. Combinations of bromides with the other drugs mentioned will lessen attacks when bromides alone will not.

X. The best substitutes for the bromides, when these do no good or do harm, are belladonna, zinc, strychnine, glonoin, borax and alteratives.

For nocturnal epilepsy, increase the dose of bromide at night, and add chloral or digitalis. Give also, if needed, strychnine. Raising the head of the bed or making the patient sleep in a chair at night are measures to be tried.

For the status epilepticus give large enemata of chloral, and use emetics and purges. Venesection is often efficacious, morphine is dangerous, chloroform is only palliative, and nitrite of amyl is of little value.

THE CHARACTER OF INORGANIC CARDIAC MURMURS.

Sir James Sawyer, M.D., writes in the *Birmingham Medical Review* for April, regarding the statement that Dr. G. W. Balfour was the first to draw attention to the greater frequency of the inorganic murmur of chlorosis to the left of the sternum, saying that the fact was generally accepted by clinical teachers sixteen years ago. This writer is unable to accept Dr. Balfour's well-known view as to the mitral origin of the systolic murmur of spanæmia, his opinion being that this inorganic cardiac murmur has its position of origin at the orifices of the aorta and pulmonary artery; that it is conducted along both the aorta and pulmonary artery; and that it can be traced more distinctly in the direction of the pulmonary artery than along the line of the aorta, because the pulmonary artery is larger than the aorta in circumference, and because it is nearer than that vessel to the anterior surface of the chest. He is quite satisfied that the auscultatory characteristics of the cardiac murmur of spanæmia, as to position, time, and propagation, are sufficient for its easy and certain clinical recognition.

In most cases of spanæmia, a cardiac murmur is audible. This murmur is not "organic"; it is independent of organic changes in the heart. It is not "dynamic"; it is independent of functional perversion of the cardiac action. This murmur is often heard in anæmic girls, and it has been distinguished by the names of anæmic and chlorotic murmur. In his experience, it is always basic in site. It is never heard over the cardiac apex. It is always systolic in rhythm, and systolic only. It can be traced upwards and to the right along the aorta, and upwards and to the left along the pulmonary artery, but it is more distinctly propagated along the pulmonary artery than in any other direction. It is not safe to rely upon the quality of this murmur, as some observers have seemed inclined to do. While an anæmic murmur is usually soft and blowing in quality, it is certainly not always so. When this murmur is audible, the cardiac second sound, as heard at the base of the heart, is often preternaturally clear. It is unduly clear without being accentuated, and this abnormal distinctness pertains to both its aortic and its pulmonary valvular elements. The cardiac murmur of anæmia diminishes as the patient's condition improves, and disappears with complete convalescence. It is generally better heard in the erect than in the recumbent posture. There are two associated auscultatory signs of spanæmia: namely, the well-known hum in the neck (the continuous venous murmur known at the "*bruit de diable*.") and a less constant murmur, which is softly blowing and systolic, audible over the larger arteries.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 26, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whoopi'g Cough.	Diph. and Croup.
New York	1,439,039	637	282	26.72	14.56	14.24	.96	6.40
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	251	111	15.60	17.21	.78	1.56	9.25
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	156	43	11.52	23.68	1.92	—	8.32
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	204	117	34.79	11.76	21.56	2.94	3.92
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans, June 5th,	238,000	149	83	26.13	10.05	16.75	1.34	.67
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	109	—	17.48	20.24	15.64	—	—
Pittsburgh	190,000	121	87	35.69	4.15	23.24	5.81	.83
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	30	5	10.00	43.29	—	3.33	3.33
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	57	27	22.75	15.75	10.60	1.75	1.75
Worcester	68,383	23	8	13.05	4.35	8.70		—
Lowell	64,051	24	7	20.80	16.64	16.64	—	—
Cambridge	59,660	18	3	16.66	16.66	-	—	11.11
Fall River	56,863	16	7	18.75	6.25	6.25	12.50	—
Lynn	45,861	17	8	—	25.66	—	-	—
Lawrence	38,825	12	4	100.	—	91.63	—	—
Springfield	37,577	18	5	22.22	5 55	11.11	-	5.55
New Bedford	33,393	8	2	—	50.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	13	6	46.14	15.38	38.45	—	—
Chelsea	25,709	4	0	—	—	—	—	--
Taunton	23,674	2	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	11	4	—	36.36	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	4	0	—	50.00	—	—	—
Malden	16,407	2	0	-	50.00	—	—	—
Fitchburg	15,375	8	1	12.50	25.00	—	—	—
Waltham	14,609	3	1	—	—	—	—	—
Newburyport	13,716	2	1	50.00	-	—	50.00	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	-	—	—

Deaths reported 1,803: under five years of age 813: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 522, consumption 284, diarrhœal diseases 239, lung diseases 146, diphtheria and croup 93, whooping-cough 30, malarial fever 23, measles 22, scarlet fever 20, erysipelas 12, cerebro-spinal meningitis seven, typhoid fever six, puerperal fever one. From malarial fever, New Orleans 10, New York seven, Baltimore three, Brooklyn two, District of Columbia one. From measles, New York nine, Baltimore eight, Charleston three, Brooklyn and Pittsburgh one each. From scarlet fever, New York six, Brooklyn and Pittsburgh five each, Boston two, Worcester and Holyoke one each. From erysipelas, New York six, Brooklyn, Baltimore, Providence, Charleston and Cambridge one each. From cerebro-spinal meningitis, New York four, New Orleans, Springfield and Fitchburg one each. From typhoid fever, Baltimore, District of Columbia, Pittsburgh, Charleston, Lowell and Lawrence one each.

In 20 cities and greater towns of Massachusetts, with a population of 976,894 (population of the State 1,941,465), the total death-rate for the week was 18.02 against 15.49 and 15.26 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending June 12th the death-rate was 17.4. Deaths reported 3,037: infants under one year of age 691; acute diseases of the respiratory organs (London) 216; measles 89, whooping-cough 60, diarrhœa 47, fever 28, diphtheria 18.

The death-rates ranged from 9.0 in Brighton to 34.5 in Portsmouth; Birkenhead 13.1; Birmingham 15.1; Bradford 19.7; Hull 18.8; Leeds 21.5; Leicester 15.3; Liverpool 19.0; London 16.1; Manchester 24.8; Nottingham 15.6; Sheffield 15.6; Sunderland 18.8.

In Edinburgh 22.5; Glasgow 23.0; Dublin 20.8.

In the 28 greater towns of England and Wales with an estimated population of 9,093,817, for the week ending June 19th, the death-rate was 16.8. Deaths reported 2,927; infants under one year of age, 689; acute diseases of the respiratory organs (London) 184, measles 89, diarrhœa 59, whooping-cough 60, scarlet fever 35, fever 29, diphtheria 21.

The death-rates ranged from 10.9 in Birkenhead to 39.6 in Preston; Birmingham 17.8; Blackburn 26.8; Bradford 18.5; Hull 15.0; Leeds 17.5; Leicester 16.1; Liverpool 18.2; London 14.9; Manchester 21.3; Newcastle-on-Tyne 21.2; Sheffield 16.3.

In Edinburgh 20.9; Glasgow 24.5; Dublin 22.9.

The meteorological record for week ending June 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, June 26, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...20	30.205	64.5	70.3	51.2	54.0	43.0	59.0	52.0	N.	S.E.	S.W.	4	12	8	C.	C.	C.	—	—
Monday,.. 21	30.234	69.7	79.9	57.2	62.0	43.0	62.0	55.7	W.	S.E.	W.	11	11	12	C.	C.	C.	—	—
Tuesday,. 22	30.073	69.6	80.3	59.3	66.0	37.0	79.0	60.7	W.	W.	W.	11	9	10	O.	O.	O.	—	—
Wednes., 23	29.948	61.9	67.0	57.5	81.0	88.0	88.0	85.7	W.	E.	E.	4	10	12	O.	R.	O.	—	—
Thursday, 24	29.950	58.4	59.6	59.5	96.0	100.0	100.0	98.7	E.	E.	E.	18	16	12	O.	R.	R.	—	—
Friday, ...25	29.847	61.4	64.1	57.7	100.0	91.0	92.0	94.3	E.	E.	S.E.	6	6	4	R.	O.	O.	—	—
Saturday, .26	29.685	68.7	79.3	59.9	88.0	52.0	72.0	70.7	W.	W.	W.	10	27	14	C.	F.	C.	.27	0.17
Mean, the Week.	29.992	64.8	71.5	57.5				74.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 26, 1886, TO JULY 2, 1886.

McParlin, Thos. A., colonel and surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. S. O. 146, A. G. O., June 25, 1886.

Magender, D. L., lieutenant colonel and surgeon. Granted leave of absence for two months, to take effect on or about July 1, 1886. S. O. 146, A. G. O., June 25, 1886.

Page, Chas., lieutenant colonel and surgeon. Leave of absence extended ten days. S. O. 146, A. G. O., June 25, 1886.

PROMOTIONS.

Brown, Jos. B., lieutenant colonel and surgeon. To be surgeon with the rank of colonel, Jan. 24, 1886.

Heger, Anthony, major and surgeon. To be surgeon with the rank of lieutenant colonel, Jan. 24, 1886. Circular, A.G.O., June 28, 1886.

Vickery, Richard S., major and surgeon. Assigned to duty as surgeon in charge of Army and Navy General Hospital at Hot Springs, Ark. S. O. 50, A. G. O., June 30, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JULY 3, 1886.

Green, E. H., passed assistant surgeon. Ordered to Naval Laboratory at Brooklyn, temporary duty.

Brown, J. M., Medical Director. Member of Retiring and Examining Board.

Ogden, F. N., assistant surgeon. Ordered to "Juniata."

Siegfried, C. A., surgeon. Three months leave abroad.

Hall, J. H. H., passed assistant surgeon. Detached from Museum of Hygiene, ordered to Naval Hospital, at Brooklyn.

Wentworth, A. R., assistant surgeon Detached from "St. Louis," and ordered to "Brooklyn."

Decker, Corbin J., assistant surgeon. Ordered to "St. Louis."

Berryhill, T. O., assistant surgeon. Ordered to Museum of Hygiene.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING JUNE 26, 1886

Sawtelle, H. W., surgeon To proceed to Wilmington, Cal., on special duty. June 22, 1886.

Wheeler, W. H., passed assistant surgeon. Granted leave of absence for thirty days, June 23, 1886.

Williams, L. L., assistant surgeon. To proceed to Buffalo, N. Y., for temporary duty, June 24, 1886.

Norman, Seaton, assistant surgeon. To proceed to Cleveland, Ohio, for temporary duty, June 26, 1886.

BOOKS AND PAMPHLETS RECEIVED.

New York Post-Graduate Medical School and Hospital, New York City. Fifth Annual Announcement, with a Report of the Dispensary and Hospital. 1886–87.

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures and Condition of the Institution for the Year 1884. Washington Government Printing Office, 1885.

Diseases of the Stomach and Intestines: a Manual of Clinical Therapeutics for the Student and Practitioner. By Professor Dujardin-Beaumetz, Physician to the Cochin Hospital, Member of the Academy of Medicine and of the Council of Hygiene and Salubrity of the Seine, etc. Translated from the fourth French edition by E. P. Hurd, M.D., Newburyport, Mass., President of the Essex North District Medical Society, etc. With illustrations and one chromo-lithograph. New York: Wm. Wood & Co. 1886.

Preliminary Analysis of the Bark of Fouquieria Splendens. By Helen C. de S. Abbott.

A Few Suggestions for the Preparation of Milk for Infants. By John M. Keating, M.D., of Philadelphia. (Reprint from the Medical News, June 5, 1886.)

Third Annual Announcement of the School of Pharmacy, 1886–87. Purdue University, Lafayette, Ind.

Hospital for Diseases of the Throat. Statement by the Medical Council to the Committee of Management, on the differences that have lately arisen between these two bodies. Action of the Committe.

Fifth Annual Report of the State Board of Health of New York. Transmitted to the Governor, April 9, 1885, Albany. 1885.

Report of a Case of Successful Transfusion in Typhoid Fever. By Wm. S. Whitwell, A.M., M.D. (Reprinted from Pacific Medical and Surgical Journal and Western Lancet, for April, 1886.)

On Some Points of Interest Connected with the Wanklyn Method of Sanitary Water Analysis, Particularly on the Detection of Recent Sewage and the Determination of the Nature of the Organic Matter. By Charles Smart, Major and Surgeon, United States Army. (Reprint from Public Health in Minnesota. Vol. II. No. 3. May, 1886.)

The Address in Surgery: The Present Status of Abdominal Surgery. Delivered at the Thirty-Seventh Annual Meeting of American Medical Association on Tuesday, May 5, 1886. By N. Senn, M.D. (Reprinted from the Journal of the American Medical Association, May 29 and June 5, 1886.)

A Manual of Dietetics. By J. Milner Fothergill, M.D., Edinburgh, Physician to the City of London Hospital for Diseases of the Chest. Hon. M.D. Rush Medical College, Chicago, Ill., Foreign Associate Fellow of the College of Physicians, Philadelphia. New York: William Wood & Co.

First Report of the Anna Jaques Hospital for the Twenty Months ending January 1, 1886. Together with By-Laws, Rules and Regulations. Newburyport, Mass. 1886.

Catalogue of the Albany Medical College. Medical Department of Union University. Fifty-Fifth Session, 1885–86, and Announcement for Session, 1886–87.

Malarial Manifestations due to Traumatism. By Henry C. Coe, M.D., M.R.C.S. (Reprinted from the New York Medical Journal for May 22 and 29, 1886.)

Analysis of the Urine with Special Reference to the Diseases of the Genito-Urinary Organs. By K. B. Hofmann, Professor in the University of Gratz, and R. Ultzmann, Docent in the University of Vienna. Translated by T. Barton Brune, A.M., M.D., and H. Holbrook Curtis, Ph.B., M.D. Second Edition, Revised and Enlarged. New York: D. Appleton & Co. 1886.

Original Articles.

A CASE OF "ULCERATIVE ENDOCARDITIS."[1]

BY GRACE WOLCOTT, M.D., OF BOSTON.

On the 17th of October, 1884, I was called to see Mrs. R. M., a woman forty years of age. She had been a tailoress until her marriage, six years before. She told me that three years previous to this visit she had rheumatism, for which she was treated about one year. She fancied that the remedies given her then increased the menstrual flow very much at first, and finally arrested it altogether. This so alarmed her that she refused to take any more medicine and had had no further treatment up to the time that I saw her, although she had suffered greatly with her heart in the mean time.

She was a slender woman rather over medium height. Her face was very pale, her lips bluish, cheeks sunken. She seemed very nervous and her voice was tremulous.

Her pulse was 108, very irregular in volume and rhythm, and frequently intermitted. The radial pulse was so weak that I could not count it accurately, and from this time I was obliged to take the pulse over the heart's apex.

Temperature and respiration were normal.

The bowels were constipated. The tongue was furred and the breath foul.

She complained of gaseous dyspepsia, and of pain over the apex, accompanied by dyspnœa and palpitation, after any physical exertion or mental excitement.

Physical examination showed the apex beat to be in the fifth interspace, three and one-half inches from mid-sternum, and the area of cardiac dulness to be somewhat increased.

At this examination the heart's pulsations were so weak and irregular that no diagnosis of the valvular condition was made.

The treatment was directed to the heart itself and the sluggish condition of the bowels, as I thought the dyspepsia was secondary. The bowels were unloaded by a simple laxative, and under the influence of the tincture of digitalis the number of pulsations was reduced from 108 to 80 per minute, the beat becoming stronger and more regular.

Auscultation then revealed a double mitral and a double aortic murmur.

The dose of digitalis was then reduced from gtt. x to gtt. iii, three times daily, and she was given a pill of cinchona, iron and gentian, and under this treatment she gradually improved. Two weeks from my first visit her pulse was 74 per minute and regular, the bowels moved daily, and she was able to go up and down stairs and to take long walks without discomfort.

She continued in this condition until November 26th, when after severe nervous excitement she came to my office suffering from palpitation, dyspnœa and dyspepsia, with a pulse which varied from 116 to 128 beats per minute. Digitalis was again administered, and soon all trouble subsided.

On January 12, 1885, I was again called to see her. She had taken a severe cold and had rheumatic pains with constipation, headache, anorexia and vomiting. The pulse was 120, the apex beat very feeble. Her face was extremely pale. She was put to bed and the tincture of digitalis was again given in gtt. x doses, and treatment suitable to her febrile condition was instituted.

January 13th. The pulse rate was reduced to 72 per minute, but she suffered greatly from nausea, and passed a sleepless night.

January 14th. She complained of severe pain over the præcordia. Urine scanty; specific gravity 10.20; one-fifth albumen by bulk and loaded with urates.

A flaxseed poultice was placed over the region of the heart and potass. bitart was administered in small doses every two hours. Sulphate of quinine was given thrice daily and sulphate of morphia at bedtime.

January 15th, A.M. The temperature was 101.8°, pulse 76 and respirations 36. The pain over the præcordia was very much lessened, but the patient complained of severe pain in the right and left lumbar regions. At this time coarse moist râles were present in both lungs, accompanied by a cough with profuse expectoration of mucus.

January 16th. She was rather better, and from that date she gained slowly, the convalescence being interrupted only on January 22d and 23d, when she had chills followed by sweating. No unfavorable symptoms followed, however, and she was soon able to sit up and her appetite returned. She was given a pill of quinine, arsenious acid and gentian, and the digitalis was continued. She expressed herself repeatedly as feeling better than she had felt for more than two years. She was able to go over the stairs and to walk down town and back. I tried to impress upon her many times the necessity for continuing the digitalis, but she felt so well that she did not see the need of it, and soon after I stopped my visits she stopped all medication.

She had similar attacks on March 7th, 15th and 30th. The pulse on each of these occasions was 140 but was quickly reduced by digitalis or caffeine. The period from April 4th to April 19th was one of great comfort. She was able to walk long distances every fine day and to do her housework with perfect ease.

At this time I considered all her discomfort to be due to the fact that the limit of compensatory hypertrophy had been reached and dilatation had begun, the crippled condition of the aortic and mitral valves having probably originated in the attack of rheumatism three years before.

With the exception of a slight pericarditis in January the patient had with each attack, bronchorrhœa, dyspnœa and various gastro-intestinal disturbances, all of which disappeared as soon as the heart's action was fully under control, and invariably reappeared about one week after she stopped medication.

Repeated microscopic examinations of the urine revealed nothing abnormal.

On the morning of April 20th, I was called to see Mrs. M., and was told that the previous evening just after going to bed, she had a violent chill, that the chill was followed by profuse sweating, severe pain in the right lumbar region, and that she had passed a restless and sleepless night. At this time, about eight o'clock A. M., the temperature was 101°, pulse 140 and irregular, respiration 40. Her face was very haggard and anxious. Orthopnœa was marked, and there was a copious expectoration of glairy mucus. The prostration was so extreme that the physical examination was necessarily hurried and superficial, but I found on percussion that there was flatness over the lower part of the right chest, and on auscultation mucus and subcrepitant râles over both lungs.

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[1] Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, May 12th, 1886.

Her stomach was very irritable and it was with difficulty that she retained any food. She was given one of the ammonia salts together with quinine and morphia.

April 21st, there was no improvement and her temperature had reached 103°. I then asked Dr. A. N. Blodgett to see her with me in consultation. A careful examination revealed a slight effusion in the right pleural cavity, œdema of both lungs, and pericarditis friction sounds being present.

The possibility of the existence of ulcerative endocarditis was suggested by Dr. Blodgett. No change in treatment was advised, except with regard to stimulants and milk. These had been tried repeatedly, in various forms, but unsuccessfully; however, we renewed our efforts, but to no purpose.

During the 22d and 23d, she remained in about the same condition except that she grew gradually weaker. On the night of the 23d, she went into a comatose state which lasted until 9 P. M. of April 24th, when she died.

During this illness, which lasted five days, the temperature ranged from 101.5° to 103° there being marked morning remissions and evening exacerbations. The pulse was 140 throughout the attack, and the respirations 40 to 48 per minute.

Orthopnœa was present from the first, but she complained of no discomfort or pain about the heart at any time.

The profuse expectoration was very annoying to her as she could only raise it with great difficulty on account of the prostration. The skin was cold and clammy to the feel and sallow, almost cadaveric in appearance.

Permission to make an autopsy was given at so late an hour, and the time allowed for it so limited, that great haste was required. For this reason the chest only was opened.

Autopsy. Made twelve hours after death. Body fairly well nourished. Rigor mortis present. The lower half of right lung firmly bound to costal pleura by old adhesions; a few recent adhesions were found. The left lung was entirely free. The right pleural cavity contained about a pint of fluid. The left chest was normal. Slight hypostatic congestion over posterior part of lower lobes of both lungs, and both were œdematous.

The pericardial sac contained about ℥iij. of fluid. The heart was increased fully one quarter in size, its walls were hypertrophied and its cavities considerably dilated. On the outer surface of the heart, along the course of the left corronary artery were evidences of inflammation in the shape of little bead-like deposits which were quite firm. Near the apex on the outer surface of the left ventricle was a patch of inflammatory exudate about the size of a small lima bean, which was quite soft. There were several similar patches, though much smaller, at different points of the visceral pericardium, also some cloudiness.

In both auricles and in both ventricles were large ante-mortem clots, the clot in the left ventricle extending into the aorta. The endocardium of the left ventricle showed evidences of recent inflammatory action in the shape of cloudy patches and delicate shreds of plastic matter. The leaflets of the mitral valve showed fibroid induration, the orifice admitting but two fingers.

The ventricular surfaces of the cusps of the aortic valve were the seat of the ulcerative process. In opening the aortic orifice, the incision was made at the junction of the right and left leaflets next the pulmonary artery, dividing one ulcer, the largest one, which measured three-eighths of an inch by one-fourth. It was of a dirty grayish color, and beneath was disintegrated tissue.

The second ulcer was at the junction of the posterior and right cusps.

A little to the left of the middle of the right cusp was a firm mass about the size and shape of a small pea, with beginning ulceration at its apex.

On the posterior cusp were two similar nodules, one of which was slightly softened at the apex, and the other firm.

There were also evidences of inflammation of the aorta extending about an inch and a half from the aortic orifice.

I am glad to lay before the Section the report of this case, with the specimen, for the criticism of its members. It seems to me that the specimen presents *well*, a gradation of the process from the indurated nodule to the open ulcer.

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REPORT ON OBSTETRICS.

BY C. M. GREEN, M.D.

THE USES OF ELECTRICITY IN OBSTETRICS, ESPECIALLY WITH REFERENCE TO THE INDUCTION OF PREMATURE LABOR.

Since Bayer's first paper [1] on this subject recalled attention to a therapeutic measure which for a long time had possessed only an historic interest, several observers have embraced every opportunity of testing the efficacy of electricity in its application to obstetrics, and especially to the induction of premature labor. An abstract of Bayer's paper appeared in the *American Journal of Obstetrics* for August, 1885, and the author's method and conclusions are there given in sufficient detail.

A case is reported by Walcher[2] from the Tübingen clinic, in which the induction of premature labor was indicated in an viiipara whose pelvis was slightly below the average, and whose previous labors had resulted disastrously to the fœtus on account of relative disproportion. Walcher used the constant current of ten elements, introducing the negative electrode (an insulated copper sound with a terminal bulb) into the cervix, and placing the positive electrode over the fundus: each application lasted about ten minutes. Pains were awakened at nearly every sitting and lasted for a varying length of time: the cervix gradually shortened and dilated; and after eleven galvanizations, covering a period of five days, the os was as large as a silver dollar, the membranes bulged, and the labor proceeded. Owing to the transverse position of the fœtus, podalic version was performed. Extraction proving difficult, it was found that the cord encircled the left thigh and prevented the descent of the fœtus: as it was impossible to free the cord, which by this time had ceased to pulsate, it was cut and the dead child forthwith delivered. It was then discovered that the cord encircled the child's neck as well, and being of only normal length it was relatively so shortened by these coilings as to cause the dystocia. The fœtus weighed only 7.75 pounds and would doubtless have been born alive but for the accident to the cord. With the effect of the electricity on the uterus Walcher was well satisfied: the mother had a normal convalescence and left the hospital in ten days. It was observed by Walcher as well as by Bayer, that the fœtal movements were usually greatly increased during the galvanization, and perhaps the fatal result to the child in Walcher's case was thus indirectly caused by the electricity leading to fœtal gyrations which resulted in the coilings of the cord.

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[1] Zeitschrift für Geburtshilfe, u. Gynäkologie, Band xi, Heft 1.

[2] Centralblatt für Gynäkologie, No. 14, 1885.

At the 58th meeting of the Society of German Naturalists and Physicians in Strasburg, 1885, **Bayer**[3] reported his results in four more cases in which he had used the constant current for the induction of premature labor:

1. In a vpara, in whose previous labors delivery had been effected by version, the children being stillborn, Bayer induced labor at the thirty-sixth week: pains set in after the first application of the constant current, and the os was fully dilated after the sixth. The child was born alive, but died in ten days.

2. Labor was successfully induced with the galvanic current: the child was born alive, but died in six hours of weakness.

3. The os was fully dilated after the seventh galvanization; but the pains continued only during the application, and the method was given up. Three and a half weeks later, however, premature labor set in spontaneously, and the child was born alive.

4. After the ninth application a gray-green ulceration appeared in the cervix: this being healed, another attempt was made, which resulted in a sufficient dilatation of the cervix to admit of operative delivery.

Bayer concludes from his added experience that the constant current awakens pains, dilates the os, and removes strictures of the cervix; but he admits that the results are not uniform. Success is most brilliant when the uterine muscle is in good condition and the cervix is not very rigid. He believes the effect of the current is increased by frequently opening and closing the stream by a rapidly intermittent application of the anode to the abdominal wall: he also uses a double electrode in the cervix. When a number of applications are necessary, the cervix should be frequently inspected, as occasionally ulcerations occur.

Müller, of Berne, discussing Bayer's communication, said that in one case he had had a brilliant success with the constant current; but in his five subsequent cases, after long trial of galvanization, he was obliged to resort to other means in order to awaken pains. Electricity would usually dilate the cervix and there its effect ceased.

Fleischmann[4] has reported from Breisky's Clinic in Prague two cases in which he used the constant current. In his first case, owing to the gradually decreasing irritability of the uterine muscle and to the cicatricial condition of the cervix, galvanism failed to accomplish more than a slight dilatation, and resort was had to other methods. In the second case, having applied the current in the usual manner with only moderate success, Fleischmann tried placing the anode over the lumbar vertebræ and the cathode in the posterior cul-de-sac, using eighteen elements. The result was most satisfactory: effective pains were awakened, and the labor terminated naturally. Applied in this manner, however, the current caused some pain. The fœtus suffered in no way; but its movements were more active.

Apart from its application to the induction of premature labor, Bayer found the constant current of value in regulating and strengthening the pains in labor at term. To promote uterine contractions in the third stage and thus check hæmorrhage, electricity has long been recognized as a useful agent.

In this country, **Dr. W. T. Baird**,[5] of Albany, Texas, has written an extended paper on this subject, based on an experience of 220 cases. Unlike the authorities previously quoted Baird uses the faradic current, and applies one electrode over the lumbo-sacral region and the other over the abdominal wall, especial care being taken "never to make the application in such a manner as to include the head of the fœtus in the circuit." Baird believes that electricity has a very extended field of usefulness in obstetrics, in short, in any case in which it may be desirable

"1. To modify the pains of labor."

"2. To favor a more rapid dilatation of the os."

"3. To promote more vigorous uterine contractions."

"4. To add tone and strength to all the muscles engaged, and increase their power of doing work."

"5. To abridge the time occupied by the labor."

"6. To prevent shock, exhaustion, and post-partum hæmorrhage."

"7. To insure contraction of the uterus in cases of instrumental delivery."

"8. To act as an auxiliary in the induction of premature labor."

"9. To arrest hæmorrhage and accelerate labor in cases of placenta prævia."

"10. To prevent an undue expenditure of nervous force, in all cases of debility from whatever cause, thus leaving the patient in a condition to secure a speedy and favorable convalescence."

THE ÆTIOLOGY OF FACE PRESENTATIONS.

Hoffheinz[6] in his inaugural dissertation has analyzed the material of the Königsberg clinic for the years 1866 to April, 1884, finding the large proportion of one face presentation to one hundred and seventy-nine of all others,— in all fifty-eight cases. The face presented more frequently in multiparæ than in primiparæ; but the mother's age had no definite ætiological influence. It is undecided whether the premature rupture of the membranes, so frequent in face presentations, and the consequent delay in the first stage are to be ascribed to the faulty engagement of the head, or to contractions of the pelvis, which frequently complicate these cases. The author believes that the possible causes of face presentations can be stated with tolerable certainty as follows:

a. Marked lateral deviations of the uterus.

b. Contraction of the pelvis in its conjugate diameters.

c. Unduly great weight of the fœtus in proportion to its length.

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[3] Centralblatt fur Gynakologie, No. 42, 1885.

[4] Archiv fur Gynakologie, Band xxvii, Heft 1.

[5] American Journal of Obstetrics, April, May, and July, 1885.

[6] Centralblatt fur Gynakol., No. 46, 1885.

d. Prolapse of a hand beside the head.

e. Dorsal displacement of an arm.

It is questionable whether multiple coiling of the cord can cause face presentation; and Hecker's theory, that dolico-cephalism is a primary cause, seems to the author improbable.

MALARIA AND PUERPERALITY.

Bonfils[7] (Thèse de Paris, 1885) has treated this subject very fully, basing his conclusions on an analysis of one hundred and forty cases. Pregnancy and malaria can certainly exist simultaneously without reciprocal influence; but in a certain number of cases this influence is manifest. The effect of the malarial poison on pregnancy is not so much in causing abortion, as many authors believe, (Bonfils found only twelve instances in one hundred and five cases), as in provoking premature labor (sixty-one times in one hundred and five cases). The accidents are oftener occasioned by progressive malarial cachexia, than by visceral and placental congestions produced by the intermittent paroxysms; this influence manifesting itself in the death of the fœtus (observed twenty-four times in one hundred and five cases), and in fœtal malnutrition, whereby the weight and length fall respectively, in the average, one pound and four inches below the average weight and length of healthy infants: in only nine cases in one hundred and five did fœtal death occur in apparent consequence of the intermittent paroxysms. Intra-uterine infection of the fœtus by the malarial poison is rarely observed. On the other hand it is still debatable whether or not the poison can be transmitted to the newborn through the mother's milk.

The extent of malarial influence on labor is not yet clearly demonstrated; but the author asserts that postpartum hæmorrhages are often observed, that uterine involution is retarded, that the lochia remain bloody for a longer time, that the milk is less abundantly secreted and of poorer quality. While pregnancy and labor are not necessarily secure from acute malarial attacks, it is in the lying-in period above all that they appear. In the first three weeks, and especially during the first days, acute attacks are most frequently observed. Malarial cachexia often makes rapid progress in this period and gives rise to progressive pernicious anæmia.

THE PROPER RELATION OF VERSION AND EXTRACTION IN POINT OF TIME.

It has been held by some authors that after version from either transverse or cephalic presentations it is better to wait for a time before proceeding to the manual extraction. Or in other words, that in cases in which malpresentations require correction, it is better to do pelvic version (externally or bimanually) before the os is fully dilated and then wait for full dilation before proceeding to the extraction, if such interference is necessary. With a view to demonstrating the inadvisability of this separation of the two operations in point of time, Winter[8] has analyzed the material of the Royal University Clinic in Berlin from 1876 to 1884 and collected three hundred and ten cases of simple, uncomplicated transverse positions of full-term living children: from the examination of this material he has come to the following conclusions:

1. The teaching, that version and extraction should not be performed in immediate succession, arose from the false supposition that the footling case produced artificially by version has the same prognosis as the same presentation occurring naturally.
2. The earlier and generally adopted practice of performing version as soon as possible after the escape of the liquor amnii rests on the fear of the intra-uterine death of the fœtus and especially of the increased difficulty of version after longer waiting.
3. Fœtal death does not occur alone from the premature escape of the liquor amnii, but only when tympanites uteri, unduly powerful pains, or tonic uterine contraction complicate the case.
4. Version cannot be rendered difficult by waiting until the dilatation of the os, for the dangerous thinning of the lower uterine segment does not occur until the expulsive stage; nor again does the ordinary clonic uterine contraction cause trouble in turning. Tonic uterine contraction, however produced, is a pathological condition, which is always to be avoided.
5. In normal cases children bear version and immediate extraction with safety.
6. Waiting after version before proceeding to extraction is very dangerous for the child, which often dies in utero, or is saved only by speedy extraction.
7. The causes of fœtal death are injuries to the cord during the version, separation of the placenta, and entrance of air into the uterus.
8. Whether the membranes are ruptured or unruptured version should not be performed until the extraction can be immediately proceeded with.
9. Only a definite indication, such as placenta prævia, prolapse of the cord, beginning infection, imminent asphyxia of the child, great thinning of the lower uterine segment, pure inertia uteri, demands early version, that is, before the dilatation of the cervix, and then for the most part in the interest of the mother.

Clinical Memoranda.

A CASE OF EXTRA-UTERINE PREGNANCY.[1]

BY E. A. KEMP, M.D.

At half-past eleven A. M., on the 25th of March, I was called to see Mrs. P., a lady about twenty-six years old. Had been married about three months. On my arrival, I found the patient lying on the bed; pulse not very weak, and still not as strong as you would expect in a healthy woman. Heart sounds normal. There was a pallor about the face, how marked I could not say, as I had never seen the patient before. Hands and feet were quite cool. I gleaned the following history from her mother, who had come in a short time before the patient's illness. She had always been healthy, and was chatting and laughing with her mother and another lady when the grocer called. She arose rather hastily, went to the door, transacted whatever business she had, and started to return. While in the entry, she came near falling, when her mother assisted her to the bed in an adjoining room. She complained of an occasional pain in the region of the stomach, saying that it would pass to the right shoulder. There was belching of wind; in fact, it seemed like a case of indigestion, and as I had seen a lady the night before who had fainted and was nearly pulseless, which proved to be a case of indigestion, I could hardly feel alarmed at the symptoms developed by my patient.

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[7] Revue des Sciences Médicales, April, 1886.

[8] Zeitschrift für Geburtshilfe und Gynäkologie, xii, 1. Centralblatt für Gynäkologie, No. 7, 1886.

[1] Read before the Essex South Medical Society, Danvers, Mass.

After the application of heat to the extremities, and administering remedies which seemed appropriate, she was very comfortable, and when I left, seemed as well as one could expect under the circumstances. About eight in the evening, the husband came to my office, and said that the pain in his wife's stomach had not entirely ceased, and thought I had better see her, so I immediatly went home with him. Found the papatient quite pale, hands cold, but feet warm. Some pain at intervals in the region of the stomach, radiating to right shoulder. Heart sounds and pulse quite weak. In fact, she had every appearance of a woman losing blood.

A careful examination revealed nothing. Both herself and mother informed me that she had been regular in her monthly sickness, and that the regular monthly flow had ceased only a day or two before. I watched her for an hour, doing whatever the case seemed to demand by stimulants, etc., but everything that was done apparently did no good. The case seemed very critical, and I kept thinking, "I am afraid she will die"; but the thought would come, how can she die without a cause, and what is the cause? I requested the husband to go to Dr. Frost's, about one-fourth of a mile away, and ask him to come and bring some ammoniac, as I had used my last. During his absence the patient was pulseless at times, and one of the heart sounds only could be heard; but under the administration of hypodermic injections of whiskey, both heart sounds strengthened so as to be heard distinctly, and the pulse greatly improved. After Dr. Frost's arrival, we worked on for an hour and a half without any apparent benefit, when Dr. Carlton arrived; but our united efforts, by means of stimulants, both by mouth and hypodermically, with hypodermic injections of digitalis, together with inhalations of nitrite of amyl, all seemed to be of no lasting benefit, and at 2 A. M. the patient died; and we could only say that she apparently died from loss of blood, but from where the most careful examination failed to reveal.

About twenty hours after death, a post-mortem examination was made. There were present Drs. Frost, Carlton, and Atwood.

Rigor mortis was present. The surface was unusually blanched. On opening the abdominal cavity, a quantity of dark fluid blood immediately escaped; a large quantity of fluid blood remained in the lower part of the abdominal cavity. Both iliac fossæ were completely filled with clots. On a careful removal of the clots, we found a case of tubal pregnancy, with rupture. I should judge the pregnancy had advanced to the sixth week. I show you the specimen, which gives you a good idea of the case. It seems to me that the interesting features of the case are these: The woman's perfect health, without the least disturbauce as regards pregnancy, that is, without symptoms. The regularity in her monthly sickness (at this time the monthly flow had just ceased). Also the early rupture.

The following report upon the specimen was made by Dr. W. F. Whitney, Curator of the Warren Anatomical Museum:

"The specimen consisted of the uterus and adnexa.

"In the right ovary was a corpus luteum about 1.5 cm. in its longest diameter, having a sinuous, linear, yellow, central portion surrounded by dense, whitish, connective tissue.

"Projecting from the upper part of the uterus, at the place where the right Fallopian tube joins the fundus, was a tumor the size of a hen's egg; at the upper anterior aspect of this the wall was exceedingly thin, and had evidently ruptured. The part of the wall towards the uterus was thicker, and composed, in part, of uterine tissue. The interior of the tumor was filled with a shreddy mass, recalling placental tissue. (It was reported that a small. embryonic structure was found attached to this by a fine thread at the time of the autopsy).

"The lining membrane of the uterus was smooth, velvety, and much thickened. The walls, however, were but little increased in thickness, nor was the cavity enlarged."

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Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

May 12th. 1886.

Meeting called to order at 8 o'clock, by Dr. F. I. Knight, Chairman. The records of the last meeting were read in summary by the Secretary and approved. Previous to the papers of the evening, the Chairman announced that Dr. Bowditch desired to address the Section.

Dr. Bowditch said that he had three articles which he would present to the Section, two of which would be hereafter placed in the portfolio of the Boston Medical Library. They all held important relations with the history of medicine, and he thought they would be interesting to the members.

First. A splendid lithograph of Vesalius. "The Father of Modern Anatomy." No one could look at it without feeling that if Vesalius had not been great in our profession, he would have been great in any walk of life. One could believe from his fine commanding brow and calm look that he might have been a statesman. He was born in Brussels in 1514, and died in 1564 of starvation in the Island of Zante, where he had been shipwrecked on his return from a pilgrimage to the Holy Land. Accused by the minions of the Inquisition of having begun to dissect a man while the heart was still palpitating, he was saved from death only by the favor of Philip II, to whom he was chief surgeon. He had taught anatomy at Pavia, Bologna, and Pisa from 1540 to 1544, and had large crowds of students to hear him. His immortal work "De Corporis Humani Fabrica," in seven volumes, was first printed at Basle in 1543. Boerhaave and Albinus published another edition in folio in 1725 at Leyden.

The second article shown was a pharmacopœia published at Cologne with Petrus Holzeming as editor, a worthy man doubtless, but now wholly unknown to fame, so far as biographical dictionaries are able to tell us. It is a thin folio volume, with large, well-engraved title-page. At the top are the armorial bearings of Cologne. Below is a view of the city. On the sides are four physicians, namely, St. Luke, St.

Parataban, St. Agmar, and St. Damianas. The last three suffered martyrdom in the fourth century. St. Connes was for many years the patron saint of physicians. A church dedicated to his memory in the 13th century, was taken down in 1832. At one time the fraternity of priests of St. Connes taught medicine there. Ambroise Paré in the 16th century gained his title of Master Surgeon from that Faculty. The pharmacopœia is a most interesting work, as illustrative of the absurd lengths our fathers in medicine went in the number of articles put in their prescriptions. Generally speaking there were one or two active ingredients, as aloes, opium hyoscyamus, etc., in a prescription, and the remainder were inert. The most remarkable in the book is an electuary powder. It contains fifty-four different ingredients and was styled "Pulvis Subtilissimus."[1] In this prescription, human nature had evidently gone to the utmost extreme of over medication. The whole book with its absurd remedies seems to prophesy homœopathy, with its single and equally absurd infinitesimals. Man never goes toward the truth in a straight line, but in a pendulum course.

Third. A photograph of a painting by Watteau, caricaturing in pencil after Moliere had done so with his pen, the absurdities of the faculty and the extremes to which the public were led by eulogiums on the use of the "clystere." Moliere wrote his "Malade Imaginaire" for the opera of the king and noblesse. Watteau, coming after him a few years, painted the scenery on the same stage. The painting which the photograph represents is in the museum at Lille in France. It shows an immense army of people coming to meet the great Doctor, who is dressed in fur-bordered robe, with feathers in his hat. He stands erect with an immense gravity and important look. His right arm extended as if giving decided directions in regard to a patient who is about to have an enema given to him. An immense crowd looking like an army covers the background. Each person armed with a huge syringe, instead of the usual trappings of war. Upon the top of the staff, bearing the color of the regiment, instead of the imperial eagle appears an upturned chamber utensil which shall be nameless. Various groups are seen in the foreground, of a most realistic character. A lady with glutei and legs exposed, and two negroes administering an enema. A lady with her lapdog on her arm, and her husband are apparently leaving the scene, but are followed by an attendant of the doctor, armed with a syringe, who is evidently entreating her to allow him to give her an enema. On the other side of the picture is a burly postman, set upon by two attendants, one of whom has pulled the hat over the eyes of the struggling victim, while the other is preparing to give him the injection, which one sees the postman will not readily submit to. But most comical of all is a poor, evidently costive dog, with curved back, plainly striving in vain for a dejection, and mutely appealing for an enema for his relief. One has only to read the "Malade Imaginaire," of Moliere, to get a full explanation of this gross caricature. At the same time it shows the absurd length to which our fathers went in regard to the rectum, as according to the pharmacopœia above described, they had a half century or more before, filled the mouths of their patients with their subtle powders. Who can wonder at homœopathy and electicism in consequence of such nonsense.

Dr. S. W. Langmaid moved a vote of thanks to Dr. Bowditch for his very interesting remarks, and his valuable and unique gifts to the Section.

The motion was put by the Chairman, and carried unanimously.

Dr. Grace Wolcott read a paper on,

A CASE OF ULCERATIVE ENDOCARDITIS.[2]

Dr. F. C. Shattuck, upon being invited to open the discussion, expressed his interest in the well reported case which had just been read. The pathology of endocarditis in general presents problems, at once interesting and difficult, to the solution of which we thought ourselves nearer some years ago than we do to-day. Until lately the real distinction between ulcerative and simple endocarditis was thought to lie in the presence in the former of micrococci; and the term diphtheritic endocarditis was proposed to characterize the process at one time. To these organisms the infectious nature of the affection was attributed; to them it was thought to be due that emboli excited suppurative inflammation about their points of lodgment. This distinction now fails us since Klebs, Köster, and others find micrococci in the products of any and every endocarditis, without having succeeded as yet in distinguishing between those accompanying forms which are clinically so different. Anatomically the difference is rather one of degree than of kind, and hence Osler prefers the term malignant to the term ulcerative. In an endocarditis of malignant course there may be no more ulceration than in a benign case of warty endocarditis; and, on the other hand, there may be well-marked ulceration from very different causes. The main anatomical distinction is in the different results of embolism; as to the pathological distinction we are at present ignorant; the clinical distinction is more clearly marked. Thus we are led to the eminently practical question of diagnosis. In some malignant cases the diagnosis may be made with tolerable certainty. We know that the process is especially liable to attack valves which are the seat of changes dependent on previous disease, notably sclerosed valves; and hence grave typhoidal or pyæmic symptoms, for which no other cause can be assigned, in an individual known to be the subject of old valvular disease are, to say the least, suggestive. Similar symptoms with indications of embolic abscesses in a case of acute rheumatic endocarditis are, in like manner, suspicious; but this association is, according to Osler, rare. In cases of primary malignant endocarditis the diagnosis may be reached by a happy guess, but is generally beyond our powers. The general symptoms vary very widely in different cases; simulating typhoid fever, pyæmia, malaria, or some other general infectious disease; the leading symptoms may be cerebro-spinal; symptoms pointing to the heart may be wanting or excessively obscure. If the heart was previously healthy the organ is not enlarged and the course of the disease is usually too short to allow it to become so; while a souffle can easily be attributed to so called dynamic causes. A case which recently occurred at the Massachusetts General Hospital, in the service of Dr. Abbot, the autopsy on which the speaker attended, well illustrates the impossibility of diagnosis at times. A woman died after an illness of ten days or so, with ill-defined but rather typhoidal symptoms and no indication of cardiac disease. Primary ulcerative or malignant endocarditis limited to the tricusted valve with emboli in the lungs was found. The speaker had seen two or three cases in life in which he had suspected this form of disease, but had not been so fortunate as to secure an autopsy to overturn or confirm the diagnosis. He congratulated Dr. Blodgett both on the diagnosis in the case just reported and on its verification.

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[1] Duke Don Nicholas, so called because prepared by an Abbot for the son of Don Nicholas.

[2] See page 25.

Dr. E. G. Cutler expressed much interest in the case reported. He had never seen an instance of ulcerative endocarditis at autopsy, but had had, a few years ago, a patient under his care with the following history: a child of six had passed through an attack of mumps, under another physician, two other children were sick with the disease about the same time. Some days afterwards the child, having been all the time ailing, was seized with chills, fever, pain in the præcordia, and restlessness. There was found to be a loud systolic murmur at the apex. The patient got worse, the circulation in one of the arms suddenly ceased, accompanied by pain and swelling. The femoral artery in one of the legs became plugged soon after, associated with severe pain. The murmur ceased before death, which occurred about a week after the patient was first examined.

Dr. H. I. Bowditch stated that he had never seen a case of this disease in his life, and that the condition was unknown to him. The specimen was a most interesting one, and showed a new source of danger in diseases of the cardiac tissues. Dr. Bowditch asked if the diagnosis of ulcerative endocarditis were made before death, and if so, on what grounds was this opinion based?

Dr. Blodgett replied that he had the privilege of examining the patient before death, and from the history of a long-continued organic disease of the heart which had been studied by careful physicians for many months, to which a new and most serious complication had been suddenly added, he was led to review the conditions to which this unexpected change might be due. The character of the symptoms observed at this time was essentially that of acute septicæmia; that is, there was acute pain in various parts of the body which were not before the seat of disease. The pulse and temperature were very high, the patient was in a condition of stupor, almost amounting to apathy, and resembled the state called "typhoid" in many asthenic diseases. The array of symptoms thus calling attention to a condition so closely approximating to that of surgical pyæmia, it seems only a short way to the diagnosis which alone would sufficiently explain the symptoms. The autopsy was of necessity very hastily made, and gave no time to examine the other visceral organs, which might possibly have shown other interesting pathological conditions connected with the state of the heart.

Dr. Shattuck observed that in any case of endocarditis we may have embolic formations in the blood-vessels. In benign endocarditis the emboli do not occasion suppuration, while in the form of endocarditis which we may for the sake of comparison call "malignant," the emboli are followed by suppuration, and the appearance of a train of clinical phenomena bearing considerable resemblance to septicæmia.

(The remainder of this report will be published in connection with the paper to which the discussion refers).

ASSOCIATION OF AMERICAN PHYSICIANS.[1]

SECOND DAY.— AFTERNOON SESSION.

PERI-UTERINE INFLAMMATION,

by William Polk, M.D., of New York.

The purpose of the paper was to consider those masses found about the roof of the vagina, generally to the sides of the uterus, sometimes behind, rarely in front. These have been described under the head of pelvic cellulitis and peritonitis, and have been the cause of much controversy. The speaker considered these masses to be the result of salpingitis due to uterine disease. Under ordinary circumstances, the disease travels by way of the tubes, but in septicæmia it travels by all routes. Fifteen cases were reported in which the symptoms and signs ordinarily ascribed to pelvic cellulitis and peritonitis were present, but in which opening of the abdomen showed salpingitis, peritonitis, and ovaritis, there being no thickening of the cellular tissue. Except in those cases in which there was shortening of the ligaments, the uterus presented about the normal mobility. Pelvic abscess, in the writer's opinion, was, in the majority of cases, of tubal origin.

As regards the causation of these masses, anything that will produce endometritis may produce salpingitis and cause these masses.

Prognosis. Death is the exception. This result is to be expected when septicæmia is the cause of the trouble, or when there is a depraved state of the system. The occurrence of abscess is usually followed by recovery. If the mass remains, the permanent cure of the case is doubtful.

In chronic cases, after all other measures have failed, operation may be performed. The tubes need not necessarily be removed. The tearing of the adhesions may be sufficient.

Conclusions: Salpingitis is neither a new nor a rare disease.

It is, with peritonitis, the most common form of inflammation about the uterus, holding, in point of frequency, almost the same relation to the extra-uterine surface as does endometritis to the intra-uterine.

The majority of cases get well.

A small number do not get well, and these are capable of causing such danger and distress to the patient, that abdominal section and removal of the uterus and ovaries is a necessity.

AN EXPERIMENTAL STUDY OF GLOMERULO-NEPHRITIS,

by W. H. Welch, M.D., of Baltimore.

Of the various processes which make up the pathological anatomy of Bright's disease, the two which, at present, awaken the greatest interest, and the study of which promises the most fruitful results, are probably the changes which take place in the glomeruli, and atrophy and necrosis of the epithelial cells.

The questions which have not as yet received full and satisfactory answers, are, what is the origin of the cells which often, in nephritis, occupy the space between the glomeruli and the capsule of Bowman? Does migration of the white corpuscles or diapedesis of the red corpuscles take place through the glomerular capillaries? What relation as to frequency and intensity do changes in the glomeruli play in the pathology of Bright's disease? In expectation that light might be thrown upon these questions, the speaker had experimented on rabbits and white mice, by the production of acute cantharidal poison. A concentrated solution of cantharidin in acetic ether was employed by subcutaneous injection. After a toxic dose, the urine diminishes, and is finally suppressed. It contains albumen, hyaline casts, and a large number of leucocytes and red blood-corpuscles.

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[1] Concluded from page 14.

Microscopical examination of the kidney in the rabbit shows here and there foci of infiltration, with small, round cells, doubtless migrated white blood-corpuscles. The epithelium of the convoluted tubes is, in places, normal in appearance; in other places it is swollen, and often the inner part of the cells is broken off, appearing as a granular mass in the lumen of the tube. The most marked change is found in the malpighian bodies. In the greater number of these, there is between the glomerulus and Bowman's capsule a wide space, partly or wholly filled with cells. These are larger than white blood-corpuscles. They are frequently arranged in a crescentic mass. These appearances are similar to those described in glomerulo-nephritis in man. In the latter case, these cells are attributed to the swelling and desquamation of either the capsular or glomerular epithelium. Such explanation does not hold in the present case. The epithelium of the capsule is often intact, and the glomerular epithelium may retain its normal position. More frequently, it is swollen and may desquamate. There are no appearances which justify the derivation of the greater number of the cells from the epithelium of the glomerulus. These cells cannot be regarded as white blood-corpuscles changed by the action of the poison, for the cells circulating in the blood are exposed to the same poison. These cells may be derived from the epithelium of the convoluted tubes in immediate communication with the malpighian bodies. The cells in the capsular space are identical with those in the convoluted tubes. At times, there can be found groups of cells arranged in the form of a ring, with a central space, just like the epithelium of the uriniferous tubules.

It is difficult to decide whether the cells occluding the glomerular capillaries in acute and chronic Bright's disease are white blood-corpuscles or endothelial cells, but the speaker inclined to the view that at times they are detached endothelial cells. Swelling of the endothelium, and accumulation of cells in the glomerular capillaries appears to be a nearly constant lesion in the acute nephritis of scarlet fever. In one case examined, this was almost the only lesion in the kidney. Occasionally pathologists meet with kidneys in which the apparent changes do not explain the symptoms. In such cases, careful examination of the glomerular capillaries should be made. It is difficult to think of any lesion of the kidney more destructive to its function than occlusion of the capillaries.

While disposed to attach much importance to the changes in the glomerular capillaries, we are not justified in asserting that these changes constitute the primary and essential cause of Bright's disease. They are coördinate with other lesions.

He suggested that instead of the term glomerulo-nephritis, the term glomerulitis be used. The form characterized by accumulation of the cells between the glomerulus and Bowman's capsule may be designated desquamative glomerulitis, and that characterized by the accumulation of cells, or by other changes within the capillaries, may be called intra-capillary glomerulitis.

BICUSPID CONDITION OF THE SEMI-LUNAR VALVES, AND ITS RELATION TO AORTIC VALVE DISEASE,

by William Osler, M.D., of Philadelphia.

A bicuspid condition may be said to exist when two of the three sigmoid cusps have more or less perfectly fused, so that the arterial orifice is guarded by only two segments. The points alluded to were, first, the frequency of the condition. The abnormality is a well-recognized one. Dilga recently collected the statistics, and has found sixty-four cases of this condition in the pulmonary artery, and twenty-three in the aorta. This statement gives an incorrect idea of its frequency in the latter vessel. In over eight hundred autopsies at the Montreal General Hospital, there were eighteen cases, seventeen in the aortic valves alone; in one, pulmonary and aortic segments were both involved. In one hundred and ten cases of valvular disease of all kinds, there were fifty-seven in which the aortic valves were affected, so that this condition existed in over thirty per cent. of all cases of aortic valve disease.

Second, the clinical history. The part played by this condition in aortic valve disease is illustrated by the history of the eighteen cases. Two died suddenly from cardiac syncope. Twelve presented the picture of chronic aortic insufficiency, and in four the lesion was accidentally found, death having resulted from other causes. In sixteen cases, there was hypertrophy of the heart, chiefly of the left ventricle. With the exception of one case, a fœtus at the eighth month, the patients were adults. The ages ranged from twenty to sixty years. This contrasts in a marked manner with the history of this defect in the pulmonary artery. A great majority of the instances present other serious anomalies of development, and death takes place before puberty.

Third, the mode of origin of the lesion. Unquestionably, the majority of the cases are congenital, and result either from faulty development or a fœtal endocarditis. The former view seems the more probable (a) from the fact of the existence of the condition in fœtal life without any traces of endocarditis; (b) the occurrence of all grades of the condition from fusion of the attached terminal margins of contiguous segments to perfect fusion of the cusps, with scarcely an indication of the line of union; (c) a comparison between the size of the conjoint and single cusps indicate that the anomaly must take place at a very early period of development, as in some instances, the single valve equals, or is even larger than the fused segments, while in others the slight inequality in size is scarcely consistent with the view that a fœtal endocarditis, subsequent to the formation of the valves, had caused coalescence of the curtains. We do not know accurately the details of the development of the sigmoid valves, but Tonge's interesting observation on the chick showing that two of the cusps are formed before the third, may have some connection with the production of this anomaly.

THE BACILLUS OF TYPHOID FEVER,

by George M. Sternberg, M.D., U. S. A.

Recent researches support the view that the bacillus described by Eberth in 1880, bears an etiological relation to enteric fever, although the final proof that such is the case, is still wanting. This proof would consist in the production in one of the lower animals of the specific morbid phenomena which characterizes the disease as it occurs in man, by inoculation of a pure culture of the bacillus. Thus far, we have no evidence that any one of the lower animals is subject to the disease as it occurs in man; but Frænkel and Simmonds have shown that the bacillus of Eberth is a pathogenic organism and that pure cultures injected into the peritoneal cavity of mice or into the circulation of rabbits, causes the death of these animals and that colonies of the bacillus are found in the spleen, which resemble in every respect the colonies found in the spleen and other organs of typhoid cases.

The researches of Eberth, Meyer, Gaffky, Frænkel and others, indicate that this bacillus is constantly present in the intestinal glands and in the spleen of typhoid cases, and Gaffky has shown that pure cultures may be obtained from the spleen, even in cases in which a microscopical examination fails to demonstrate the presence of the characteristic colonies.

The researches of Brieger show that a toxic ptomaine is produced as a result of the vital activity of Eberth's bacillus, when it is cultivated in albuminous culture media. This injected into guinea pigs, causes salivation, diarrhœal discharges, debility, dilated pupils, rapid respiration, and death at the end of twenty-four or forty-eight hours.

Demonstrated facts relating to the propagation of typhoid fever, indicate that it is due to an organism which is capable of multiplication external to the human body in a variety of organic media at comparatively low temperatures. Eberth's bacillus complies with these conditions, in consideration therefore, of its constant presence and the absence of any other organism as shown by microscopical examination and culture experiments, the inference seems justifiable in the present state of science, that this bacillus bears an etiological relation to the disease in question.

A CLINICAL REPORT OF NINE CASES OF HEMIANOPSIA,

by Dr. E. C. Seguin, of New York.

He presented an abstract of nine cases of lateral hemianopsia due to cerebral lesion, and called attention to the following points of interest:

First. Of the nine cases, five had right lateral hemianopsia, and four left lateral hemianopsia.

Second. Three of the cases of right-sided hemianopsia presented the following association of symptoms: hemianopsia, right sided hemiparesis with post-paralitic ataxia and partial hemi-anasthæsia. Two of these cases also exhibited ataxia without other aphasic symptoms. It is interesting to note that all cases of right-sided hemianopsia do not have ataxia, and also that post-paralytic ataxia is not always accompanied by hemianopsia, though probably this is more common than is generally supposed.

Third. The six other cases were practically cases of pure hemianopsia, that is, there were no paralytic or sensory symptoms or aphasia indicating extensive cerebral disease.

In the first category the lesion is probably placed on the outer edge of the thalamus, so as to involve the fasciculus-opticus and the posterior division of the internal capsule. In the second category, the lesion is quite certainly further back or in the white matter of the occipital lobes.

Fourth. In two cases of the second category, marked and increasing weakness of both legs was present, a symptom perhaps due to the upward and forward extension of a tumor toward the para-central lobule.

Fifth. A very peculiar symptom in two cases of the second category, and one which the author thinks is new, was the occurrence of hallucinatory images for a short time in the darkened half-field. This is a symptom of irritation and analogous to the convulsive movements which sometimes precede paralysis of a limb when its motor centre is being destroyed by disease.

Sixth. Ophthalmoscopic changes were observed in only one case of the second category. In this case, neuro-retinitis developed in both eyes under the physician's observation, about one month after the first visit.

Seventh. In no case was the hemiopic pupillary reaction of Wernicke, observed.

Eighth. A special pathological question came up in one case of the second category. In 1883, the patient had glaucoma with irregular hemiopic defect, first in one eye, and later in the other, and yet only fourteen months later was pure geometric hemianopsia found. Could glaucoma produce this? The speaker thought not; being unable to conceive how intra-ocular pressure could so affect the retina and optic nerves as to produce a strictly hemiopic defect in dissimilar halves of each eye. A central lesion is quite certain.

Ninth. A very puzzling point is the perfection of central vision in these and other cases of central hemianopsia. The vertical line always passes by the point of fixation, no matter on which side the blindness is. We must conclude that the macula is not involved in the loss of function, and the question arises, can the macula have a double innervation from the visual centre? This point the author intends to study thoroughly.

The speaker also exhibited specimens illustrating the seat of lesion in certain cases of hemianopsia.

Dr. Henry Formad exhibited specimens of kidneys demonstrating some peculiarities of

CYANOTIC INDURATION OF THOSE ORGANS.

This condition is produced by anything which interferes with the circulation through the kidneys. The shape of the kidney where the cyanotic induration results from alcoholism is rounded and shortened. The kidney presents a "pig-back" appearance. Where the cyanotic induration results from heart disease, the shape of the organ is not altered, as the condition takes place gradually.

The following papers were read by title:

NOTES OF A CASE OF HEPATICO-BRONCHIAL FISTULA,

by Dr. J. E. Graham, of Toronto.

PANCREATIC HÆMORRHAGE AS A CAUSE OF SUDDEN DEATH,

by Dr. F. W. Draper, of Boston.

PERNICIOUS ANÆMIA,

by Dr. A. Jacobi, of New York.

A CASE OF HODGKINS' DISEASE,

by Dr. F. Forsheimer, of Cincinnati.

A vote of thanks was tendered the government officers and the profession of Washington for courtesies extended.

Adjourned.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, May 17, 1886.

EXTRA-UTERINE FŒTATION, WITH ILLUSTRATIVE CASE.

DR. WILLIAM T. LUSK exhibited the specimens and related in detail the history of a case of extra-uterine fœtation, which, he said, presented a great many points of extreme interest. The patient was a lady residing in Wisconsin, thirty-five years of age. She had been married fifteen years, and for fifteen years had had perfect health. In September, 1883, she missed a menstrual period for the first time, and one month later she suffered from very violent pains. Not long afterward she had two or three attacks of paroxysmal pain, radiating from the right side, and on one of these occasions, (October 27), it was of extreme severity and lasted for two hours.

The last attack was on November 7, and she then began to improve in health. She passed two menstrual periods, and presented all the signs of pregnancy. Until the following July she did not have a single bad symptom. On June 17, however, the fœtal movements, which had previously been of the most marked character, were felt for the last time. About the middle of July she supposed herself to be in labor, and sent for her physician, Dr. Meade, who, on making an examination, found the uterus quite high up. The cervix was somewhat softened, but the pains were false; and he therefore left her until the following morning. He then ascertained that the uterus was empty, and that there was a tumor outside of it. The possibility of extra-uterine pregnancy occurred to him, and, under the circumstances, he called in Dr. Marks, of Milwaukee; but a positive diagnosis was not arrived at.

In September, 1884, she went to Chicago and consulted an eminent gynæcologist, who strongly insisted that there was no extra-uterine pregnancy, and made the diagnosis of cysto-fibroma of the uterus. In February, 1885, she came on to New York and placed herself under the care of Dr. Fordyce Barker, who at once recognized the case as one of abdominal pregnancy, and invited Drs. Thomas and Lusk to examine the patient. They concurred in the opinion of Dr. Barker, and she was advised to return to New York in the following June or September for the purpose of having an operation performed.

After her return home she suffered from what was called remittent fever, but which, in view of the condition of affairs found at the autopsy, indicating prolonged septicæmia, Dr. Lusk could not doubt was in reality the effects of putrid absorption. In the following autumn her health appreciably failed. The pulse became very rapid, and she had a good deal of diarrhœa, as well as nervous disturbance. In December she was persuaded to go to Chicago and consult the same gynæcologist again. He now modified his diagnosis, agreeing with that of the New York physicians; but urged the patient under no considerations to submit to an operation. He informed her that in four cases in which he had himself operated the result had proved fatal, and expressed the opinion that she would not survive an operation. He also encouraged her to believe that she was in no danger, and advised her to go South and live out of doors as much as possible. Accordingly, she went to Atlanta, but during the three months that she was there she was unable to go out of her room. She gradually grew worse, but succeeded in arriving alive in New York in the early Spring. The change of air seemed to have a beneficial effect, and she so far improved that for a short time she was able to go down to one meal a day.

It was three or four days after her arrival that she first sent for Dr. Lusk, and when he saw her he was at once struck with the marked change which had taken place in her condition. She had a pinched appearance, and was extremely anæmic. The pulse was quick, and there was a rise of temperature every evening. There was also constant diarrhœa, or else diarrhœa alternating with constipation. Very shortly a menstrual period came on, and this was attended with the most marked constitutional disturbance. The temperature ranged from 103° to 104°, the pulse was extremely feeble, and there was enormous distension of the abdomen. The tumor also increased very greatly in size. The husband, however, assured Dr. Lusk that there was no occasion to be alarmed, as the same disturbances had been noticed at previous menstrual periods, and had been successfully rallied from.

It was agreed, therefore, that she should be removed to St. Elizabeth's Hospital, and that one week before the expected time of the next menstrual period an operation should be performed; this time being set in order to allow her to recuperate as far as possible from the exhaustion incident to the serious febrile condition mentioned. Unfortunately, however, the husband's predictions were not verified, and from this time she declined steadily in health and strength. Drs. Thomas and Barker were called in consultation, and agreed with Dr. Lusk that, on account of the exhausted state of the patient, an operation offered no hope of recovery, the chances in its favor being almost one in a thousand. The idea of operating was, therefore, abandoned.

Later the husband asked Dr. Lusk how long he thought his wife could live, and when the latter informed him that it would be impossible for her, in her present condition, to survive another menstrual period, he insisted that an operation should be performed, as offering the only possible chance (however remote) of recovery. Accordingly, on the 19th of March, much against his will, Dr. Lusk operated.

The tumor at this time occupied pretty much the entire abdomen, and seemed to be equally extensive on both sides. The incision was made in the median line, below the umbilicus; and it was noticed the fluid from the vessels of the tissues severed, was almost colorless, like serum. The abdominal walls having been cut through, the tumor was observed, with portions of the fœtus shining through. It was found to be entirely free from adhesions to the abdominal walls, and on this account the question arose whether it would not be advisable to remove the tumor entire. Fortunately, as the sequel proved, this course was not adopted, and when an incision was made into the sac, a volume of horribly fetid gas escaped. There was no fluid, except about a tablespoonful of pus. The tumor was stitched to the abdominal walls, and the greatest possible care taken to prevent the escape of any portion of the contents of the sac into the cavity of the abdomen. The back of the fœtus was turned uppermost, and in the process of extraction both the parietal bones dropped off. The cutaneous surface was almost entirely destroyed, and all the internal organs were found to be shrivelled up.

Hypodermic injections of whiskey were constantly kept up and the patient was alive at the conclusion of the operation, which lasted about half an hour, as it was performed with the most careful attention to every detail that would tend to bring about a successful result. The patient was placed in bed, and rallied fairly well, the sac was kept perfectly clean, and the temperature was normal now for the first time. For the first twenty-four hours there really seemed to be a little hope that the case would result favorably; but at the end of that time the patient began to grow rapidly worse. The pulse became very feeble, and the stomach refused to retain any food whatever. On account of the diarrhœa present it was impossible to employ rectal alimentation, and she died of starvation thirty-six hours after the operation.

The autopsy was performed by Dr. H. M. Biggs, who found the uterus in the rear of the tumor, and about the size of an ordinary virgin uterus. The Fallopian tube of the left side extended over to the sac, and its fibres were lost in the walls of the latter. This condition Dr. Lusk considered of great interest in connection with the history. The case was, no doubt, orginally one of tubal pregnancy. Later the tube burst, giving rise to the attacks of paroxysmal pain noticed; and the fœtus then developed in the abdominal cavity. He thought at first that the walls of the sac were composed of tissue identical with that of the uterus; but Dr. Biggs found, on examination, that this tissue was entirely fibrous. There was not the slightest sign of peritonitis, but the sac was so strongly adherent to the intestines that it required about half an hour to separate the adhesions at the autopsy. It was therefore evident that it would have been practically impossible to remove the tumor entire from the abdominal cavity.

This case, Dr. Lusk said, was chiefly interesting from the fact that the patient fell a victim to what he believed to be wholly erroneous teaching. All the authorities say that these tumors should not be removed until the health begins to decline. The danger was, that if the evidences of septicæmia were not distinctly recognized, operative interference was apt to be delayed until it was too late. One, at all events, of the four patients operated on by the Chicago gynæcologist referred to, as shown by the recorded history of the case, was in a dying condition at the time; and Dr. Lusk thought that if the other three were in the same exhausted state, there was no reason whatever to hope for any different results than those noted. The reason often given for delaying operative interference was, that in the course of time the fœtus would be very likely to be converted into a lithopædion; but statistics showed that the number of cases in which this occurs is relatively very small.

The presence of the fœtal tumor in the abdomen was always a source of constant pain and distress. As a matter of humanity, therefore, the child ought to be removed very soon after it has ceased to live; instead of being allowed to remain until the appearance of symptoms, which indicate that the constitution of the mother is already undermined. The cases which Dr. Lusk had investigated showed that nearly all the patients recover when the operation is undertaken at an early period. In itself it was not really a dangerous procedure, and the bad results which had been noted in so many instances were due simply to the fact that operative measures were adopted only as a last resort.

The development of the symptoms denoting putrid absorption was almost always insidious, and there were very few cases in which marked symptoms were presented until quite late in their history. The effect of the vicious process going on in the system was primarily in the blood, and afterwards resulted in the degeneration of all the parenchymatous organs. In the case detailed by Dr. Lusk the heart was especially affected.

DR. LEWIS HALL SAYRE read a paper entitled:

A CONTRIBUTION TO THE ETIOLOGY OF POTT'S DISEASE.

The symptoms accompanying spondylitis in its earliest stages, he said, were vague, and not of a character to call attention directly to the spine. He was among those who look upon traumatism as the exciting and necessary cause, which in a constitution already vitiated need be much less severe to produce spinal or other lesions than in a person of vigorous health.

Later on in the paper he spoke particularly of the class of cases in which the disease commences on the sides of the bodies of the vertebræ, at the point of their articulation with the ribs, and not in the anterior part of the bodies, as is commonly the case. They were usually caused by some violence applied to the rib, which originated an inflammation at its articulating facet on the spinal column. These cases were more than ordinarily obscure in the commencement, and were difficult of diagnosis, as pressure on the head seldom caused pain, and the child could run, and sometimes jump without pain, and could often bend the body without inconvenience.

In order to detect this condition it was necessary to place the child across the lap, making strong pressure upon each rib, so as to bring it into firm contact with its articulating vertebræ; and when the rib was reached which articulated with the inflamed or diseased vertebræ, either pain would be produced or a muscular spasm, very similar to that caused by "point pressure" on a "contractured" tissue. Manifestations of trouble might also be produced by pressure made on either side of the spine over these articulations. In conclusion, he related a case illustrating this form of spondylitis.

DR. LEWIS A. SAYRE remarked that the case described by his son was one of the most interesting that he had ever seen. It had been pronounced by a well-known neurologist to be one of organic disease of the cord, and there was absolutely no deformity that could be detected by the most careful examination. He himself thought there was no spondylitis until he made a lateral examination and found that pressure over the vertebral articulation with the eleventh rib caused acute pain. When this point of tenderness was discovered it became evident that there was disease at the side of the vertebra, and a plaster-of-Paris jacket was accordingly applied. Owing to the fact that the patient indulged in violent exercise before the latter was perfectly "set," it soon broke down and was removed at the end of two weeks, when a distinct knuckle was found. This proved that the diagnosis was correct; but if the first jacket had been perfect, it was doubtful whether any deformity whatever would have occurred, and the diagnosis of Pott's disease would have been open to question. The deformity, however, was now so slight that it would be likely to entirely escape observation under ordinary circumstances.

After the narration, by the President, **Dr. C. A. Leale**, of a case of spondylitis occurring in a physician, Dr. J. W. S. **Gouley** exhibited a peach-pit which he said was of interest as contributing a

CONTRIBUTION TO THE SUBJECT OF FOREIGN BODIES IN THE ALIMENTARY CANAL.

A gentleman seventy-one years of age had removed it from his rectum three months after it had been swallowed. It was an inch and a quarter in length, seven-eighths of an inch in breadth, and eleven-sixteenths of an inch in thickness. When it was extracted from the rectum the patient remembered that he had eaten some pickled peaches three months before, since which time he had not tasted any peaches. The case was interesting from the fact that the peach-pit caused no pain or distress whatever in passing through the intestinal canal. Dr. Gouley then related a case occurring in his service at Bellevue Hospital. In a patient suffering from delirium tremens, who died shortly after admission, there were certain heart symptoms which could not be satisfactorily explained, though there were some signs of pericarditis. At the autopsy the pericardium was found filled with flakey lymph, and when the heart was lifted up a metallic substance was felt. On opening the œsophagus this proved to be a plate with two teeth attached.

Dr. Gouley also mentioned a number of instances mostly taken from "Eve's Surgical Cases," in which enormous objects, such as forks, spoons, and egg-cups, were swallowed, and in some instances successfully passed through the body.

Dr. Louis A. Sayre referred to some interesting cases occurring in his own practice, and Dr. P. Brynberg Porter related a case recently reported by Dr. C. B. Hutchings, of California, in which an open penknife passed successfully through the alimentary canal, the patient, a young man of twenty, being advised to eat principally of such food as mush and buckwheat cakes, which would distend the bowels and prevent injury to them in the passage of the knife through the intestinal tract. Dr. Porter also spoke of a case recently reported to the New York Surgical Society by Dr. A. G. Gerster, in which a metallic button, three-quarters of an inch in diameter, was swallowed by an infant six months of age, without the mother's knowledge. On account of increasing dyspnœa and failing health, tracheotomy was performed six months later, under the supposition that the trouble was due to a laryngeal tumor; as at this time the button was firmly imbedded in the tissues between the œsophagus and the trachea, it was not discovered at the examination made immediately after the throat was opened, and three days afterward the infant died of pneumonia.

The President and Dr. E. S. F. Arnold also related interesting cases.

— At the approaching meeting of the British Association for the advancement of science, at Birmingham, commencing on September 1st, the organizing committee of Section A has arranged that a special discussion shall be held, jointly with Section D, on the physical and physiological theories of color-vision. The discussion will be opened by Lord Rayleigh, and Dr. Michael Foster will also take part in it.

SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE, NEW YORK.

Stated meeting June 10, 1886.

Dr. E. C. Spitzka read a paper on,

THE ATTITUDE OF LEGAL MEDICINE *versus* HYDROPHOBIA.

He did not believe, he said, that there was another branch of inquiry in which time-honored tradition, erroneous observation, ill-balanced reasoning, and immature theory played so large a part as in that relating to the transmission of rabies from animals to man. While his experience with spurious hydrophobia had been considerable, with the real disease it was infinitely small. Indeed, he would say *nil*, but that he wished to avoid discussing a question, both sides of which were represented by able thinkers and observers, namely: whether there is such a thing as genuine hydrophobia in man, due to transmission from lower animals, and to nothing else?

He then announced the following propositions as embracing the points maintained in the preliminary part of his paper:

(1) There is at present no epidemic of hydrophobia in New York city or its vicinity.

(2) A number of deaths have occurred from spurious hydrophobia (lyssophobia) in New York and its vicinity during the past nine months.

(3) The agitation of the subject of Pasteur's method of preventive inoculation for hydrophobia, and the accompanying strained accounts of suffering and death from that disease, are responsible for these deaths.

(4) To prevent the serious and oft-times fatal imaginary disease, it is necessary to inculcate a healthy public sentiment, which shall frown down the agitations of questions which are of a strictly scientific character by persons who are neither biologists or physicians, and who have no other motive than the creation of a sensation, regardless of consequences.

(5) It should be strictly inculcated on all officers intrusted with the preservation of the public peace and public health that the only way to determine whether a dog is suffering from rabies or no, is to submit him to the inspection by competent veterinarians in a living condition. The desirability of some such ordinance is attested by the fact that persons on the road to death by hydrophobia have recovered on learning that the dog which bit them remained alive and well.

(6) The results of researches on hydrophobia should, for the present, remain within the domains of technical literature. There are so many problems connected with the question of rabies which are as yet unsettled, and promise to remain so for some time to come, that it would be tantamount to criminal recklessness to publish prematurely alarming discoveries in the lay press.

(7) The method of demonstrating rabies by direct inoculation of the brain is fallacious. The conclusion drawn by Liautard, from an experiment thus performed, that the Riverdale dog was mad, was obtained by misleading methods.

(8) The means to be adopted to prevent future outbreak of spurious hydrophobia is to muzzle the dogs, to dam up within appropriate receptacles, the torrents of ink flowing from the pens of hasty investigators and to exclude sensational publications from the household.

Canine pathology would hereafter prove an easy science to master, since it would consist of but one simple syllogism, namely: all symptoms of canine disease are symptoms of hydrophobia; all dogs presenting such symptoms should be destroyed; hence, for all such dogs there is but the remedy of the bullet or the policeman's club. Dr. Spitzka referred to the history of the so-called epidemic that prevailed since the "needless, wanton and wicked agitation of the matter which was begun a few months ago." For a week after the announcement was made relative to the Newark epidemic, several scores of cases of hydrophobia were reported from every part of the country; and he asked if a single case of the kind could be remembered in which any attempt meriting the adjective scientific — indeed, any attempt whatever, was made to verify the existence of the disease, and when it really was verified.

He then took up a number of the cases which he said had been published far and wide, with the deliberate and malicious purpose of causing a sensation; and stated that he would show that the result was the production of imaginary disease, real alarm, real suffering, and something else which was sufficiently real, namely death. In regard to the Newark cases he said: A dog had bitten a number of other dogs, as well as six children. The transgressor was killed, in accordance with the time-honored custom of hanging such criminals first, and then trying them afterwards. Four of the children were sent to Pasteur, and two remained in Newark, while the bitten dogs were very sensibly locked up where they could do no harm, but on the other hand, where it could be determined whether they had really been inoculated with hydrophobia or not. The result proved that they had not, and the two children who did not go to Paris remained as well as the others, showing that in this case, at least, the alarm had been a false one. In speaking of the case of George Neall, the Newark pound-keeper, he said that it seemed that for several days, that is, during the entire time of his illness, he obtained no drink, and ate nothing except an apple. Dr. Spitzka stated that it was evident that the man was under the dominion of a terrible fear from the fact that he got up shortly before his death, walked into the kitchen, placed his hand in a pail of water, and had a spasm in consequence, which lasted half an hour; and he then asked whether starvation, depressing neurotic remedies and terror were without an effect on this patient's vitality.

Animals, he said, were liable to become insane, as man did, from various causes and in various ways; and he had hoped to exhibit to-night an insane cat, the pet of a friend, which had been shot in the head. In Japan, as Professor Law informed us, the boys produced what was supposed to be rabies by administering a certain fungus to dogs. He believed the number of persons reported as dying of hydrophobia almost simultaneously with the agitation of the subject of Pasteur's methods, but who had been bitten between nine months and nine years before, would be found to amount to a hundred or more.

The ablest review which had yet been made of the subject of spurious hydrophobia, was by Dr. Dulles, of Philadelphia. He showed that this condition might result from (1) disorders of the stomach, especially in very young children, as well as from inflammation of the œsophagus and stomach in adults; (2) disorders of the respiratory apparatus; (3) disorders of the circulatory apparatus; (4) systemic conditions, such as rheumatic fever, uræmia, intermittent fever, mercurialization and pregnancy; (5) disorders of the nervous system: meningitis, pachy-meningitis, tumors and parasites of the brain, simple neuritis, acute mania, delirium, alcoholism, tetanus, hysteria, and neurotic poisoning. He then related three cases which he said he was able to add to the instances collected by Dr. Dulles, where symptoms commonly or erroneously regarded as hydrophobia were present. The first was one of epileptic delirium which he saw in consultation in Williamsburgh, and the report of which he had published in the *New York Medical Record.* The second was one of typhus fever which was sent to the Presbyterian Hospital, New York, and which on account of the character of the delirium present, was supposed to be one of hydrophobia. The third case, one of disseminated sclerosis, described by Pollak, he quoted from the *Archiv. für Psychiatrie.* Dr. Spitzka considered the resemblance between spurious hydrophobia and the so-called real affection so great that he could not criticize any one for believing, with Dulles, that the existence of a genuine hydrophobia in man was not proven; and by way of corroboration subjoined some extracts from an article in "Pepper's System of Medicine," the author of which was a believer in the reality of hydrophobia.

Later he referred to the fact that a "Pasteur Institute" had been organized in New York, and said that he believed he was doing that institution no injustice when he said that the more hydrophobia scare could be created in the community, the better it would flourish. It rested for the present on two foundations: First, on a rabbit brought over from Paris, which had been inoculated by Pasteur, and second, on the allegation that hydrophobia now existed in New York city. Inasmuch as one of the incorporators of the institute (Dr. Liautard) had contributed to the public alarm on this question, by the published autopsy on one dog, and an experiment on another, he proposed to present for consideration certain facts which he thought would not be gainsaid by any of his medical friends, and to bring before the Society some animals to which these observations related. The brains of one or two of these could be removed, and those present could examine both the living and the dead subjects; so that they could themselves test the correctness of his conclusions.

Dr. Spitzka then proceeded to quote from the report of the Morosini case prepared by Dr. Liautard for the *American Veterinarian Review*, as published in the *New York Herald.* Miss Morosini was bitten on April 14th. The dog was killed almost at once, and on the same day was sent to the Veterinary College. Dr. Bulkley (the attending physician in the case), requested that a post-mortem should be made as early as convenient, as it was a matter of the greatest importance. The post-mortem was begun without delay, and there were revealed important lesions; congestion of the fauces, empty condition of the intestinal tract, which was slightly congested, stomach containing one large bird feather, the kidneys somewhat congested, and the bladder empty and retracted, and somewhat congested. These symptoms were considered sufficient evidence, with the history of the case, to justify a diagnosis of rabies. A report to that effect was made to Dr. Bulkley, and it was urgently advised by Dr. Liautard that the injured young lady should go to Paris as early as possible, and place herself under M. Pasteur for treatment. Then it was decided at once to try cerebral inoculation, as carried out by M. Pasteur, to confirm the diagnosis.

The brain and medulla of the dog having been carefully kept, another large dog was secured for inoculation on the following morning. After placing the dog under complete anæsthesia, the cranium was trephined a little on one side of the median line. The dura mater was then carefully divided, and a little of the medulla of the first dog placed over the cerebrum of the second. The edges were brought together by sutures protected by wadding and collodion, and the animal was placed in a secure kennel for observation. He recovered from the anæsthetic, ate well, and the wound healed slowly ; presenting apparently nothing abnormal. On April 30th, however, the dog appeared to be more affectionate to those who were caring for him, and also to the house-surgeon who watched him. On May 1st, the sixteenth day after the inoculation, he showed the first symptom of dumb rabies, paralysis of the lower jaw. The mouth was slightly open, the jaw hung down, and abundant saliva flowed from the mouth. The next day the lower jaw became more paralyzed, and the animal was weak and tottered in his gait, while paraplegia now showed itself. The dog died on the 2d, and at the autopsy the following lesions were found : Pharynx highly congested and containing considerable foreign matter, such as hay and straw ; the stomach also highly congested. In it were found the same foreign substances seen in the pharynx ; the intestines were empty and the bladder empty and retracted.

So far as Dr. Liantard's diagnosis of rabies in the dog that bit Miss Morosini was concerned, Dr. Spitzka said that he had to state that as assistant to Prof. Henry Draper at the University of New York, he had had the opportunity of examining scores of dogs brought into the laboratory, and not one of them even showed any signs of rabies. On the contrary, they exhibited that docility and affection which, under the circumstances, was the most touching characteristic of the animal. There was scarcely one, and certainly not one young dog, in whose stomach he did not find more or less foreign material. This became a subject of comment in the laboratory, and it was supposed to be a satisfactory solution of the problem that intestinal worms were found in large numbers in those dogs which had the largest assortment of foreign bodies in their stomachs. The speaker referred to a cat which contained three tapeworms. The feather in the stomach of the dog which bit Miss Morosini, therefore, went for nothing. As to the congested kidneys, congested fauces and empty bladder, he would simply ask how the fauces, kidneys and bladder would appear of a man who had been hunted for several hours by a large crowd armed with shot-guns and pitch-forks.

With regard to the "dumb rabies" which Liantard thought he had produced in the second dog, every one familiar with the researches of Schiff, Flourens, Hitzig, Fritsch and Goltz, would recognize in it the ordinary results of experimental and inflammatory disturbance of the brain function in the dog. According as the irritating injection affected one cortical field, or another, the paralysis would vary ; but paraplegia was quite characteristic of meningitis and encephalitis in the dog. In order to show that the symptoms of hydrophobia, as Dr. Liantard considered them, could be produced in healthy dogs by introducing non-rabic foreign substances into their skull cavities, he had performed experiments on six dogs, the details of which he now proceeded to present. In the first, the cranium was trephined May 29, and, after incision of the dura mater, six cubic millimetres of the spinal cord of a healthy calf, slaughtered about twenty-eight hours before, introduced into the brain substance. On June 2d, there was manifest paralysis of the hind legs, with considerable fever. The eyes were dull, and there was ptosis. The disposition of the animal was exceedingly friendly. The wound was granulating and discharging healthy pus. In the second dog, a mongrel spitz, on May 29, a button of bone was removed in the right temporal region, and some of the same material used in the last experiment was introduced in a comminuted form. On June 2d, it was noticed that there was some paralysis and ataxia of the hind legs. It showed a marked tendency to fawn, in the place of its naturally aggressive disposition.

The third dog, a large mongrel black-and-tan, was trephined June 2d, about an inch from the median line, and through the opening, twenty drops of an emulsion of a calf's cud was slowly injected by a hypodermic syringe into the brain. This was followed on June 5th by paralytic and ataxic symptoms, which were marked on the left side more than on the right. On June 2d, a fourth dog, a mongrel collie of vicious disposition, was operated on in the same way as the last, except that the material injected was an emulsion prepared from the pons and cerebellum of a patient who died of hydrophobia on May 14, whose brain he obtained through the courtesy of Dr. P. H. Kietschnar of Brooklyn. This was injected into the parietal region, and, by calculation, into the thalamo-aural region.

On June 6th, there was some doubt as to whether there was any weakness of the hind-quarters or not. At that date it was the liveliest of the four dogs, and fed best.

In the fifth dog a slit was made in the dura mater, after trephining, and a piece of common yellow soap of the size of fifteen cubic millimetres introduced between the dura and pia. In the sixth, ten drops of horse's stale urine were injected into the brain substance of the posterior region. This animal had a glandular and suppurating swelling in the inferior nuchal region.

Dr. Spitzka then put the following questions:

(1) Is there any symptom of hydrophobia related of Dr. Liantard's animal, which is not present in these dogs inoculated with the spinal cord of a calf, with soap and with decayed fluids?

(2) Are the mental disturbances resembling those of dumb rabies, so-called, not even much greater in the dogs exhibited to-night than appears in the account of Dr. Liantard's dog?

(3) Would it not have been well to have performed such experiments as those whose result is shown to-night at the same time, or before attempting to make of the inoculation of the brain a test of hydrophobia, and alarming the public?

(4) Was it wise, in view of the bad effect which the knowledge that the dog which bit a person was mad, has on that person's mind, to make this announcement in such a shape that it must reach him or her?

(5) What reason had Dr. Liantard or his house-surgeon for omitting an examination of the brain in the case cited, or, if they made it, for failing to publish its morbid appearances?

Dr. Spitzka said he had been thus lengthy in detailing the faulty nature of the evidence on which an epidemic of hydrophobia might be announced, and in demonstrating that mere terror and expectant attention were the chief factors in the spread of the disease, because the practical problem with which legal medicine had to deal, was not so much the prevention of a genuine, as of a more or less artificial disorder. Inasmuch as the same measures which would check the spread of the real disease, if it existed, would also, and as effectually, check the ravages of that terror-psychosis known as hydrophobia, we might deal with both together. The bite of any animal, or even of men, suffering from febrile disorders, excitement, tetanus, or blood-poisoning, was more or less dangerous; and undoubtedly many of the sequelæ of such bites had been summed up under the general caption of hydrophobia. Whatever theory we adopted, it was the duty of the community to protect its members not only against the more or less venomous bites of such animals, but against intrinsically harmless bites. Historically speaking, the system of muzzling dogs had been found so efficacious, that it was strange that it had not been universally adopted.

Having given some statistics on this subject, and stated that the plan of muzzling had been adopted in England, he remarked that everything, of course, depended on the manner in which the law was enforced. If, as was only too likely in our community, the persons entrusted with its execution were selected from the worst class of ruffians, and their pay were made dependent on the number of dogs they could steal from their owners, and the amount of blackmail they could buy through such acts, the public would become disgusted with the law, and those evading it would be supported, instead of condemned by public opinion. Another precaution, which had been almost uniformly neglected on this side the Atlantic, was the proper observation of suspicious dogs. There was no evidence so good as that obtained from the living subject of rabies. In addition, much suffering and indeed, many deaths, might be prevented by the discovery that a dog which had bitten was not mad; and that could be determined with certainty only by keeping the animal alive.

With regard to the recognition of a Pasteur institute as a factor in the legal enactment of measures to prevent hydrophobia, he quoted the following passage from the *Deutsche Mediziniche Wochenschrift* of April 29, 1886, which coincided entirely with his own opinion. "Attention has been repeatedly directed in this Journal to the fact that the method of Pasteur cannot be unreservedly accepted as an established one, and that the formation of Pasteur institutes is premature until the method of preventive inoculation be placed on an absolutely fixed basis, which, in view of the large number of experiments on animals and inoculations made daily in Pasteur's laboratory, will presumably be affected in a not unduly remote period. It were high time, indeed, that we left behind us the stage of newspaper reports, which for some months have furnished nothing new beyond the daily increasing number of those inoculated, and the deaths, and replaced the present monopolization of the matter by the coöperation and critical proof-tests of competent observers."

One of the dogs inoculated by Dr. Spitzka died the day before the meeting, and the autopsy revealed the presence of well-marked meningitis, while another, the bull-dog inoculated with a portion of the spinal cord of a calf, was despatched in the presence of the audience. The autopsy in this instance, which was made immediately after death by Dr. N. E. Brill, showed the animal to have been suffering from hæmorrhagic encephalitis.

Dr. Dulles, of Philadelphia, expressed himself as extremely skeptical in regard to the existence of such a disease as true hydrophobia. If there were such an affection he thought that Dr. Spitzka had produced it with simple inoculations of matter not derived from rabid subjects. He believed that fifty years from now the specific theory of hydrophobia would have as few adherents as the doctrine of witchcraft had at the present day. Patients suffering from so-called hydrophobia might be divided into three classes:

(1) Those affected with a variety of diseases giving rise to symptoms of a similar character to those described as belonging to rabies, such as tetanus, for instance; (2) Those having certain affections of the mind, such as mania, and other forms of insanity; And, (3) those suffering simply from fright.

Dr. Brill read a short paper, the object of which was to throw discredit and ridicule upon Pasteur's work.

Dr. Kretschnar said, that however skeptical any one might previously have been, he thought that if he were called upon to treat a *bona fide* case of the disease, as he himself had recently been, he would be convinced that it had a very positive existence. In this instance he did not know that the patient had been bitten at all until within a few hours of his death, and supposed that the man was suffering from spasm of the glottis; while the patient himself was not at all the victim of fright, and at one time in the course of the attack, when he had been rendered comparatively comfortable by morphia, felt confident that he would recover.

Dr. H. M. Biggs, of the Carnegie Laboratory, said that while Pasteur had not, in his opinion, as yet positively demonstrated the correctness of his views, he thought that he had done enough to show that there was a strong probability of their being substantially true. Excluding the Russian patients, who had been bitten by wolves, there were but two cases out of over nine hundred, in which hydrophobia had occurred in those who had been inoculated after being bitten by animals supposed to be rabid: and there were certain circumstances connected with both of these which rendered them of such a character as not to invalidate the protective power of the inoculations under suitable conditions. Pasteur had devoted six years of arduous study to this subject, and if it were not hydrophobia that he was dealing with, it must be some new disease, the existence of which had been hitherto unknown, since there was no form of septicæmia which had an invariable period of incubation, this period being of definite duration in both dogs and rabbits, and being entirely different in the two kinds of animals.

As to the Newark children, while it had not been positively demonstrated that the dog which bit the children had true rabies, it seemed to him highly probable that it had, since it acted precisely in the manner described in the books as characteristic of rabid dogs. Thus, it ran for a distance of about three miles, snapping and biting at everything that came in its way.

He had learned on the highest authority that it was not known certainly whether the dogs which were kept under observation afterwards had really been bitten or not. At the end of two or three months, no symptoms of rabies having developed in any of them, they were all killed with the exception of one, which was returned to its owner; and it was a significant fact that ten days after it was released from confinement, it was seized with the characteristic symptoms of rabies, and died. While it was true that the two children which had remained at home were as well to-day as the four who were inoculated by Pasteur, he had positively ascertained that in the case of one of them there was only a very slight abrasion produced by the dog, and that in the other there was not even as much as this. The skin was entirely unbroken, as the boy was protected by a heavy overcoat, in addition to other winter clothing.

We had been called in consultation to see Neall, the keeper of the Newark dog-pound, who died a short time ago, of supposed rabies, and agreed with those in attendance that the case was probably a genuine one of the disease. The inoculations which he had made with specimens of the brain and spinal cord of this patient, had, however, proved entirely negative in their results; and therefore he was forced to the conclusion that a mistake in diagnosis had been made in this instance. As to the inoculations of dogs made by Dr. Spitzka, and described in his paper, the results obtained were of no value whatever, and he felt called upon to express his emphatic protest against the whole tone and drift of the proceedings this evening. In other fields Pasteur had done such admirable scientific work, and accomplished such splendid results, that he thought his present researches should not be condemned until they had received a more thorough investigation than it had as yet been possible to make in regard to them.

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Recent Literature.

Transactions of the American Gynæcological Society. Volume X. for the year 1885. New York: D. Appleton & Co. 1886.

These volumes of transactions are always welcome, embodying as they do in so attractive a form so much that is of interest and value. The President, Dr. W. T. Howard's address presents "Two Rare Cases in Abdominal Surgery." The differential diagnosis in these cases is very thoroughly and instructively worked out, and the first one, a case of encysted tubercular peritonitis, as proved by the autopsy, is especially interesting because of its rarity.

Dr. Busey's paper on "The Natural Hygiene of Child-Bearing Life," contains a number of important truths, but they are unfortunately so obscurely stated that the reader loses much of their force. Fewer words, less involved sentences, and a simpler style would add to the value of the paper.

Dr. H. G. Garrigues contributes a paper on "Puerperal Diphtheria," whose special value lies in the fact that it very clearly points out that so-called puerperal fever really includes several different processes, and shows how the recognition of the real nature of any one form is quickly followed by appropriate treatment, and lowered mortality. Recognizing the diphtheritic character of the grayish patches which occur in a certain number of cases, it was a natural sequence to apply such a combination of general and local remedies, as to lower the mortality. Dr. Garrigues refers in this connection to the very elaborate antiseptic precautions which he observes in all cases of labor, and makes the gratifying statement that in two years from the introduction of such treatment, the mortality fell from 7.69 per cent. to less than three-quarters of one per cent.

Dr. J. T. Johnson's paper entitled: "Four Cases of Oöphorectomy with Remarks," adds but little to our knowledge of the subject. The discussion was almost exclusively on the question when the operation is justifiable. The general tone of the remarks was conservative, Dr. Emmet going so far as to say that he thought more harm than good had been done by the operation. He found no one to agree with him in such an extreme view, however.

Dr. Thad. A. Reamy gives a new method of supporting the perineum during labor, which will hardly, we think, prove of more value, than other well-known methods. Dr. E. W. Jenks reports an interesting case of Cæsarean section. Dr. Elwood Wilson in his "Remarks on the Use of Tarnier's Forceps," withdraws the protest he made in 1881 against their use, and gives the notes of nine cases in which they have proved of great service.

The value of Dr. Sutton's paper on "Emmet's Cervix Operation modified in Certain Cases," lies in the discussion. The paper starts the question, what should be done when there is so much hypertrophy of one or both lips, that even after denudation, the lips cannot be properly approximated. The author advocated a partial amputation, or carrying the denudation completely across the hypertrophied lip. Various other methods were proposed, the best in our judgment being that advocated by Drs. Skene and Baker of leaving the undenuded strip for the cervical canal, and cutting out a V-shaped piece on one or both sides, as may be needed.

"Inflammation of the Parotid Glands following Operations on the Female Genital Organs," is the title of a short paper by Dr. Goodell. His cases and numerous others cited in the discussion seem to prove that the parotitis is not a mere coincidence, but that some sympathetic relation exists between the sexual apparatus, and the parotid glands.

An ingenious paper follows, by Dr. Chadwick, on "Peristalsis of the Genital Tract, and a New Theory to Explain Relaxation of the Vaginal Outlet during Labor." The theory seems to us tenable and to explain in a very rational way phenomena which every physician must have observed. A paper on "Facial Paralysis of the New-born," by Dr. Theophilus Parvin, contains nothing new.

The longest article in the Transactions is that by Dr. H. F. Campbell, on "The Genu-pectoral Posture: its Value in Impeded Uterine Reduction, and in the Prolonged Nausea and Vomiting of Pregnancy," which is really a continuation and completion of his paper read before the same Society in 1876. When the fact is considered that there is practical unanimity in the profession as regards the great value of this posture in effecting uterine replacements, it may be questioned whether so prolonged a discussion is not unnecessary, and perhaps unprofitable. We are of the opinion that the simple entrance of air into the vagina even in the perfect genu-pectoral position will often fail to reduce the uterus. Some pressure on the fundus through the posterior cul-de-sac, or some traction on the cervix will usually be necessary.

The position is a valuable aid undoubtedly, and even Simpson and Hart in their brôchure allow that. We think the criticism which Dr. Campbell makes that their conclusions drawn from a cadaver placed in this position and frozen, are faulty, is perfectly just. The conditions are too different to be of value for purposes of comparison. This paper is of special importance from its emphasizing the rôle which uterine displacements undoubtedly play in causing nausea and vomiting of pregnancy, and the great help the genu-pectoral position is in their reduction.

Three interesting papers by candidates close the volume which on the whole can hardly be said to equal some of the others in the importance and originality of its contents.

On Asthma: Its Nature and Treatment. Containing an entirely new and comprehensive working hypothesis, suggestive of new remedies, and of the more efficient applications of old ones. Illustrated. By Horace Dobell, M.D., etc. London: Smith, Elder & Co. 1886. 4to. pp. 32.

Dr. Dobell tells us that for some years the subject of asthma has been much in his thoughts, and that in 1878 he began to query whether asthma is due to some interference with the ease with which the hæmoglobin combines with and also delivers up oxygen. Reflection and study led him to think that this query "may be made the basis of a more comprehensive working hypothesis than any other with which I am acquainted." We have at the present day a large number of theories as to the pathology of asthma, each of which may be more or less applicable to some cases, but no one of which can explain all that come under our observation. Dr. Dobell thinks that his hypothesis, starting from the hæmatin and hæmoglobin in the tissues and blood, and their relations to respiration and histogenesis, brings "those other hypotheses which have a rational *locus standi*, but which have hitherto been considered antagonistic, into possible or probable harmonious correlation."

It is impossible here to set forth the line of argument by which this hypothesis is supported, and it must be stated that the reasoning is not so clear as it might be. Even with the aid of the ingenious diagram at the end of the book, it is not always easy to follow the author. The book is suggestive of thought rather than replete with fact. One useful purpose, at least, which it will serve is in enforcing attention to the fact that an asthmatic paroxysm is but a symptom, a fact which writers sometimes seem to lose sight of. There must be some underlying cause for the occurrence of so marked and peculiar phenomena in such varied conditions as, among others, hypertropy and polypus of the nasal mucous membrane, emphysema, and chronic bronchitis, foci of disease in the lungs, heart or kidney disease, dyspepsia, certain diseases of the central nervous system — to say nothing of the purely nervous asthma, with no appreciable anatomical changes in any part of the body. It must be clearly understood that Dr. Dobell does not mean to assert that the constant factor is failure of the hæmoglobin to absorb or give up oxygen, but only suggests an hypothesis which he thinks may help explain all the facts.

One practical point deserves notice. A distinction must be made between the true paroxysm of asthma and its ghost, or the "phantom paroxysm." During the height of a bad attack, the respiratory centre calls upon the will for aid in respiration to avoid asphyxia, and the latter may continue to act after the period of necessity has passed, not realizing that the lower centres may again be safely trusted with the work. Under these circumstances, antispasmodics and narcotics are no longer useful, but stimulants to increase the heart power and excite the reflex respiratory centres by an increased afflux of fresh blood, are called for. A striking case in point is cited. A complete list of remedies for asthma is given, and it is suggested that the anhydrous oxide of barium is worthy of careful experimental test as a remedy by reason of its analogy to hæmoglobin in its behavior to oxygen. That barium and its soluble salts are poisonous contraindicates their use no more than that of arsenic, for instance. F. C. S.

The Surgical Diseases of Children. By Edmund Owen, M.B., F.R.C.S., Surgeon to the Hospital for Sick Children, etc. Philadelphia: Lea Brothers & Co. 1885. pp. 504.

This volume, which is one of the series of clinical manuals for practitioners and students of medicine, is written in a very attractive, interesting manner. It contains much important and valuable information concerning the affections of children requiring surgical aid, and is also filled with practical suggestions, a knowledge of which is of great service.

Pathology occupies apparently a secondary position in the arrangement of the work. The clinical history of the diseases treated often describes only typical cases.

Occasionally one reads portions of a subject with pleasure and admiration at the concise graphic statements of the author only to ultimately have the interest thus aroused left ungratified, so that one cannot help wishing the entire subject had been treated in the instructive practical way in which it is in part presented to the reader.

Treatment has especially received the author's attention. It contributes much to the value of the work, and is with some exceptions quite satisfactory. For example, the "simple" treatment recommended for genu valgum and "bow-legs" seems quite easy and attractive, but a short experience would probably demonstrate that the method was not as practical as its description would cause one to expect.

It is also disappointing to find the same old familiar cuts of apparatus, which are seen in almost every surgical work, recopied again without any allusion to the improved patterns which experience has developed. Thomas, for instance, has made several valuable changes in his knee-splint since he published in 1876 the figure of the apparatus subsequently so extensively copied.

As a manual to enable one to make a rapid review of a subject it will be a valuable addition to a surgeon's library, but as a "complete monograph" it is in certain respects disappointing.

Any one who has treated spinal caries with plaster-of-Paris cannot but admire the author's skill and manual dexterity which enable him with "the help of an able sister" to apply fifteen jackets in one and one-fourth hours.

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283 Washington Street, Boston, Mass.

MODERN VIEWS AS TO FUNCTIONS OF THE LIVER.[1]

Experiments made by means of the biliary fistula have shown that the biliary acids, though resembling the fatty acids in their chemical composition, are not derived from the fat of the blood, as no more bile is secreted when the animals are fed on fat alone than during entire abstinence from food. On the other hand, Nasse has recently proved, as did the earlier experimenters, that a highly azotized diet occasions a great increase in the flow of bile, and the inference is a legitimate one that as far as the components of the bile are the products of food, it is from the so-called protein compounds that they are chiefly derived. Moreover, as fasting does not altogether arrest this secretion, it may be inferred that bile is also formed from such of the nitrogenized ingredients of the blood as come from tissue disintegration.[2] The earlier physiologists took advantage of this fact to recommend as a therapeutic measure to "bilious" persons, whether their biliousness was supposed to be due to functional torpor of the liver, or to excessive bile production, — that they should lessen or suspend the ingestion of meat albuminoids.

Another fact learned from the biliary fistula is that the flow of bile is greatly augmented after the ingestion of food, while it is almost *nil* during abstinence.

We have here room for but a brief allusion to Rutherford's important experiments made to ascertain the activity of the biliary secretion after the administration of different medicinal substances. According to these experiments aloes is the best cholagogue, and leptandrin the poorest; calomel had hardly any action, such purgatives as podophyllin, iridin, euonymia, jalap, sulphate of soda and colchicum, proved to be excellent promoters of the biliary flow. It is not known whether these medicines act by stimulating directly the hepatic cells, or the secretory nerves, or both: there is reason to believe that they do not produce their cholagogue effect by causing congestion of the liver.

Important knowledge has been obtained concerning the functions of the liver by comparing the blood which leaves the liver by the hepatic vein with that which enters it by the venæ portæ. Thus Claude Bernard proved that fibrin is destroyed or transformed in the liver, and the analogy of chemical composition renders it extremely probable that effete fibrin is utilized in the liver for the formation of the resinous acids of the bile. Certain it is that the blood of the hepatic vein contains little or no fibrin, and similar observations with regard to the red blood corpuscles have led Murchison to conclude that the liver "is the grave of the red globules." The similarity of composition of hæmatine and bilirubin has also made it probable that the nitrogenous coloring matters of the bile are the result of this destructive process.

As for urea and uric acid, Cyon has remarked a large increase of these principles in the blood of the hepatic over that of the portal vein. It has, moreover, been proved by Murchison, Charcot, and Brouardel, that all congestive affections of the liver augment the quantity of urea in the urine, while in all destructive diseases of that gland urea-excretion diminishes notably. The conclusion of these physiologists is that urea is formed in the liver, the quantity of its production being dependent on the integrity of the hepatic cells and the activity of the hepatic circulation, and Murchison finds evidence of a pathological order that the liver is the main source of uric acid production.

The views which point to the liver as the organ where effete nitrogenous principles are elaborated for elimination by the kidneys in the form of urea and uric acid (and the frequent occurrence in this gland of inosite, hypoxanthin, leucin and tyrosin indicate an influence of the liver in the formation of other effete nitrogenous elements), views, moreover, which make of lithiasis and lithæmia a hepatic affection, have profoundly modified the therapeutics of the present day, both from a dietetic and medicinal standpoint.

That the liver, moreover, has to do with the elaboration of peptones absorbed from the digestive canal seems also evident, as Fothergill has intimated, from the mal-nutrition which follows hepatic disturbances. According to Albertoni and Schmidt-Mulheim, the peptones when escaping into the general circulation are depressant agents "producing alarming, if not dangerous symptoms"; "these peptones normally disappear from the portal blood before it reaches the general circulation," a proof that some important change in their composition is effected in the liver.

That the liver has the remarkable property of destroying certain toxic principles — animal and vegetable poisons — has also been determined by recent observations. Claude Bernard was the first to notice the innocuousness of certain poisons — as curare — introduced by the mouth, the toxic agent being rendered inert in the liver, and the effects of certain solanum alkaloids, as atropine and duboisin are retarded and minimized by the action thereon of the hepatic cells, which also, as is well known, have the property of fixing the salts of arsenic, lead and copper, and eliminating them in part in the bile. In other words, "the liver is a huge filter allowing certain nutritive matters to pass onward, while arresting other matters whose presence in the blood is deleterious." (Fothergill.)

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[1] Continued from page 19.

[2] How the liver forms bile is unknown. If the bile acids are products of food proteids, or effete fibrin, the cholesterine would seem to be performed in the nervous system, being simply separated in the hepatic cells with the bile. It is probable that but little of the bile secreted is eliminated as such, being reabsorbed into the blood and there undergoing metabolism into less complex products which are eliminated by the lungs and kidneys. The cholesterine and bile pigment are excrementitious, and in passing out through the intestinal canal stimulate peristalsis and arrest decomposition.

For ages, as before said, the principal function of the liver was supposed to be the formation of bile, which, from being regarded as merely excrementitious, came afterwards to be considered a digestive fluid second only in usefulness to the gastric juice. The importance of bile as a digestive fluid has certainly been overrated, as it has been proved that digestion and assimilation are possible without it, but the facts concerning the uses of bile,— such as they are,— in the alimentary canal, (neutralizing and rendering aseptic the chyme, precipitating peptones, promoting the absorption of fats, stimulating intestinal peristalsis) were known to physiologists in the earlier part of this century. It is not so with the discovery of the glycogenic function of the liver by Claude Bernard, which dates from the years 1849 – 1851.

As the liver detains, modifies and elaborates the products of the digestion of azotized aliments (proteids), it does the same with the glucose elements which result from the digestion of starches and sugars; nay, more, it also forms out of albumen and fibrin, a sweet principle which it stores away in its cells, reserving it for the wants of the economy, to be either burned for the production of animal heat, or to subserve some, as yet, unexplained purpose in histogenesis. To this saccharine principle which, under the influence of contact with a peculiar animal ferment formed in the liver passes to the state of liver sugar, $(C^{12}\,H^{12}\,O^{12}\;2\;H^{2}O)$, Bernard gave the name of glycogen. Excess in the production of this sugar by the liver, or failure in its oxidation and destruction in the tissues of the economy, constitutes diabetes.

This whole question of the glycogenic function of the liver, though one of the greatest interest, is still involved in obscurity. That liver-sugar is less histogenetic than calorifacient is an inference from well recognized physiological principles. If it be chiefly as fuel for the tissues that glycogen is stored away in the liver, then Galen's view that the liver is the centre of animal heat, is not far from correct.[8] If, moreover, the liver elaborates blood materials — as the foregoing considerations seem to teach — then Galen was right in assigning to this organ a hæmatopoietic function.

In another and final number we purpose to discuss functional derangements of the liver.

IS MEDICINE A PROGRESSIVE SCIENCE?

Under this head, Dr. Morell Mackenzie discusses, in the *Fortnightly Review* for June, a question of the greatest importance. A point, he says, meets us at the outset, whether medicine is, strictly speaking, a science at all. Although the elementary principles of physiology are as certain as any other scientific truths, the practical application of them in the treatment of disease can hardly ever possess more than a higher or lower degree of probability. The diagnosis of a case of organic disease of the heart, for example, cannot, during the patient's life, be treated as a verity of the same order as the circulation of the blood. The final test of a science is the possibility of predicting the phenomena belonging to its domain. Here the incompleteness of medical science is conspicuous. The physician can never know beforehand the precise effect which a drug will produce in a given case, or whether a particular complication will occur in the course of a familiar fever. The science of medicine may almost be said to be limited to the class of truths which adorned the mind of the natural philosopher commended by Touchstone. We know that the property of rain is to wet, and of fire to burn, and we are sure that if a man's heart stops, or if he ceases to breathe, he dies; outside the circle of such fundamental truths, we are in the realm of mere probability. Nor is there much likelihood, Dr. Mackenzie thinks, that medicine will ever take rank among the exact sciences. The problems of life are too complex to be solved by physical methods, and all other means of investigation from their very nature offer only a more or less close approximation to accuracy of result.

With all its inevitable limitations, medicine, has progressed, and will continue to progress, slowly perhaps, and too often wandering from the right path, occasionally even losing ground. The difference between the past and the present is immense. A hundred years ago, the question, Is medicine a progressive science? might almost have been answered in the negative. The science was pretty much where Harvey had left it more than a century before, while the practice was little better than that of Celsus or Galen. The science of physical diagnosis by auscultation and percussion had not been discovered, and the recognition of diseases of the heart and lungs was to the last degree conjectural, whilst, as regards other internal affections, it was the merest guess-work. Tumors were arranged in a few hap-hazard groups, surgical operations were performed without any anæsthetics; compound fractures almost necessarily involved the loss of the limb; sufferers from calculus could only obtain relief by one of the most dreadful cutting operations of surgery; ignorance of the laws of hygiene made hospitals and jails but little better than pest-houses, and the mortality from preventable diseases defied all computation.

Contrast this with the medicine of to-day. The stethoscope has made it as easy to detect a damaged heart or an inefficient lung as a broken leg. The ophthalmoscope enables us to explore the innermost recesses of the eye, while with the laryngoscope we can have ocular proof of the condition of the windpipe. The microscope enlightens us as to the true nature of morbid growths, and such timely information often makes it possible to check their development. Anæsthetics have robbed surgery of half its terrors and half its danger. The introduction of the antiseptic method has largely increased the percentage of recoveries after severe wounds and mutilations, and has also done much to insure the safety of the lying-in-chamber. Litholopaxy has taken the place of the operation of cutting for stone. Small-pox is no longer the scourge which it once was; typhoid fever still claims many victims, though it is being gradually driven off the field by an enlightened hygiene; typhus is almost unknown, except in the lowest and most squalid haunts of poverty. Madness is now treated as a bodily disease, not as the curse of God or the spite of the devil. The active principles of the most important medicines have been separated, so that the agent can be administered in a purer and more efficient form, while the physiological action of the drug is determined by experiment, and is taken as the index of the therapeutic value. Less physic is given, and it is prescribed with a clearer purpose. Better still, more attention is paid to the diet and the hygienic surroundings of the patient, and the knowledge of the natural evolution of diseases has resulted in a judicious reserve in the use of powerful medications. The doctrine of the bacterial origin of contagious diseases has given rise to systems of prevention whose success leads to the hope that the specific fevers, and even consumption, syphilis, and cancer may yet be banished from among men.

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[8] Pavy's exhaustive experiments go to show that this substance, which may be constituted by a splitting up of albuminoids as well as by the metabolism of hydro-carbons, is a readily oxydizable agent, subserving muscular action as well as animal calorification, and probably also promoting cell growth.

Having shown that the art of healing has made very decided progress, the question remains: Will it continue to advance? The answer must be emphatically in the affirmative. Medicine has the threefold function of curing, preventing, and alleviating human suffering. As regards the first, we have made comparatively little headway, but if we do not cure more, we at any rate "kill less," and that of itself is a great deal. It is not probable that (as Prof. Huxley thinks), a remedy for nearly all forms of disease will sooner or later be found in drugs. Means of preventing should be sought for, rather than specific antidotes, which have seldom been discovered except by accident, and which often fail in time of need. Much progress has already been made in the prevention of disease, and it cannot be doubted that in this direction lies the way for medicine to follow if it is to be truly progressive. Apart, however, from either cure or prevention, there is a vast field for the power of medicine to display itself. The veriest sceptic who has ever been ill himself or witnessed sickness in others, must confess that the physician can allay pain, ward off danger, soothe apprehension, and infuse hope. Even when the issue is fatal, is it to be counted as nothing that death, although victorious, has been disarmed of its sting of physical anguish? It may be boldly asserted that if medicine never wrested a single life from an untimely grave, it would still deserve supremely well of humanity for its power of relieving pain. In nothing is the progressive character of the healing art more conspicuous than in the constant additions which are made to our means of dealing with troublesome symptoms, which even if they do not threaten life, make it miserable and perhaps useless. If it be the destiny of mankind to have disease always going about among them, seeking whom it may devour, it is still much that more and better safeguards should be found against it; that its ravages should be lessened; and that our life, into which, brief as it is, such an amount of suffering may be compressed, should be rendered less and less subject to pain, and freer from bodily discomfort. On this ground alone medicine may well take its stand as a progressive science.

Other points touched upon by Dr. Mackenzie are: the increasing zeal for research, and especially for original investigation; the growing *esprit de corps* among physicians the world over; the coöperative methods in vogue, such as the collective investigation of diseases and remedies; and the wonderful diffusion of knowledge by medical societies (which are becoming more and more cosmopolitan), and especially by the medical press, which never had such power and influence as now.

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MEDICAL NOTES.

— Dr. Brown-Séquard was elected member of the Paris Academy of Sciences in the section of medicine and surgery at its last meeting. He was admitted by a large majority, although his competitors included such men as Bouchard, Germain-Sée, Jaccoud, Hayem and Richet.

— The *British Medical Journal* records the following case of spontaneous transformation of morphine into apomorphine: A solution of hydrochlorate of morphine for subcutaneous injection (3 per cent.) was ordered for a patient, and its injection was promptly followed by relief of the pain, without any gastric symptoms whatever. Eleven months later the patient made use of the same solution, but this time the injections gave rise immediately to violent and uncontrollable vomiting. The solution was given to a well-known analyst at Paris for examination, and he ascertained that apomorphine was present, thus accounting for the sickness. He recommended, in consequence, that solutions of the salts of morphine should never be kept longer than four weeks, and that freshly prepared solutions should not be mixed with the old.

— Given a spacious theatre, crowded during an evening performance for a period of hours, what is the difference of the effects on its atmosphere produced by the electric light or by gas, particularly as to the temperature and the generating of carbonic acid? This problem Dr. P. Renk, Professor of Hygiene at Munich, has just set himself to solve. Taking the

Theatre Royal of that city, which is lighted by 1,400 lamps on the Edison system, he tested the two kinds of illuminants, with the following results: During a representation which lasted from 5.30 P.M. to 10.15 P.M., and which was witnessed by 1790 people, he found that while the rise in temperature in the pit was 11.1° Centigrade with gas, it was only 7.7°, also Centigrade, with the electric light; and that in the upper gallery it was 10.7° with the former, and not more than 7.4° with the latter. As to the increase in the production of carbonic acid, the results were equally important. In the pit it was as 2176 with gas to 1221 with the electric light, and in the upper gallery as 2855 with the first to 1430 only with the second.

— It is said that the average price of drugs has fallen, within the last three years, fully one-third. In some special instances, the cause for the decline is apparent; in others, authorities differ. In the case of quinine, there has been a reduction from $3 in 1880 to 52 cents at present. In opium, the course of prices has been similar, the ruling quotation of 1880 being $4.75 a pound, against $1.75 to-day. In the case of quinine, the supply has been vastly increased of late years by the cultivation of the cinchona tree in Ceylon and Java, and the production of a richer bark; a bark yielding two per cent. was formerly considered merchantable, whereas the present average yield is more than double that. The production has doubled, while the demand has remained the same. The present price returns so poor a profit to the growers of the bark, that many plantations have been destroyed during the last year to make way for tea or other culture. Quinine, moreover, was some time since, by a change in the tariff law, put on the free list, while opium remains subject to duty. Opium varies in price according to the stringency of laws against its importation or use in various countries, the American market being at present so over-stocked that a lot was recently sold at less than $1.75 a pound which cost $4 not more than a year ago.

— The President is having an opportunity to brush up his medical knowledge in connection with the special pension bills, of which he has received so many, and which he seems inclined to scrutinize so closely. In a batch of twenty vetoes which he returned at one time last week, for instance, was the case of one man who filed his declaration for a pension in 1884, alleging that he contracted chronic diarrhœa in the Black Hawk War. The records show that he served from April 18, 1832, to May 28, 1832. In vetoing the bill for his relief, the President says: "I am inclined to think it would have been a fortunate thing if, in this case, it could have been demonstrated that a man could have thrived so well with the chronic diarrhœa for fifty-four years, as its existence in the case of this good old gentleman would prove. We should then, perhaps, have less of it in claims for pensions. The fact is, in this case, there is no disability which can be traced to the forty days's military service of fifty-four years ago, and I think little, if any more infirmity than is usually found in men of the age of the claimant." In vetoing the bill granting a pension to another man, who claims that he contracted blindness, the result of rheumatism incurred in the service, the President says that there seems to be no testimony showing the soldier's condition from the time of his discharge to 1880, a period of fifteen years. The President continues: "After nineteen years had elapsed since his discharge from the army, a pension is claimed for him, upon a very shadowy allegation of the incurrence of rheumatism while in the service, coupled with the startling proposition that this rheumatism resulted just previous to his application in blindness. Upon medical examination, it appeared that his blindness was caused by amarousis, which is generally accepted as an affection of the optic nerve. I am satisfied that a fair examination of the facts in this case justifies the statement that the bill under consideration can rest only upon the grounds that aid should be furnished to this ex-soldier because he served in the army, and because he, a long time thereafter, became blind, disabled, and dependent." Considering that five hundred and sixty-five of these special pension acts have been signed, and only ninety vetoed, it cannot be said the President's attitude is hostile to the veterans of the war. It is, however, critical, as when he points out that the wound for which one man asked compensation was received while on a private pillaging expedition in North Carolina, when he was hunted down by the Home Guards.

NEW YORK.

— Fourteen cases of small-pox have been discovered in Williamsburgh within the past fortnight, all of which were traced to a young Polish immigrant who landed at Castle Garden a short time since.

— During the past week a young son of Dr. W. H. Newell, of Jersey City, who was bitten some weeks ago by a dog supposed to be rabid, has been undergoing inoculations by the Pasteur method at the Carnegie Laboratory, at the hands of Dr. Valentine Mott, who has been propagating virus derived originally from the rabbit inoculated by Pasteur, which he brought from Paris in May. Very little money has, as yet, been subscribed for the support of a Pasteur Institute in New York, and it seems probable that the project will be abandoned, at least for the present.

—The recent intense heat has produced a marked increase in the mortality of the city. During the twenty-four hours, ending at noon, July 17th, 178 deaths were reported to the Health Department, 64 per cent. of which were among children under five years of age. During the succeeding twenty-four hours 169 deaths reported, of which 125 were of children under five. The corps of visiting physicians for summer work among the tenement-house population, which have for a number of years done excellent work in diminishing the rate of infant mortality during the hot weather, have not been appointed this season, as the Board of Estimate and Apportionment failed to make any appropriation for the purpose, and the regular funds of the Board of Health are not sufficient to include the extra expenditure involved.

As a consequence the physicians of the "Sick Children's Mission" of the Children's Aid Society, which has for a considerable period carried on an independent work among the poor, finds a large increase in the demands made upon it, and it has been found necessary to employ additional physicians to visit the crowded tenement quarters of the east side. The system of medical aid is so arranged that a physician reaches the bedside of a sick child in any part of the city below Central Park, within an hour from the time that the case is reported at the headquarters of the Mission. A sanitarium for sick children is also conducted by the Society at Coney Island.

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Miscellany.

THE AUTOPSY OF KING LOUIS OF BAVARIA.

The post-mortem examination of the late king of Bavaria, made by Professor Rudinger, was confirmatory of the view expressed by the alienists as to his mental condition, and of their unfavorable prognosis. Extensive degenerative changes were found in the skull, the brain and its membranes consisting in part of abnormal development, partly of chronic inflammations of old and recent date. The scalp was thick and very vascular. The skull was small in proportion to the size of the body, and somewhat asymmetrical, the diagonal diameter from the left of the forehead to the right of the occiput being 17.2 centimètres, and from right of the forehead to the left of the occiput 17.9 centimètres. The roof of the skull was extraordinary thin, its greatest thickness being three millimètres (0.12 inch). The coronal and sagittal sutures were completely obliterated on the inside of the skull. On the inner surface of the frontal bone, on both sides, were a number of large and small bony growths. The superior longitudinal sinus was excessively wide behind and remarkably narrow in front, near the ethmoid bone. Groups of Pacchionian granulations projected into the interior of the sinus. The dura mater was generally much thickened; in the frontal region especially it was vascular and externally shaggy; a bony growth, two millimètres in height, was found here. The left petrous bone showed a projection a centimètre in diameter at the base, corresponding to a depression in the temporal lobe of the cerebrum. The sella Turcica was asymmetrically thickened, porous and fragile in a great part of its extent, as was also the anterior fossa of the base of the skull. All the sinuses in the base of the skull were filled with dark fluid blood. The brain (without the dura mater) weighed 1349 grammes (47½ ounces). The arachnoid, over a great part of both hemispheres, was thickened, and had a turbid white appearance. Over the median end of the left anterior central convolution, and the beginning of the first frontal convolution, the arachnoid and pia mater were adherent over a space of the size of a shilling, and formed a thick hard mass, by the pressure of which the corresponding part of the skull was reduced to the thinness of paper. On the surface of the skull, pretty equally on both sides, portions of the convolutions appeared shrivelled, especially the commencing parts of the three frontal convolutions, the middle end of the anterior central convolution, and the parts surrounding the middle division of the postcentral furrow. The substance of the brain was vascular and rather soft. The heart and lungs were healthy. There was chronic catarrh of the stomach. The liver was congested; the spleen was enlarged; and the kidneys were large, but normal. The body was 6 ft. 3 inches in length, and the circumference of the skull 40 inches.

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AN UNUSUAL CASE OF EXTRA-UTERINE PREGNANCY.

A case of suspected extra-uterine pregnancy was recently reported by Dr. Blackwood, in the *Philadelphia Medical Bulletin.* The patient, whose age is not stated, was the mother of two children. In December, 1883, she had an attack of menorrhagia, which was treated by faradism of the uterus, and she menstruated normally early in January, 1884. She had connection on January 8th, for the first and only time since early in December. The intra-uterine treatment, by means of caustic applications, was resumed on January 15th. Early in February, severe abdominal pains were complained of, and relieved by morphine. The uterine applications were discontinued, as the Fallopian tubes on either side were perceptibly dilated. Since menstruation, ten applications had been made to the interior of the uterus, which, Dr. Blackwood affirms, was empty. Signs of impregnation, however, showed themselves, although no trace of the fœtus could be discovered. By the middle of March, a globular mass, of the size of a large walnut, was detected above the right groin. The tumor was very mobile, not tender, and was diagnosed to be a tubal pregnancy. Electricity was employed up to fifty-nine volts, with the object of arresting the development of the fœtus. In the course of a few days, the mass disappeared, and the patient became very weak and prostrate. A fortnight later, the tumor could again be detected, but was more central in position. The sound apparently showed the womb to be empty, and it could be drawn away to the left, and separated completely from the tumor. Dr. Blackwood was naturally very anxious about the case. By the end of April, the fœtus, which had been coming gradually nearer the uterus, had entered its cavity, and the internal os had closed. Ultimately, normal labor took place in the following December, fully six weeks beyond term, without complications during or after. Dr. Blackwood suggests that the delay in development may have been attributable to the employment of electricity, but he is quite at a loss to explain the other curious features of the case.

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THE CARE AND DISPOSAL OF THE DEAD.

The *Sanitary Engineer*, while inclined to favor cremation, does not think it necessary that there should be any restriction upon the liberty of the individual in this regard. It says:

"The great argument used by the advocates of this last idea is that earth-burial is dangerous to the public health because of the air and water pollution which it produces, and especially, because it may thus be the means of the transmission of the germs of contagious disease. The effects of cemeteries upon the health of those living in their vicinity has been extensively and carefully investigated by competent inquirers in recent years, and the result is that there is no evidence as to the production or spread of disease from such a source. Of these investigations, one of the most interesting was that made in Saxony to determine the changes which occur in bodies buried in the ordinary way, and the results of which were reported by Dr. V. Rheinhard in 1882. A number of bodies which had been buried for different lengths of time were disinterred, and their condition carefully noted. This was done for various kinds of sepulchres, and for the rich as well as the poor. It was found that in all soils the soft parts of the adult human body are completely destroyed in seven years, and that, as a rule, fœtor disappears in three months, unless the body has been placed in an air and water tight burial-case. The clothing resists changes longer than the corpses. No proof was found that the health of those dwelling near churchyards was thereby injured.

The chief danger to health from suburban cemeteries is from the pollution of subsoil water which they may occasion. The amount of this danger depends in part on the geological structure and surface topography of the ground, and the direction of flow of the subsoil water, and in part on the distance of wells or springs from the cemetery.

In attempts to protect or promote the public health, it is wise, as a rule, to deal first with those dangers which are the greatest, the most obvious, and the easiest remedied, and not to run the risk of wasting force for want of concentration of effort. The dangers to health which are connected with the dead are chiefly connected with the mode of caring for the body prior to its interment; in comparison with these the dangers due to cemeteries are comparatively insignificant. The spread of contagion by funerals, the keeping of a dead body for several days in the house, and, in the case of the poorer classes, in the living rooms of the family — these are the first things to be guarded against.

The most urgent need in our large cities is for small mortuary houses located in or near the centres of the tenement-house and poorer population, to which houses the body can be taken immediately after death, and be properly cared for, instead of being left in the bedroom of the family.

None but those who have themselves seen what occurs when a death takes place in a family occupying two rooms in a tenement-house can appreciate the diminution of suffering and of danger to the public health which a few well-located and properly-managed houses for the reception and care of the dead would cause in a crowded city.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 3, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Malarial Fevers.	Diph. and Croup.
New York	1,439,039	752	392	35.75	13.39	24.57	1.04	5.59
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	283	158	12.95	12.60	1.40	.70	4.90
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	165	42	9.76	18.30	1.83	—	5.49
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	228	130	32.12	11.00	25.96	2.20	.44
Cincinnati	325,000	111	53	27.90	15.30	1.80	8.10	—
New Orleans, June 5th,	238,000	117	38	12.75	13.60	1.70	7.65	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	77	—	28.38	15.48	18.06	—	2.58
Pittsburgh	190,000	98	62	33.76	3.06	20.40	—	4.08
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	43	14	13.98	13.98	9.32	—	2.33
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	45	20	20.00	13.33	11.11	—	4.44
Worcester	68,383	19	11	36.82	10.52	10.52	—	15.78
Lowell	64,051	29	9	—	—	—	—	—
Cambridge	59,660	16	4	12.50	6.25	—	—	12.50
Fall River	56,863	22	13	31.85	—	13.65	—	—
Lynn	45,861	9	4	—	22.22	—	—	—
Lawrence	38,825	10	4	40.00	10.00	40.00	—	
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	7	3	28.56	14.28	28.56	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	6	7.28	7.28	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	3	50.00	12.50	25.00	—	25.00
Taunton	23,674	5	1	20.00	20.00	—	—	20.00
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	0	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	1	—	—	—	—	—
Malden	16,407	8	2	—	25.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	2	0	—	50.00	—	—	—
Newburyport	13,716	3	0	—	33.33	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,079: under five years of age 970: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 550, diarrhœal diseases 337, consumption 267, lung diseases 118, diphtheria and croup 87, malarial fever 24, scarlet fever 24, measles 20, whooping-cough 19, typhoid fever 15, cerebro-spinal meningitis 12, puerperal fever seven, erysipelas four, small-pox New York) one. From scarlet fever, Brooklyn nine, Pittsburgh eight, New York four, Cincinnati, Providence and Salem one each. From measles, New York nine, Pittsburgh three, Brooklyn, Baltimore, and Charleston two each, Cincinnati and District of Columbia, one each. From whooping-cough, New York nine, Brooklyn five, Pittsburgh two, Boston, Baltimore and District of Columbia one each. From typhoid fever, Baltimore four, New York and New Orleans three each, Boston two, District of Columbia, Pittsburgh and Fall River one each. From cerebro-spinal meningitis, New York five, Fall River three, District of Columbia two, New Orleans and Worcester one each. From puerperal fever, New York two, Brooklyn, Boston, Baltimore, Cincinnati and District of Columbia one each. From erysipelas, New York two, Cincinnati and Worcester one each.

In 15 cities and greater towns of Massachusetts, with a population of 800,772 (population of the State 1,941,465), the total death-rate for the week was 18.76 against 18.02 and 15.49 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending June 26th the death-rate was 17.0. Deaths reported 2,957: infants under one year of age 746; acute diseases of the respiratory organs (London) 194; measles 96, diarrhœa 83, whooping-cough 56, fever 32, scarlet fever 24, diphtheria 21.

The death-rates ranged from 12.4 in Cardiff to 37.1 in Preston; Birmingham 16.0; Bradford 16.6; Hull 14.4; Leeds 19.1; Leicester 13.8; Liverpool 18.0; London 15.4; Manchester 20.5; Newcastle-on-Tyne 20.9; Nottingham 18.7; Sheffield 12.9.

In Edinburgh 20.9; Glasgow 22.6; Dublin 24.7.

For the week ending June 19th, in the Swiss towns, there were 36 deaths from consumption, lung diseases 14, diarrhœal diseases 14, measles eight, small-pox two, diphtheria and croup two, scarlet fever, whooping-cough and erysipelas each one.

The death-rates were: at Zurich 11.5; Geneva 12.1; Basle 12.6; Berne 17.1.

The meteorological record for week ending July 3, in Boston, was as follows, according to observations furnished by Sergeant Q. B. Cole of the United States Signal Corps: —

Week ending Saturday, July 3, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...27	29.791	67.0	76.2	58.3	70.0	44.0	83.0	65.7	W.	N.W.	N.E.	16	22	12	C.	F.	C.	—	—
Monday,..28	29.988	60.4	71.2	55.4	80.0	76.0	77.0	77.7	N.	E.	S.W.	10	7	14	O.	C.	C.	—	—
Tuesday,..29	29.882	71.1	81.7	56.3	70.0	41.0	58.0	56.3	W.	W.	N.	10	22	11	C.	C.	O.	—	—
Wednes., 30	30.112	66.9	75.5	57.4	48.0	16.0	53.0	39.0	N.W.	N.	N.W.	5	12	7	C.	C.	C.	—	—
Thursday, 1	30.165	69.7	82.1	55.6	60.0	27.0	60.0	49.0	N.W.	S.W.	W.	5	8	14	C.	C.	C.	—	—
Friday, ... 2	30.058	69.9	82.0	58.9	56.0	38.0	67.0	53.7	W.	W.	W.	12	10	13	F.	O.	O.	—	—
Saturday,. 3	29.991	72.3	84.1	61.8	63.0	45.0	78.0	62.0	N.W.	E.	S.E.	8	10	2	C.	C.	C.	.3	.02
Mean, the Week.	29.998	68.2	78.9	57.7				57.6											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

SOCIETY NOTICE.

New York State Medical Association. Fifth District Branch. Preliminary Notice.— The second annual meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 12th, 1886. There will be a morning and afternoon session. All Fellows are solicited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens. The Secretary desires to be notified of the title of any paper to be offered as early as convenient.

J. G. Porteous, M.D., *President*.

E. H. Squibb, M.D., *Secretary*.
P. O. Box 94, Brooklyn.

BOOKS AND PAMPHLETS RECEIVED.

Medical and Surgical Directory of the United States, comprising List of Physicians and Surgeons. Arranged by States with School practiced, Post-Office Address, Population and Location, Date and College of Graduation, Medical Colleges, Hospitals, Sanitariums, Asylums, etc. R. L. Polk & Co., Publishers. Tribune Building, Detroit, Michigan, and Elsewhere.

Anæsthesia. Who made and developed this Great Discovery? A Statement "Delivered upon the Mellowing of Occasion," by G. Q. Colton. New York: A. G. Sherwood & Co. 1886.

An Introduction to General Pathology, Founded on Three Lectures delivered at the Royal College of Surgeons, London, 1886. By John Bland Sutton, F.R.C.S., etc. Philadelphia: P. Blakiston, Son & Co. 1886.

Dermatologische Studien. Zweites Heft. Icthyol und Resorcin als Repräsentanten der Gruppe reduzierender Heilmittel von Dr. P. G. Unna. Hamburg und Leipzig. Verlag von Leopold Voss. 1886.

The Modern Treatment of Stone in the Bladder by Litholapaxy. A description of the operation and instruments, with cases illustrative of the difficulties and complications met with. By P. J. Freyer, M.A., M.D., M.Ch. London: J. & A. Churchill. 1886.

The Private Treatment of the Insane as Single Patients. By Edward East, M.R.C.S., L.S.A., Member of the Medico-Psychological Association. London: J. & A. Churchill. 1886.

The New York Society for the Prevention of Contagious Diseases. Announcement.

Bright's Disease and Allied Affections of the Kidneys. By Charles W. Purdy, M.D., Queen's University, Professor of Genito-Urinary and Renal Diseases in the Chicago Polyclinic, etc. 8vo., 288 pages, with 18 illustrations. Cloth, $2. Philadelphia: Lea Brothers & Co. 1886.

Directions to Parents of Deaf Children for their Treatment from Infancy, in order that they may learn speech and lip reading. By Miss Mary S. Garrett, Principal of School for teaching Deaf Children to Speak. Philadelphia, Pa.

Transactions of the Medical Society of the State of West Virginia. Nineteenth Annual Session held at Charlestown, May 19 and 20, 1886.

Enucleation with Transplantation and Reimplantation of Eyes. By Charles H. May, M.D., Instructor in Ophthalmology, New York Polyclinic, etc. (Reprinted from the Medical Record, May 29, 1886.)

Circulars of Information of the Bureau of Education. No. 5. 1885. Physical Training in American Colleges and Universities. By Edward Mussey Hartwell, Ph.D., M.D., of Johns Hopkins University. Washington Government Printing Office. 1886.

Fortieth Annual Announcement of Starling Medical College. Together with Catalogue, etc., for the Session of 1886–87. Columbus, Ohio. 1886.

Registration of Births, Marriages, Divorces and Deaths in New Hampshire for the Year 1884.

A Manual of Practical Therapeutics considered with Reference to Articles of the Materia Medica. By Edward John Waring, C.I.E., M.D., Fellow of the Royal College of Physicians, London. Edited by Dudley W. Buxton, M.D., B.S., London. Member of the Royal College of Physicians. Fourth Edition. Philadelphia: P. Blakiston, Son & Co. 1886.

Original Articles.

ALBUMINURIC RETINITIS.[1]

BY JOHN G. BLAKE, M.D.

Renal complications in pregnancy are always causes of anxiety to the physician. The uncertainties and probabilities are ever in mind, and the satisfactory termination of the case is a relief which most of us have had the pleasure of experiencing at one time or another. When vision is affected and the case becomes one of threatened blindness unless premature delivery or abortion is resorted to, there arises a grave question of judgment as to the respective rights of mother and child. The proper discussion of the question belongs rather to the oculist than to the obstetrician, and it is with the hope of having a little light shed on a subject where patient and physician alike are blind, that I venture to report the following case seen in consultation.

Mrs. W., twenty-six years, when six months pregnant with her first child, noticed that her sight was becoming impaired. She had not suffered from any of the common discomforts of early pregnancy nor was she now otherwise affected; neither was there marked swelling of the feet or face, pain in the back, head, vomiting or marked diminution of urine.

Her physician, after a brief course of treatment, referred her to an oculist connected with one of our public charities. A careful examination of the eyes revealed loss of vision to the extent of fifty per cent., and an analysis of the urine showed a small amount of albumen and some granular casts. Premature labor was strongly advised as soon as the child became viable, and abortion at any time that the sight became worse or the patient blind. Hæmorrhage into the macula was described to be the condition causing loss of sight, with the possibility, and indeed, strong probability, of its increase if pregnancy was allowed to continue to full term. The case went on for some weeks until the seventh month was reached, when I was requested to see it with reference to the advisability of inducing premature labor. I found a fair-sized, rather slight woman, in quite good health, showing externally no signs of albuminuria except perhaps more or less sallowness about the face, but no œdema, either of face or lower extremities; neither was she suffering from headaches, vomiting, or pains in the back; her vision continued about the same as when she visited the oculist, and showed neither improvement nor retrogression. I had the urine carefully examined with the result of finding only a small amount of albumen, and a few granular and fatty casts. Considering the circumstances of the case, that the sight had not grown worse, that the induction of premature labor was a pretty serious operation, that we could watch the case constantly and could interfere at any time the symptoms would justify, I advised against an operation. Nothing occurred during the remaining period until the completion of pregnancy. Labor began at 9 P.M., progressed favorably through the night, and was completed with forceps next morning, without ether, simply because the patient was not strong enough to finish it unaided. There were throughout no uræmic symptoms. The child was alive and well, and both mother and child have continued doing perfectly well since. The gratifying feature of the case is that the mother has now, three months after the birth of the child, recovered her sight almost entirely.

The points of interest in cases like the above, may be considered as first, loss of sight partial or complete, being liable to occur in acute albuminuria, what percentage of cases recover the sight after labor and what percentage fail to recover it. Is the condition of the structures of the eye similar to the condition where uræmic convulsions take place and where also blindness of a temporary character exists? What are the chances of hæmorrhage into the macula undergoing absorption and what is the condition of the tissues of the retina in acute albuminuria; finally is blindness, partial or complete, liable to arise during pregnancy from causes other than albuminuria; and is a slight form of albumenuria which does not produce constitutional symptoms liable to produce loss of vision.

While a single case may not be of any great value in deciding what our duty is in a similar one, it at least shows that all do not become blind, or fail to recover their sight, and it leaves some hope that a difficult operation, dangerous to the child if not to the mother, need not be assumed to be absolutely necessary where albumen and a few casts exist without other indications of disease.

Instead of quoting the opinions of oculists on this subject, I trust the views held by the profession on the above points will be given by one of themselves.

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THE "DUNBAR" CASE.[1]

BY F. K. PADDOCK, M.D., OF PITTSFIELD, *Medical Examiner.*

At 10.45 P. M., July 4th, 1885, I received notice that George S. Dunbar was found lying in Water street, Pittsfield, dead, with a wound in the back of his head. I immediately repaired to the place, and viewed the body at 11 o'clock P. M.

That part of Water street where the body was found is fifty feet in width, bounded on the south side by the Housatonic River, and on the north by a picket fence, back of which is a vacant lot. The street has no sidewalks. The travelled roadway is fifteen feet in width. On the north side of the roadway there is a space ten feet in width, extending to the fence, covered with grass. South of the roadway, the grass extends down the river bank twenty-five feet to the water. The street is unlighted at night, and the only building on that part of the street is the gas house.

The body lay parallel with the street, upon the grass between the roadway and the fence, with the head toward the east. When first discovered, the body was lying face downward; but it had been rolled over by the person who discovered it, and I found it lying upon the back, face upward. The night was very dark, and the view was made by the aid of lanterns. The body was warm; the face, back of the head, the adjacent hair, and the back of the neck, were discolored with fresh blood. The lids of the left eye were discolored and greatly swollen, presenting the characteristic appearance of a bad black eye, such as ordinarily results from a stunning blow upon the tissues covering the orbit.

At the back of the head, in the occipital region, just to the right of the median line, was a wound of sufficient size to admit of the little finger being passed through the skull into the brain, from which warm blood slowly oozed.

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[1] Read before the Obstetrical Society of Boston, April 10, 1886.

[1] Read at the meeting of the Massachusetts Medico-Legal Society, February 3, 1886.

Lying beside the body, evidently on the spot occupied by the head before the body was turned over, was his hat, the brim of which was covered with blood, and there was a blood stained spot of grass under and beside the hat, where the blood had evidently trickled from the wound in the back of the head.

The body was dressed in a black cassimere suit. The coat was a loose sack, buttoned at the upper button. The examination of the pockets revealed the absence of his pocket-books and money. The pockets of the coat contained only a white cambric handkerchief and three pistol cartridges, No. 32 calibre. His vest pockets contained a watch key and a cheap Waterbury watch, which was running. In his trousers pockets were a bunch of keys, and two or three blank gas-bills.

Upon the ground, close to the right ankle, as the body lay upon the back, was found a 32-calibre revolver, with five chambers; three of the chambers were empty, one contained a loaded cartridge, and the remaining one, an empty shell. To the handle of the revolver was tied one end of a piece of strong brown twine. This twine measured just ninety feet in length, and lay on the grass along the side of the roadway, the free end being about fifty feet from the body.

It was fastened to the handle of the revolver in such a way as to form a loop, which could be made to hold the hammer in a position half-way between half and full cock. When so placed, the weapon could be discharged by pulling on the string; this would free the hammer and allow it to fall. Experiments made with the revolver afterward showed that the cap of the cartridge would not explode every time the hammer dropped, but would average once in five or six times.

The chief witness at the view was a young man, who discovered the body as he was walking along the street, shortly after ten o'clock, on his way home. He first supposed the body to be that of a drunken man, and he called to two companions he had left upon the river bridge only a moment or two previously, to come to see who it was. One of them lighted a match and identified Dunbar. They then went to the gas house, procured a lantern, and, accompanied by two employés at the gas-works, returned to the body, which they rolled over on to the back, and discovered that life was extinct.

A wagon was procured, and I had the body conveyed to his residence on Howard street. Before leaving the house for the night, I had a search made for Dunbar's wallets, in which he was known to usually carry considerable money, thinking that he might have left them at home when he went out that evening, but they could not be found.

The autopsy was made 10.15 A. M., July 5th, twelve hours after death, in the presence of Drs. J. F. A. Adams, Henry Colt, Jr., William L. Paddock, H. W. Dewey, and S. C. Burton. The body was well nourished and muscular, but without much adipose. Rigor mortis was well marked. The signs of injury were confined to the head only. The face was badly disfigured by the ecchymosed and swollen condition of the lids of the left eye. There was no other appearance of injury to the face. The blood was carefully sponged from the hair and scalp about the wound in the back of the head. The hair was not singed, nor could there be found any powder mark on the scalp. The wound through the scalp was round in shape, and a little larger than the opening through the skull. The edges of the scalp wound, as well as the bone forming the circumference of the opening through the skull, were blackened by lead which had been rubbed off from the bullet in passing through.

The calvaria was removed. The dura mater was found unusually adherent to the skull. In the posterior portion of the falx cerebri was a deposit of bone, shaped like a button, three-fourths of an inch in diameter, and one-eighth of an inch thick. The wound in the skull was irregularly round and situated in the occipital bone, one-third of an inch to the right of the median line, very near the occipital protuberance, just below the semi-circular ridge. The appearance of the wound indicated that the line of flight of the bullet was at right angles with that portion of the bone wounded. Several small spicula of bone were found in the lacerated cerebellum. The wound passed below the right lateral sinus, and extended upward and forward, through the posterior lobe of the right hemisphere of the cerebellum, through the posterior and middle lobes of the right hemisphere of the cerebrum, where, at the upper surface of the middle lobe, the wound changed its direction and passed downwards, forwards, and slightly inwards, and terminated in the anterior lobe of the cerebrum, close to the longitudinal fissure, where the bullet was found, in a position half-way between the anterior and posterior borders of the right anterior lobe, just above the right lateral ventricle. The brain substance was very much lacerated along the course of the wound. The left hemisphere of the brain was uninjured, and apparently in a perfectly normal condition.

The internal surface of the skull was searched with great care to discover any fracture that might have resulted from the concussion of the bullet, or from other sources, but none could be found.

The bone was removed from the roof of the left orbital cavity, as well as the cribriform plate of the ethmoid in order to discover if there was any connection between the bullet-wound and the contusion or injury to the left eye. The orbital cavity was found full of clotted blood, which had infiltrated the cellular tissue behind and around the ball, pressing it forward as far as the optic nerve permitted. The cellular tissue of both lids was also fully infiltrated. There was clotted blood in the left nares, but the bone was found uninjured, and there was not any fracture extending from the wound in the occipital bone made by the bullet.

The bullet was very much flattened and its circumference was irregular and jagged, and presented the appearance of having struck the bone squarely on end; the base of the bullet was not bruised and exhibited the creasing marks of the barrel of the revolver and exactly fitted the empty shell found in the chamber of the weapon. The three cartridges found in the coat pocket exactly resembled those in the revolver.

The developments attending the view and the autopsy rendered the case problematical. Was it suicide or was it murder? Did this man shoot himself or was he shot by another? In order to intelligently consider these questions and properly weigh the evidence favoring the two theories, it is necessary that we should know something of the history of the deceased.

George S. Dunbar was born in 1836, in Pittsfield, where he lived until his death. His father kept a grocery store and a fish market. He was educated at the Grammar School. At the age of sixteen he was apprenticed to a mechanic and learned the machinist's trade. After attaining his majority and finishing his apprenticeship, he was employed in a woolen factory as machinist. He was married at twenty-eight years of age, and his wife kept the factory boarding-house, while he worked at his trade in the mill. At the age of thirty-three, he was appointed superintendent of the works of the Pittsfield Gas Company, a position he had ably filled for sixteen years at the time of his death. Soon after receiving the appointment of superintendent, he bought a house on Howard street, near the gas works, where he has since lived. Physically he was strong, vigorous, and very active. Although rather spare in form, he was muscular and possessed great endurance. He never had any severe illness, with one exception, and that was a temporary attack. On several occasions he had been overcome by the inhalation of illuminating gas, while at work in an excavation endeavoring to find a leak in the gas-pipe. About four years ago, he was carried home in a paralyzed condition from this cause, and for twelve hours afterward, he was delirious and had several severe convulsions, during which opisthotonos was well marked. He recovered in forty-eight hours and was at work again.

His duties as superintendent were arduous. Leaks in the gas-pipes, in various parts of the town, as well as the locating and laying of new pipes he attended to. The monthly and quarterly record of the numerous meters, he took himself, besides making out and collecting a great many of the bills.

He was in the habit of carrying with him in a large wallet a considerable amount of money, varying from fifty to two hundred dollars, which he took no pains to conceal, and exposed it freely whenever he happened to be about town when making change, as he collected the gas bills. He was called upon by everybody in town using gas, to correct any fault found with the illuminating vapor. The prompt fulfilment of all these duties demanded constant activity early and late, and Mr. Dunbar was always equal to the emergency. He was strictly temperate and scrupulously honest in all transactions. However trying or vexatious were the demands and whims of unreasonable gas-takers, he always appeared cheerful and unruffled, and faithfully endeavored to relieve the cause of dissatisfaction. He had a pleasant home and a happy family, consisting of a wife and four children. His salary as superintendent was more than sufficient to support them comfortably, and he was able to save a small amount of his annual income. Some eight years ago, he and his brother bought some stock in Wall street, not not as a speculation at first, but as an investment. In the course of a few years, however, they became somewhat familiar with the stock-market and were more or less infatuated with the excitement and the possibilities of dealing in stocks, and they began to speculate, at first carefully and successfully, so much so that when the brother died of cerebro-spinal meningitis in 1881, they were reported to have made between twenty and forty thousand dollars. It is a singular if not a significant fact, that George's death occurred on the fourth anniversary of his brother's death. It is not known that George met with any serious losses, subsequently, until the spring of 1884, when, by an unfortunate and unexpected change in the price of stock which he had bought on a margin, he lost all that he had made; and it is supposed that he also lost a small amount that he had borrowed. For the fifteen months following this reverse there is no evidence that he dealt in stocks at all, and in April, 1885, he settled with his broker in New York and withdrew the balance of his account. He did not allow his interest in stocks to interfere with his duties as superintendent of the gas company. The business was carried on by telegrams through brokers in New York. He developed a considerable degree of ingenuity in the line of his business as superintendent. He made several practical inventions, one of which is very successfully used for lighting and another for extinguishing the street lights at night. Within the last five years he has paid considerable attention to life-insurance as an investment. As soon as it was discovered by insurance agents that he was interested in the subject, he was beset by representatives of various companies. At first he stated that he wanted insurance to the amount $25,000. He got $21,000 in regular life-insurance companies, but finally several declined to insure on account of his having had convulsions after inhaling the illuminating gas. This seemed to annoy him and induce him to seek insurance in companies and mutual benefit associations that were not so particular about their risks, and he ultimately secured $66,000 of insurance, divided among various companies, associations and fraternal societies.

Several times he noticed that he was followed by one or more ill-looking men, as he made his rounds of observation of the burning of the gas at night, as he walked through the back streets, and he mentioned the fact to the officers of the gas company. They cautioned him about exposing his money so freely when he had occasion to make change on the street, and advised him to carry a pistol. He replied that he was not afraid, that he never carried a pistol, and he disliked to do so. At the inquest there was no evidence to show that he ever carried one, except the testimony of a hardware merchant, who stated that he had sold him a revolver last April, similar in pattern to the one found by his body; but on subsequent examination by the judge, he and his clerk made such conflicting statements that the court was led to believe that the merchant did not sell him the revolver found by the body, although he may have sold him a different one. His family knew that he owned two revolvers, and they were both found in his house in their usual places after his death.

I speak quite confidently of Mr. Dunbar's character and habits, because I had known him rather intimately for fifteen years. Our offices were on the same floor of the same building and adjoining, so that, in addition to my knowledge of him as his family physician, I saw him nearly every day as he was about his business. At the time of his death he had an annual income of between three and four thousand dollars, which was more than enough to comfortably support himself and family. His assets, as near as could be ascertained at the inquest, were $18,170, while his indebtedness was $22,200, making a difference of about $4,000, which he owed for borrowed money. This amount with his good health and regular income could hardly have caused him especial anxiety, or have been the cause of despondency.

The day preceding the evening of his death was spent apparently as usual, and he went to his home about six o'clock, P.M., and reclined upon the sofa during the evening, the time being occupied in reading and in conversing with his family. Between half-past nine and ten o'clock he left the house, saying that he was going to investigate a reported leak in the gas-pipe under the Elm street bridge, near where his body was found shortly after ten o'clock. In fact, he was seen by several people walking in a direction which he would naturally take in the night to go to this bridge; but whether he had been there and was returning by the gas-house when he met his death, or was on his way to the bridge when it occurred, is unknown.

The inquest was held by Judge Tucker, beginning a few days after the death of Dunbar, and continued for several weeks. Every person was examined, who, it was supposed, could throw any light upon the cause of death, whether theoretical or practical.

Among the medical examiners called to testify, was Dr. D. B. N. Fish, of Amherst, whose investigations regarding powder-marks upon the skin, in the event of bullet-wounds from pistols held near the body, rendered his experience and experiments of value, in determining the question of possibility of a person shooting himself as Dunbar was shot, with the revolver found by the body, without exhibiting powder marks on the hair and scalp about the wound. The inquest was conducted with care and perseverance, but nothing in the testimony positively indicated the precise method of the shooting. Several detectives were employed, who very soon came to the conclusion that it was a case of suicide. One of them discovered a mark or crease across the sole of the right shoe which Dunbar had on when found, that might have been made by the twine that was attached to the handle of the revolver, indicating that the twine had been drawn tightly across the sole of the shoe with the left hand, while the right hand held the weapon in position for firing. Dr. Fish testified that, without using the twine, the revolver could possibly be fixed, and fired twenty-six inches from the head so as to make a wound like the wound in Dunbar's head, without producing any powder burn or mark upon hair of scalp.

Three days after Dunbar's death, his wallet and pocket-book were found just across the unoccupied field, on an ash-heap, back of a store-house, about thirty-six rods from where the body was found. They contained no money; one of them was open and the other closed, with its strap tucked into the loop.

The testimony of the medical witnesses differed in regard to the cause of the extensive ecchymosis of the lids of the left eye and the effusion of blood about the ball. All but two thought it could only be accounted for by a severe blow upon the eye. Two, however, considered it possible to have resulted from the blow or shock of the bullet upon the back of the head, although there was no fracture of the base of the skull or any injury whatever to the bones entering into the formation of the orbital cavity.

The judge's report of the inquest was very elaborate and complete, consisting of over twenty-six pages of legal cap. In conclusion, he says: "It seems clear that the death was either a murder, with an attempt to make it appear to be a suicide; or a suicide, with an attempt to make it appear to be a murder. A careful consideration of all the facts compels me to the conclusion that Mr. Dunbar committed suicide. This theory explains all the facts but one; this exception is the injury to the left eye. The evidence leaves it doubtful whether this injury was inflicted by a blow or was the result of the shock of the bullet-wound. If the later theory is true, then it is not inconsistent with suicide: if the former, then suicide seems impossible.

"I find and certify that George S. Dunbar of Pittsfield, Massachusetts, shortly after ten o'clock on the evening of July 4th, 1885, on Water street in said Pittsfield, came to his death by a bullet fired from a pistol, which bullet entered the back of his head, and that said pistol was discharged by his own hand.

(Signed), JOSEPH TUCKER.
Justice of the Central District Court."

The absence, at the inquest, of more positive evidence of murder, renders, of course, the finding of suicide justifiable. Yet there are circumstances connected with the case that seem to point quite positively to the conclusion that he did not shoot himself:—

(1) The black eye is incompatible with the theory of suicide.

(2) The situation and direction of the wound indicate that the revolver must have been held in a position almost, if not quite, impossible for the hand of the person shot, without causing powder marks or burns upon the hair or scalp.

(3) The fact that the pocket-books were found empty in a locality where they would naturally have been examined and left by a thief who had committed a murder and escaped through the field adjoining, a place where sufficient light could be obtained to examine the booty without being seen. If Dunbar had himself left them where they were found, he would, to escape observation, have travelled a long circuitous route from the place where he was last seen.

Besides these, there are other circumstances that might be mentioned, which militate against the probability of suicide. If he committed suicide he evidently meant to have it appear to be a murder. Upon no other theory can the long string, the fact that he was shot in the back of the head, the placing of the pocket-books, and the locality selected for the deed, be accounted for. If such was his intention, then an alert, intelligent and ingenious man, in the full possession of his faculties, laboring under no especial excitement, carefully prepared and carried out his scheme in the most bungling and foolish manner. Why should he have attached a useless string, ninety feet long, to the revolver and left three cartridges in his pocket? On the other hand, if he was murdered, these evidences of suicide are just what would have occurred to his assassin, to throw off the suspicion of murder. Which of the two theories is the true one, time may fully reveal.

If he committed suicide it is improbable that any further evidence of the fact will ever be added to what is now known. If he was murdered, there is yet hope of the discovery of the assassin.

— The American Neurological Society will hold its annual meeting at Long Branch on July 21. The Otological at New London, on July 20. The Ophthalmological at New London, on the 21st.

CASES OF TRACHEOTOMY IN DIPHTHERITIC CROUP.

BY AUG. M. TUPPER, M.D., OF ROCKPORT, MASS.

Trousseau is credited with saying that "tracheotomy badly performed, but well treated afterwards, will end favorably in a third of the cases, whereas tracheotomy excellently executed but badly treated afterwards will almost invariably be followed by a fatal termination."

Meigs and Pepper say, "whenever it is in any way possible, the constant presence, day and night, of a physician or student of medicine should be secured for four or five days after the operation . . . the child should never be without the presence of some one competent and ready to render the prompt assistance which is frequently necessary to avert instant death."

J. Lewis Smith, in his "Diseases of Children," remarks that "no surgical operation more imperatively demands intelligent and attentive after-nursing than tracheotomy." Now, while I entirely agree with the above quotations, and can well understand the relief and comfort it must be to the physician to know that during his absence his patient is in the hands of a medical friend or skilled nurse, I believe that many times we can attain success under most unfavorable conditions, and when we have to depend entirely upon ourselves for the care, as well as the treatment, with what can be taught the parents and friends at the time. By making frequent visits, and spending the nights, if possible, in the same house with the patient, we shall often be able to succeed, without the trained assistance which is so desirable when it is possible to procure it.

The following cases, by the recovery of two out of the five, go towards proving this, I think, particularly the last one, and it is in the hope that they may prove interesting and encouraging, especially to those who, like myself, are living away from the medical centres, and where the professional nurse is not at hand, that I venture to report them. All were diphtheritic, as proved by the presence of false membrane in the fauces, and the prevalence of diphtheria in the vicinity, and are reported from notes written at the time, and partly from memory.

Case I. A boy, seven and a half years old, who recovered, has already been reported in the Journal, October 11th, 1877.

Case II. Female, aged six years and nine months. Went to bed September 21st, 1879, apparently well. The next morning (September 22d) did not want to get up, and complained of headache and sore throat. When I first saw her, the tonsils were very much swollen, and large patches of diphtheritic membrane could be seen upon them. There was a copious discharge from the nostrils, and the breathing was labored.

September 23d. This morning she is much worse, the swelling in the throat has increased, the tonsils nearly meeting, and her breathing is much obstructed. The nasal discharge has also increased. In short, she presented the appearance of one of those severe cases of diphtheria with which we are all familiar, with the addition of the croupy symptoms.

3 p. m. Growing worse rapidly, and the respiration being still more embarrassed, I decided that tracheotomy offered the only chance, and that a very slight one, on account of the great amount of systemic infection. However, the operation was done at 4 p. m. The trachea was small and deeply situated. At first we thought the tube was too large, and tried wire bent in the shape of hooks, but could not make it answer very well, and finally got our only canula in place. She was much relieved, and at 10.30 p. m. was sleeping pretty comfortably, but her pulse was very small and too rapid to be counted. The nose continued to discharge freely. We gave her injections of brandy, milk, and eggs as frequently as the rectum appeared likely to retain them. Did not try to make her swallow, the throat being so much swollen as to make it very difficult for her to take nourishment by the mouth. The operation was of great relief to this patient, and she continued comfortable until 2 a. m. of the 24th, when she died very quietly and easily.

I have sometimes felt that this child had better not have been operated upon, but when we read what such a man as Jacobi says about these cases,[1] namely: "no alleged contraindication to tracheotomy, whether the tender age of the patient, or a complication with either an inflammatory or an infectious disease, must be considered valid. The one strict indication for the performance of tracheotomy is when the diagnosis of pseudo-membranous laryngitis is undoubted. The increasing dyspnœa, cyanosis, and approaching asphyxia, with the certainty that a well-directed and efficient medicinal treatment has been, and in all probability, will be useless; even under these circumstances, there is no mathematical certainty. The matured experience of a well-informed and thoughtful physician will commit but few errors. If there be the slightest doubt, the operation ought to be preferred to suffocation." When we read such conclusions, we must feel that we have done for the best, given our patient every possible chance, and, at least, a merciful death.

Case III. Boy, aged six years and two months. Taken with diphtheria November 26th, 1879. Was hoarse from the first, but had no difficulty in breathing until Wednesday, December 3d, when he began to breathe harshly, and to cough occasionally.

Thursday, 4th. The difficulty in respiration had increased, and he had several attacks of spasm of the glottis.

Friday, 5th. He seemed better in the morning, and continued so until 4 p. m., when he grew worse, and began to suffer from dyspnœa continuously. The difficulty in breathing increased very much until 10 p. m., when tracheotomy was performed. There were several large veins in the line of incision, and the hæmorrhage was considerable, and when the trachea was opened, blood escaped into the windpipe and nearly suffocated him, but by vigorous effort, and performing artificial respiration through a catheter, he was resuscitated. He soon fell asleep, and passed a very comfortable night.

December 6th, 2.30 p. m. Has coughed a good deal to-day, but not raised much, still he seems in pretty fair condition. His pulse has been below 100 up to last night, when it reached 130 to 140; since he recovered from the operation it has been about 120. Respiration not counted, but certainly as high as 60: it is now 48, and he is sleeping quietly. I have not been able to keep the inner canula in place; he coughs very much, and does not breathe as well as when he has the outer tube only. Not much false membrane has been seen, and before the operation it had decreased; only a patch half as large as the thumbnail remained on the back of the right side of the throat.

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[1] Pepper's "System of Medicine," Vol. III.

December 7th, 9 A. M. Was pretty sick yesterday afternoon and last night; breathing a good deal obstructed, partly from mucus and partly from false membrane, at least I think so, from the sound of the cough and character of the breathing. There is a peculiar clicking sound at the end of inspiration, as if a piece of membrane partly detached was acting as a valve. I have heard this sound since, and regard it as an ominous sign, as significant of an extension of the disease below the opening. I am obliged to use the outer canula only most of the time, as he does not breathe as well with the inner tube in place. Took the tube out completely last night, at seven o'clock, and again this morning, at half-past six; neither time did it relieve him much, showing the obstruction to be in the trachea, and not in the canula. Pulse and respiration remain about the same, 120 to 130, and 45 to 50, respectively. Just now I removed the tube again, and think he seems easier for it. Intend leaving it out for a while, as there seems to be phlegm and membrane not completely detached, and I fear it may be too large to get out through the canula.

December 8th. The distress in breathing continued to grow worse, the pulse rising in frequency and exhaustion coming on. He finally died of asphyxia at nine last night, after suffering very much for six hours previous.

He never coughed up any false membrane and very little mucous, although at times it seemed very loose. This case was at first a very promising one, more like a case of ordinary croup, as very little membrane was seen upon the fauces and the constitutional symptoms were very slight. I could not even get him put to bed until he began to have distress in his breathing. His hoarseness made me feel uneasy of course, and I watched him very closely all the while. It illustrates how difficult it is to tell how far the diphtheritic membrane may go before it has reached its limit, and also how late in the case we may have the larynx and trachea attacked, even after the membrane has begun to disappear from the throat.

CASE IV. Boy aged nine years and two months. Taken with diphtheria December 31st, 1880. First seen January 1st, 1881. Has had a cold for two or three days. Tonsils swollen and patched with false membrane.

January 2d. Mother says he had a croupy attack last night and that his cough is croupy.

January 3d. Croupy symptoms have increased and his breathing has become so much obstructed that tracheotomy was performed at ten this morning. The operation was a very easy one, he was much relieved, and now, 10 P.M., the breathing is very easy and noiseless and he is sleeping like an infant.

January 4th. Rested well last night, but coughed a good deal, and I have had to take the inner tube out, consequently have a good deal of trouble in keeping the canula clear. At noon he had a severe attack of dyspnœa and his mother cut the tapes and removed the tube, the removal being followed by violent cough and expulsion of a large piece of false membrane, a cast of the trachea, an inch long. On my arrival, some two hours after, I reintroduced the tube, and although at first he breathed hard and coughed a good deal, he is now, 3.30, P.M., quite easy.

January 5th. Had a very comfortable night last night, but this morning the tube had to be left out.

P.M. Breathing becoming more and more obstructed, the disease has evidently gone below the opening. He suffers a good deal and requires constant use of the atomizer. Has frequent paroxysms of dyspnœa, and died in one at 6 P.M. The pulse did not go over 130, and he took his food and medicine well up to the last moment.

I might mention that so afraid was every one of the disease about that time that I had a difficulty in getting anybody to come in and assist Dr. Manning and myself during the operation, and the young man I finally procured was not allowed to enter his sister's house, where he boarded, for several days, for fear he should bring the disease to some of the family.

CASE V. Female, aged two years and eight months. First called November 22d, 1885. Her mother says she has had a cold for two or three days and been hoarse. I found her breathing harshly, with a croupy cough and all the symptoms of commencing laryngeal obstruction. Did not look in her throat, it being after lamplight I knew I could not see satisfactorily. Commenced the bichloride treatment, ordered steam to be generated in the room, and gave an emetic.

November 23d. Visited her early and found the symptom of obstruction very much increased. Examination of the fauces showed both tonsils coated with false membrane. Advised tracheotomy and performed it as soon as I could get help and instruments. Before the completion of the operation, on account of the failure of the pulse, although the respiration continued good, the trachea had to be opened before it was fairly exposed. Brandy was administered hypodermically and she soon rallied.

This case did as well as one could wish, there never was any trouble from obstruction and the breathing was easy and most of the time noiseless, with the exception of one night, but by using the atomizer faithfully and exciting cough by passing a feather down the tube, relief was obtained and there was no further difficulty on that account. All attempts at removing the tube permanently failed up to December 27th, almost five weeks, when she was able to breathe through the larynx comfortably for a short time. Until then she could do very well about long enough to remove and clean the canula and sew on new tapes, when she would begin to be distressed and the tube would have to be replaced, and quickly, too, sometimes. After December 27th, we would remove the inner tube and cork up the outer, which had a slot in it, for several hours each day. Still the canula could not be removed permanently. She could breathe through the larynx with the tube in place and corked, but if it were taken out she would have what seemed to us spasm of the glottis. She coughed a good deal, and often the expectoration would be bloody, occasionally pure blood. The bloody expectoration continued until I changed the tube for a smaller one.

On January 5th, 1886, I took out the canula, and staying some little time found she was breathing well, and as each time it was removed the mother was instructed how to replace it and made to do it herself, so she could respond to an emergency, I left, directing her to reintroduce it at 4 P.M., and before that if she began to be distressed. At the appointed time the mother attempted to replace the tube, and failing sent for me. On my arrival, two hours later, I found the granulations which existed around the outer edge of the wound had closed in and filled up the opening. I tried to get the canula in and failed likewise, but finding the child breathing well, without any distress, did not persevere in my attempts, but decided to leave matters as they were. Suffice it to say the child slept well all night and never had any trouble afterwards, and in about two weeks the opening was entirely closed.

It is this case I would speak particularly of, for there are several unusual and interesting features about it, one of which is the size of the tube. It is advisable to use as large a tube as can be introduced easily into the trachea. For the first few weeks I used one which was slightly larger than that used in my first case. It was inserted very easily, but I think was rather large and probably accounted for the bloody expectoration. It was afterwards changed for the same one worn in Case I, and it will be remembered that he was seven and a half years old, while this patient was only two years and eight months. Dr. R. W. Parker, in the *Lancet*, February 7th, 1885, says: "slight differences in the length of the tube, in depth from the front opening to the angles and in calibre, I believe, often turns the balance one way or the other. A tracheotomy tube, like a boot, must fit comfortably, or it cannot be worn without injury." Yet here are two children, with almost five years differences in their ages, wearing the very same tube and both recovering.

Another feature is the rapid filling up by the granulations of the external orifice of the wound, thereby preventing the reintroduction of the tube when left out a few hours, which might have proved a very serious matter and illustrates the importance of keeping these granulations down by the use of caustics or scissors. The most interesting and unusual complication is the prolonged retention of the canula, forty-four days. In any case it is advisable to remove the tube at the earliest moment which is practicable, as the prolonged retention may be a source of danger in several forms, such as ulceration, hæmorrhage, and a formation of granulations in the trachea.

Meigs and Pepper, after quoting Trousseau as saying the removal may be delayed fifteen to twenty-four or forty-four days or even longer, give the causes as summed up by Mr. Mash, as:

"1st. Obstruction of the larynx by false membranes which have been known to linger in its cavity for at least fourteen days after this operation.

"2d. A chronic inflammation and thickening of the mucous membranes of the larynx which may remain after the acute disease has passed off.

"3d. A narrowing or complete obliteration of the passage of the larynx by a growth of granulations above and around the canula.

"4th. An impairment or complete loss of those functions of the muscles of the larynx which regulate the admission of air through the rima glottidis.

"5th. Adhesion of the opposed surfaces of the vocal cords."

Another cause which may delay the removal is nervousness. The child accustomed to breathe through the tube, on finding it removed and air passing through the natural channel, becomes alarmed and spasm of the glottis ensues, and this of course increases the terror, each reacting upon the other. Parker relates a case in which the removal was delayed in part on that account. To which of these causes the difficulty was due in the present case, it is hard to determine positively, but I am inclined to attribute it to two, namely, the presence of granulations in the trachea and also to spasm, the latter being induced part of the time by the existence of the granulations. The fact of there being granulations at the external orifice would go to prove the probability of their presence also at the inner. The pressure of the tube keeps them back, but a short time after its removal they swell up and if they are sufficient in quantity may occlude the trachea, at least that is the explanation Parker gives. The bloody expectoration while wearing the larger tubes was also indicative of irritation and ulceration perhaps. It is rather provoking to read in the text-books of the causes of the delay in the removal of the canula, but to find nothing on the treatment of such complications. Parker recommends the local application of nitrate of silver fused on a silver probe, suitably bent, and applied to those parts on which the granulations are supposed to exist, or a solution of the nitrate, thirty grains to the ounce, a few drops allowed to trickle into the trachea, one of which methods I should certainly adopt in another case. His articles in the *Lancet*, January 24th, 31st, and February 7th, 1885, are valuable ones and well worth reading. Thus far I have said nothing about the treatment of these cases, but medicinally it consisted of a continuation of a Tr. Chloride of Iron and Chlorate of Potash mixture given frequently, and small doses of a solution of carbolic acid also administered frequently, when they took anything, for in some of them it was impossible to give any medicine except a little carbonate of ammonia; of course they were fed as nutritiously as possible. Trousseau states that as soon as the trachea is opened the diphtheritic process comes to a standstill in the pharynx. The great point is to keep the canula clear, and in order to accomplish this the inner tube must be frequently removed and cleaned. My plan has been whenever the breathing became noisy or obstructed, to use the steam atomizer, placing the mouthpiece close to the opening, protecting the patient from being wet by the spray by means of towels, etc., when, if not improved by the inhalation, remove the inner tube and clean it, and if neither of these measures succeed in rendering the respiration easy, steam through the outer canula and pass a feather down into the trachea so as to excite cough and expel the phlegm or membrane which is very likely the cause of the difficulty. The steam atomizer is invaluable in these cases, in my opinion, but I think that steam from water alone or a weak solution of carbolic acid is as useful as any of the so-called solvents. I have seen the little patients motion and point for the atomizer, because it relieved them, and one poor little fellow in his agony would grasp the mouthpiece and hold it to the opening himself, thereby giving mute but eloquent testimony of its utility.

It has been noticed that in some of these cases we were obliged to leave out the inner tube, because the breathing was easier with the single outer canula only. Why this was I do not know, unless the instrument was too small. Profiting by experience, I should hereafter use larger tubes at the same age. Possibly the result might have been more favorable had I been better provided. The rooms were kept warm (75° to 80°), and the atmosphere charged with steam, but in the last case the amount was small, owing to circumstances.

To strengthen my assertion that tracheotomy can be successful in diphtheria under most unfavorable conditions, I would like to relate some of the circumstances of the last case. The father was a teamster and the home none too comfortable, while the hygienic arrangements left much to be desired. As soon as the disease was declared diphtheria all the neighbors at once departed, leaving the mother and the doctor to do all the nursing and take care of the family besides, for the father having had a brother return from the West after a long absence, celebrated his return and the "miracle" which was being done on his child, in the too common manner, with the usual result, and was of no help for the first two or three days. The first night about 2 o'clock I came down stairs to see how matters were progressing, to find the mother and the patient sound asleep on the bed, and this brother referred to, who had promised to keep awake and watch, lying on the floor also asleep. The mother on the fourth day was attacked by the disease, but the attack proving light, was able to keep on her feet and attend to the child.

In regard to the operation itself, it is not generally a difficult one, but it is very encouraging to those of us who are not in the way of seeing or doing much surgery to find an author like Trousseau saying "provided the canula be introduced into the trachea it really matters little how that has been accomplished, whether the operation has been performed with more or less dexterity, or with more or less rapidity, the result is the same provided there has not been hæmorrhage," and again, Parker, who writes "It is hardly probable that the various structures found in front of the trachea will be individually recognized during the performance of a tracheotomy."

If one will look through the medical journals for the last ten years he will see how much more frequently the operation is done than in the past, and how many more successful results been obtained. I well remember how an old, experienced and able physician discouraged the attempt in my first case, because it was diphtheritic, but I venture to predict that the time is coming, if not here already, when the physician will be just as much expected to open the trachea of a child dying from croup, diphtheritic or not, as he is expected to set a fractured limb or tie a wounded artery.

Since writing the foregoing paper, I have been called to a neighboring village in consultation, to see a child with croup, on whom I operated. The nursing was done entirely by the relatives, the case doing perfectly well and the canula removed permanently on the twelfth day. The operation was done in the kitchen, the patient remaining there until well, it being the only room where it was possible to get the necessary amount of steam generated.

THE DELAYED REMOVAL OF TRACHEOTOMY TUBES, WITH CASES.

BY ROBERT W. LOVETT, M.D.
Formerly House Surgeon at the Boston City Hospital.

AFTER the performance of tracheotomy in children there is seldom any difficulty in dispensing with the use of the trachea tube after a few days. At the Boston City Hospital in about three hundred tracheotomies there have only been four cases which presented this difficulty. Ordinarily at the Hospital the tube is removed on the fifth, sixth, or seventh day by cutting the tape and quietly taking it out. No preliminary testing of the passage of air through the larynx by stopping the tube is attempted, and in the overwhelming majority of cases laryngeal breathing is fully established by the time that the tracheal opening is cicatrized. The following four cases are the only ones in which tubes were worn for any considerable time.

I. J. E. C., a fat little boy fifteen months old, a nursing baby, was admitted with his mother May 29, 1885. He had been distressed for breath for two days and at the time of admission he was suffering from very severe dyspnœa with retraction of the soft parts of the chest at each inspiration. There was grayish membrane upon both tonsils, and the glands of the neck were much enlarged. Tracheotomy was at once done by the House Surgeon, and afforded relief. His progress was very favorable, he nursed quite well, drank a few ounces of milk daily, and was but little prostrated. On the sixth day (June 4) the tube was taken out at 11 A.M. and the child breathed quietly without it. At 3 P.M., of the same day, he had such a violent attack of dyspnœa that he would have died had not the nurse at once replaced his tube. He rallied quickly from the extreme prostration caused by this attack and breathed without further trouble until three days later (June 7) when the tube was removed again, but dyspnœa came on at once and it had to be replaced. For two weeks from this time his condition continued the same. His tube was taken out daily, but he was unable to breathe without it and it was always necessary to put it back at once. The wound had closed around the tube and no exuberant granulations were to be seen. It seemed as if the trachea collapsed when the tube was taken out, and so shut off the entrance of air to the lungs. Air certainly passed through the larynx when the tube was stopped, and he began to talk aloud June 22d, in a husky but fairly loud voice. The wound was painted daily with a saturated solution of alum and a smaller but still fenestrated tube was put in. He went out of doors daily and improved in his general condition until July 20, when he was discharged wearing his tube. He reported at the Out-Patient Department from time to time to Dr. Hooper and was under his care until November 15, 1885, when he was readmitted to the hospital for another attempt to remove the tube. It came out with difficulty and a small mass of granulation tissue which had grown through the fenestrum into the tube, was pulled away with it. The boy struggled and strangled a little, but in five minutes he was breathing quietly and the tube was left out, although it had been intended to insert a smaller and a non-fenestrated tube. He had a very croupy cough for two nights and breathed rather noisily when asleep, but without distress. November 21, 1886, he left the Hospital; the wound was closed, his voice clear and natural, and his breathing perfectly normal. He has continued in this condition.

II. Albert W., four years old, was admitted July 5, 1885, suffering from severe dyspnœa. He had had whooping-cough three months previously, and was now suffering from measles, the eruption of which was just disappearing. He had been distressed for breath for three days, and at the time of admission he was struggling with every inspiration and somewhat cyanotic. Tracheotomy was at once done without ether by Dr. Bolles and complete relief was afforded. He received the usual treatment, one-sixtieth of a grain of corrosive sublimate every hour, and milk and brandy. He got along very well and on the fifth day (July 10), the tube was taken out. Two days afterward he had a violent attack of dyspnœa and the tube was replaced. For a week after this the tube was taken out for a little while each day and the wound painted with copper sulphate and glycerine, on the supposition that exuberant granulations were the cause of the trouble. July 22, the boy was able to get along without the tube and it was taken out and the wound treated with tannic acid solution. July 30, the boy was playing about the ward all day, the wound had wholly closed, his voice was clear and his general condition excellent. That night he had a croupy cough and noisy respiration. This continued through the night and at 6 A.M., July 31, he had an attack of violent dyspnœa with much retraction of the abdomen and soft parts of the chest with each inspiration. The mother refused to have tracheotomy done again, but at 8.30 A.M., he was failing so rapidly that she asked for the operation and tracheotomy was at once done without ether by the House Surgeon. The operation was in the line of the old scar and by no means an easy one. Immediate relief followed the opening of the trachea, the boy rallied quickly under strong stimulation and was soon convalescent.

On the sixth day (August 5), the tube was taken out and left out until the next day when it had to be put back and left in until August 19, when it was left out for thirty-six hours, but an attack of dyspnœa coming on in the night made it necessary to put it back with all possible haste. August 25, a smaller and non-fenestrated tube was substituted for it and September 1, 1885, the boy was discharged wearing that tube. His voice was clear and his condition excellent.

October 3, 1885, he was readmitted, having had his tube plugged for a week, both day and night, and the tube was at once removed. Beyond a croupy cough for a day or two he had no trouble and was discharged October 14. The wound was closed, his voice still clear, and his condition is still good. In neither Case I or Case II was it possible to get a view of the larynx although repeated attempts were made.

III. Mattie S., three years old, was admitted May 1, 1881. Dyspnœa was severe and tracheotomy was done at once without ether, by Dr. Ingalls, and the progress of the case was very favorable. On the seventh day (May 8), the tube was taken out, but an attack of dyspnœa came on in forty minutes and it had to be put back. It was left in for a week and a second trial made May 15; result the same. In another week air was found to pass through the larynx, but the tube could not be dispensed with. June 3, ether was given and the trachea was stitched to the skin around the edges of the wound, but the tube had to be replaced nevertheless. Some improvement followed this, and by the middle of June the tube was kept out most of the time, and only put back temporarily when it was needed, but in a few days her general health failed, and by the 30th she was wearing the tube again. July 5, 1881, she was discharged still wearing it.

From time to time attempts were made to remove it, but all proved unsuccessful. On the evening of July 19, 1883, two years after discharge, the tube had been taken out and cleaned, and her mother was about to replace it, when the little girl said "I do not want it any more, you need not put it in." She has never had any further trouble.

IV. Clara Z., two years old, had tracheotomy performed at the Hospital for diphtheritic laryngitis, June 16, 1883, by Dr. Ingalls. On the following day she had extensive emphysema of the chest, but this soon disappeared and she got along very nicely. On June 26, the tenth day, the tube was taken out, but had to be replaced in an hour as the child was unable to breathe without it. By July 4, she could breathe through the larynx when the tube was stopped but she had a cough and could not breathe when the tube was taken out. She had a variable progress, and by the early part of August she could not get along without it, even for a minute. At this time she was going out daily and was in good condition. August 13 the inner tube would not go in because of granulations sticking through the fenestrum of the outer one, and August 16, 1883, she was sent to the Children's Hospital to be under the care of Dr. Langmaid. A non-fenestrated tube was substituted for the one that she was wearing, and the size of that was gradually diminished by putting in a smaller and a shorter one every few days. In three weeks she was discharged well, with the wound closed.

The cause of the difficulty in this class of cases is not always clear, but certain pathological conditions have been proved to exist in some of the cases. The commonest of these causes seems to be the obstruction of the air passage by exuberant granulation masses growing from the trachea walls. The irritation caused by the sharp edge of the fenestrum in the trachea tube is probably the cause of much of the trouble, and twenty years ago, Trousseau called attention to the fact that the fenestrum was a useless and a mischievous thing. No tube of ordinary size completely fills the trachea, and air enough passes around it to allow the child to breathe through the larynx when the tube is stopped, if such a process is thought necessary before the final removal of the tube. Again, there is a tendency in certain cases to the formation of exuberant granulations inside the trachea upon the cicatrix during or after the closure of the wound. These granulations may be of the ordinary type, in masses, or worse, moved to and fro by the current of air passing up and down the trachea; they may become pedunculated, and form one or more laryngeal polypi of the size of a pea attached to the wall of the trachea by a pedicle of variable length. Both these conditions have been several times proved by autopsy, by laryngoscopic examination during life, and on opening the trachea to relieve the dyspnœa caused by them, they have been seen and removed.[1] These polypi are a mere consolidation of granulation tissue structure, although they resemble it but little in gross appearance.[2] Prolonged wearing of the trachea tube is a frequent, but not a necessary cause of this complication.

The class of cases next most common is where the trouble is caused by a spasm of the glottis, the reason for which is very obscure. It is suggested that the cold air, going through the larynx for some time unused to its passage, excites a reflex spasm. Again, that the muscles have been in disuse so long that, unless the constant attention of the patient is directed to the breathing, dyspnœa ensues. This accounts for the fact that children have been able to do without their tubes except during sleep. At any rate, for some reason or other, there is a profound disturbance of the innervation of the larynx in which the mental element is very strong. Death has repeatedly occurred in these spasms. Blachez [3] tells of a case where a boy had been without his tube only a very short time, after wearing it for over a month. He pinched his finger in the door, became angry, and died at once of suffocation. There was nothing found at the autopsy to account for his death. Kriushaber,[4] however, lost a case with the same symptoms, who proved to have had a polypus form on the cicatrix. The child had worn a tube for two months, the wound had closed, and his voice was clear. His father and two other physicians were discussing his case in the room and wished to see the scar. His mother started to undress him, he struggled, a paroxysm of dyspnœa came on, and he died before help could be afforded. Children in this class of cases have been repeatedly deceived into going without a tube by all sorts of devices, such as wearing a tube without any lumen, a shield without any tube, and the like, and even in a case related by Millard,[5] a little girl whose trachea wound had closed, wore her tube around her neck hanging by a string, and every effort to take it from her, caused so serious a paroxysm of dyspnœa that her life was endangered, and it was only by the most persistent effort on the part of Millard that she was enabled to get along without it.

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[1] Koch Archiv für Klin Chir, 1876-77, xx, 544.
Meyerson Wiener Med. Presse, 1884, p. 860.

[2] Ross. Edin. Med. Journal, xxviii, 786.

True post-diphtheritic paralysis of the cords is a third and still less common cause of the trouble. In most cases where there is obstruction a laryngoscopic examination has shown no paralysis, but Gerhardt [6] recorded a case observed during sleep where there was true paralysis after wearing a tube for three weeks. It is often very hard to distinguish this condition clinically from the nervous spasm mentioned above; the paralysis is of course more regular and not likely to be found more than three months after the occurrence of diphtheria.

Collapse of the trachea walls and cicatrical contraction of the trachea and larynx only remain to be mentioned as possible but infrequent causes of this trouble. The latter is not a condition that we should expect to find immediately after tracheotomy, but Steiner found a larynx completely blocked up by scar tissue nine months after operation, and Blachez found one seriously narrowed in three months; on the whole it is a much later complication than the others mentioned. Some cases are recorded where severe dyspnœa in adults was found to be due to a cicatricial band like a hymen stretched across the trachea at the seat of a tracheotomy done when a child. Mougeot, in a report to the French Academy of Medicine, advanced the belief that but few children who had had tracheotomy performed lived to adult life, alleging that they fell victims to obscure disorders the result of a tracheal constriction. In twenty years of inquiry he had never found a military surgeon who had seen a conscript with a tracheotomy scar, and he and all his friends could only recall six instances where tracheotomized children had reached adult life.

The diagnosis between the different conditions is far from easy. Trouble caused by a laryngeal polypus comes late, after the wound has been closed some days, as in Case II, above. The other conditions are apt to be present at the first removal of the tube. The trouble can be located as laryngeal or not by stopping the trachea tube; if air passes through the larynx the obstruction is tracheal, if not it is laryngeal. In Case I the trouble seems to have been due to collapse of the walls of the trachea when not held apart by the tube. The child was very young and the cartilages of the trachea very pliable, air passed through the larynx when the tube was stopped, and the collapse of the trachea walls could be seen when the tube was out and inspiration was attempted. Case II was a typical case of laryngeal polypus forming on the cicatrix in every respect. Case IV was undoubtedly due to the protrusion of granulations into the trachea, and Case III seems rather more like spasm than paralysis. The long duration, the clear voice, and the character of the recovery seems enough to exclude paralysis.

The prognosis in all these cases is at best rather doubtful. Ross [7] reported fourteen cases of polypi after tracheotomy (all that had been recorded up to 1883), and of these four had died before a second tracheotomy could be done, seven had a second tracheotomy (five of these recovered), and two had a third operation and were still wearing tubes. Of twenty-six cases of granulation obstruction collected by Koch[8] five died of suffocation, five wore a tube permanently, or at least many years, and seven got well. The remainder were uncertain. In forty cases from all the causes where a tube had been worn at least two months, collected from the journals and monographs, sixteen were fatal, nineteen cured, and five were still wearing tubes. The proportion of fatal cases is undoubtedly too large, as many cases were merely reported for the sake of the autopsies. The cure was often delayed for years, and the ages of the children in nearly all the cases was from two to four years, one was five and one nine years old. As to the frequency of its occurrence it would be hard to speak; it is evidently a rare complication, and I doubt if there are seventy-five cases on record. Its ætiology is altogether obscure and it is impossible to say in advance which case will offer difficulty in this respect.

The treatment has been as varied as it has been inefficient; here and there some therapeutic proceeding has been followed by a cure, but there will be two other cases where the same thing has failed. The German way is to open the trachea and remove any obstacle that may be found and cauterize the granulations. Other methods have consisted in the passage of bougies and drainage tubes and laminaria tents through the larynx to overcome its spasm and to dilate it. The most rational and by all means the most successful mode of treatment has been the abolition of a fenestrum in the tube and the substitution of smaller and smaller tubes, combined with patient waiting. A large number of the recorded recoveries have been spontaneous, often after the trial of ever so many different treatments and the abandonment of them all. Cauterizing and astringent applications to the granulations has been rarely productive of a cure. Where the trouble is of a mental character of course the indications must be met by suitable treatment.

The complication is altogether a trying and a treacherous one, and the obscurity of the whole subject adds much to its difficulty.

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[3] Gazette des Hop., 1874, No. 35.

[4] Gazette des Hopitaux, 1874, Nos. 84 and 85.

[5] Millard. De la Tracle dans le Cas de croup, Paris, 1858.

[6] Gerhardt Kinderkrankheiten, iii, 2, 326.

[7] Edin. Med. Journal, xxviii, 2, 1883.

[8] Archiv. für Klin. Chir. Bd., xx, 540.

REPORT OF PROGRESS IN GYNÆCOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynæcology, Harvard University.

CURABILITY OF CANCER OF THE CERVIX UTERI BY OPERATIVE TREATMENT.

A recent debate on this subject in the Obstetrical and Gynæcological Society of Berlin, influenced Dr. M. Hofmeier,[1] by new and careful inquiries, to complete the table which he published some two years ago, in order to get at as complete as possible an idea of the ultimate results. His statistics differ from most others in that he gives the percentage of recoveries in the number of operations done up to a given time, excepting both those who died immediately after the operation, and those of whom nothing could be found out. That gave, of one hundred and forty-five operations, one hundred and seventeen which could be made use of, as twenty died from the effects of the operation, and eight could not be found. The following table shows the results:

1 Year.	Part Ext. 88.	Recurrence,	43.	Cured,	45 = 51	%
	Total Ext. 29.	"	15.	"	14 = 48	"
	Whole Number, 117.	"	58.	"	59 = 50	"
2 Years.	Part Ext. 68.	"	37.	"	31 = 46	%
	Total Ext. 25.	"	19.	"	6 = 24	"
	Whole Number, 93.	"	56.	"	37 = 40.2	"
3 Years.	Part Ext. 49.	"	26.	"	23 = 47	%
	Total Ext. 14.	"	12.	"	2 = 14.5	"
	Whole Number, 63.	"	38.	"	25 = 40	"
4 Years.	Part Ext. 29.	"	18.	"	11 = 38	%
5 Years.	Part Ext. 17.	"	11.	"	6 = 32	%

The percentage of cures, according to this table, falls from fifty per cent. after the first year to forty per cent. after the third year, which is to be attributed to the total extirpations, the percentage of cures after this operation falling from forty-eight per cent. to fourteen.

The lower percentages in the fourth and fifth years are not to be attributed to late recurrences of the trouble, but to the fact that at that time the indications for the operation were much less accurate. Hofmeier thinks the poorer results after total extirpation are due to the fact that the form of disease for which this operation is indicated comes later under observation.

Comparing these figures, however, with the results in carcinoma in other localities, they make a very favorable showing. The best results in Billroth's clinic were the cases of cancer of the face, with forty per cent. cures. Inasmuch as the percentage of cures following the supra-vaginal amputation remains about the same for those operated on one, two, or three years previously, compared with the whole number of operations, namely, forty-five per cent., one can conclude that certainly half of the cases which seem suitable for the operation can be cured.

Local return of the disease more than a year after operation is very rare with what he calls cancroid of the vaginal portion, and even then, is always in the cellular tissue. Five cases of late recurrence (four to five years) came under observation, two with completely healthy uterus, as confirmed by autopsy, and in the other three, as far as could be clinically determined, the uterus was free from disease.

In only four of forty-five cases was there local return of the disease after a year had elapsed, and in these cases the condition was suspicious, even before a year had passed. Hofmeier therefore concludes that if a year after operation there is an entirely normal condition, probability of local recurrence is only slight. In only two cases was the return of the disease so limited to the uterus that total extirpation was advisable. One died, and but four months had elapsed since the second had been operated on.

A SIMPLE METHOD OF TREATMENT OF CHRONIC UTERINE CATARRH.

Dr. Kugelmann[2] having found, by personal experience, and that of others, that finely-powdered iodoform snuffed up into the nasal cavity would cut short a nasal catarrh, was led to try similar treatment in cases of chronic endometritis. He uses a slight modification of a male catheter, with the blunt end filled out. Having placed a certain quantity of iodoform in the catheter, it is given the appropriate curve, well oiled, and introduced into the uterine cavity. The external end is then connected with a bulb syringe, and the powder blown into the uterine canal. The catheter is then thoroughly disinfected and dried. If several patients are to be treated the same day, a fresh catheter is needed for each one.

The author has treated numerous patients in this way without any unpleasant consequences. He recommends two applications a week, and has often seen marked improvement after a few treatments. He says, in speaking of its use in the nose, that Calabar Bean deodorizes the iodoform.

CURETTING THE UTERUS FOR THE REMOVAL OF PRODUCTS OF CONCEPTION.

Dr. Felsenreich,[3] in this article, begins by referring to the greater ease and safety with which abortions are treated now, owing to the use of the aseptic tampon. This results more often than formerly in the complete emptying of the uterus. In the great number of abortions, however, there still remain many where the retention of products of conception gives rise to dangerous hæmorrhages, and other unpleasant consequences. The author therefore gives some rules for simple operative procedures, such as can be carried out without assistance, and by the general practitioner. He operated alone in nine out of twenty such cases.

The symptoms which call for operative interference are hæmorrhage, decomposition of the contents of the uterus, and later, local inflammation or general constitutional infection. The question naturally arises, how long to wait if none of these symptoms appear. In exceptional cases, portions of the placenta may be retained and nourished for weeks, and even months, and the author gives details of a case where a portion of the placenta was expelled three months after an abortion without any signs of decomposition. He is of the opinion, however, that it is unwise to wait longer than two days, since after that time the retained products rarely come away spontaneously, and every hour of delay adds to the probability of hæmorrhage or infection. Should the physician not be within convenient distance of his patient, it is well to remove the placenta after a delay of a few hours only.

Of the methods to be employed, the first to be considered is the digital, for with the softened cervix it is the easiest, and gives us the greatest security that all has been removed. To this end, it is necessary that the exploring finger should reach the fundus of the uterus, and it is important to see that the bladder is empty. Antiseptic intra-uterine injections before and after, and an iodoform tampon are the best preventatives of infection.

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[1] Centralblatt für Gynäkologie, No. 6, 1886.

[2] Allgemene Wiener Med. Zeitung, No. 42, 1885.

[3] Allgemene Wiener Med. Zeitung, No. 44, 1885.

When the cervix is too narrow to admit the finger easily, it can often be accomplished by drawing down the uterus with the vulsellum. Schroeder has recommended for such cases the division of the cervix on both sides up to the vaginal insertion, with its subsequent closure by sutures. This is an operative procedure which hardly seems necessary. Slow dilatation by means of tents he considered dangerous, from the additional liability it affords to septic infection.

LACERATION OF THE CERVIX AND TRACHELORRAPHY.

This subject has, in England, only very slowly received the recognition which it deserves. It is therefore all the more gratifying to find its necessity so thoroughly appreciated, and its indications so clearly stated as they are by Dr. Graily Hewitt in a lecture published in the *British Medical Journal* for January 2d, 1886. He first gives brief histories of eleven cases in which he performed the operation, and then gives his views as to symptomatology. The conclusions at which he has personally arrived are expressed in the following summary: "The operation is indicated by the presence of a chronic extensive eversion of the cervical lining; by the presence of considerable hypertrophy of the cervix, the result of laceration, and the more so if hypertrophy and laceration be conjoined; by the presence of chronic, severe local pain, evidently traceable to the irritation of a raw surface less extensive in amount, or traceable to cicatricial hardening at the bottom of the fissure; by the association of marked laceration, with a troublesome displacement of the body of the uterus; by the recurrence of repeated miscarriages in a chronic case; by the presence of an extensive recent laceration, even in cases where no severe symptoms have had time to develop, with the view of preventing (1) cellulitis; (2) the occurrence of cancer; (3) the supervention of symptoms generally; lastly, by the presence of general severe prostration, difficulty in locomotion, etc., obviously traceable to laceration."

The same subject was also treated of in a paper read before the British Gynæcological Society by Dr. R. T. Smith, and reported in the same number of the *British Medical Journal*. He had performed the operation in more than fifty cases, in which he considered the lesion the essential cause of chronic uterine affections, of protracted discharges, of periuterine inflammation, and of other serious disorders. He had operated on several patients from forty-seven to fifty years old, where there had been tenderness, menorrhagia, and various neuroses, with almost immediate and permanent relief. He operated in all cases of laceration in which there was any family history of cancer.

ETIOLOGY OF RETROVERSIO FLEXIO.

Dr. Harrison[4] considers the explanations of the mechanism of the production of retroversio-flexio as usually given in the text-books faulty. The two malpositions may be studied together, as they usually coexist, the versio being a transitory state, which develops into flexio. This condition may occur acutely as a result of increased intra-abdominal pressure, violence, etc., but is usually evoked by causes of a chronic character. Dr. Harrison does not share the opinion of the majority of gynæcologists, that retroflexion is rare in the virgin.

The first cause which he mentions is an arrest of development, which consists in an abnormally long portio-intermedia and short vagina, and especially a short anterior vaginal wall. The ordinary sequence of events is this: With these anatomical conditions when the bladder is full, such a uterus must lie in the axis of the vagina, and instead of a retro-positio, or displacement of the whole uterus bodily backwards, a retroversio is caused. This may became permanent from the supervention of inflammation or other cause, or, which is the more common event, a relaxation of the sacro-uterine ligaments occurs, which gives rise to retroflexio. These ligaments have been very carefully described by Luschka, and more recently by Küstner. If these become relaxed, the vaginal portio comes to stand forward, and the body of the uterus backward, and the emptying of the rectum and the filling of the bladder alter the relation of the uterus to the abdominal viscera, until intra-abdominal pressure affects the anterior, rather than the posterior surface, and the fundus is forced into the hollow of the sacrum.

Parametritis posterior is a common cause of the weakened condition of these ligaments, as after the absorption of the exudation they lose their contractility and elasticity.

Another frequent cause of retroflexio is laceration of the cervix. Here, when the tear is deep, inflammatory processes are apt to be set up in the corresponding side, and usually end in cicatricial contraction. The broad ligaments fail to act freely, the uterus recovers its position of anteversion only slowly, and with a full bladder, instead of the position of backward displacement in toto, it rotates on its longitudinal axis, and hence is more easily pushed over into retroflexio.

He concludes with the proposition that neither prolapse of the vaginal wall, whether due to subinvolution or to loss of the perineum, nor a uterus in a state of subinvolution, is competent to exert such a traction as to cause retroversio-flexio, provided the ligaments that maintain the uterus in situ are performing their normal functions.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

April 10, 1886, the President, Dr. A. D. Sinclair, in the chair.

Dr. J. G. Blake reported a case of

ALBUMINURIC RETINITIS.[1]

Dr. H. W. Williams said that in a considerable number of cases, in his own experience, the prognosis of blindness occurring during pregnancy, and associated with albuminous urine, is nearly always favorable, in the absence of marked retinal lesions; although the loss of vision may be temporarily almost total. Recovery of sight may follow the parturition, or may be considerably delayed; the albumen meanwhile gradually disappearing from the urine.

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[4] New York Medical Journal, April 17, 1886.

[1] See page 49.

A similar loss of visual power, with a like favorable prognosis, may occur after childbirth, as in cases of excessive lactation. But where, during or after pregnancy, marked structural evidences of nephritic retinitis are disclosed by the ophthalmoscope, a favorable ultimate result of the concurrent renal disease is not to be anticipated; although, as is often true in other cases of albuminuric retinitis, intervals of amelioration of the symptoms, and even of improvement in the ophthalmoscopic appearances, may occur; and the fatal termination may be deferred for many months.

In the cases first referred to, induction of premature labor would be needless: in the last-mentioned conditions it would be of no avail.

Rarely, cases also occur, in which anæmic conditions of the retina, or of the brain, perhaps a consequence of flooding during or after parturition, are followed, within a few days, by partial or complete loss of vision, without showing at the time marked changes in the retinal circulation. Here the prognosis is less favorable for complete recovery of the functions of the delicate perceptive structures of the retina.

Dr. Williams has seen a few cases of another grave ocular lesion, sometimes a sequel of parturition: a purulent choroiditis and suppuration of the contents of the globe, from septic intra-ocular thrombosis. If the entire system is not fatally involved in the puerperal infection, only one of the eyes may be thus disorganized; and, in such case, evisceration of the sloughy contents of the eyeball should be done, as soon as the condition is recognized; as a means of relieving the intense suffering, and lessening the chances of further mischief.

Dr. C. E. Stedman said that optic neuritis was sometimes associated with non-puerperal uterine disturbances, and instanced the case of a young lady, sixteen years of age, who had never menstruated and who suffered with optic neuritis of the left eye with impaired vision: there was no albuminuria. After a time the catamenia appeared and re-appeared: the neuritis gradually faded away, and now at the age of twenty-two the patient sees perfectly well.

SALT INFUSION IN THE TREATMENT OF HÆMORRHAGE.

Dr. F. B. Harrington, present by invitation, said that the patient, whose case he had reported to the Society at their February meeting,[2] had entirely recovered and walked out a week ago. The catamenia appeared six weeks after labor. The breasts began to flatten immediately after the birth of the child. Dr. Harrington also referred to a paper he had recently read before the Boston Society for Medical Observation, in which he had tabulated a number of cases reported by others: of fifteen cases of uncomplicated hæmorrhage, fourteen recovered. He also pointed out that the infusion should not be performed too rapidly, on account of the danger of overpowering the heart.

Dr. Strong said that to be successful in restoring the proper volume to the circulation, one must generally use a large quantity of the salt solution: he thought failure was often due to the use of too small a quantity.

Dr. Blake said he had tried transfusion of milk twice, but with temporary relief only. The idea of the salt solution infusion is to give the heart something to work on; but to be of any value the amount should be large.

Dr. H. W. Williams said that this treatment was tried in the Cholera Hospital many years ago, and there was immediate improvement in a certain number of cases: the pulse improved and the sweating diminished; but no cases recovered.

Dr. Harrington thought that not much good was to be expected in cholera, general peritonitis, etc., although favorable results had been obtained in typhoid. But the most appropriate use of salt infusion is in uncomplicated cases of hæmorrhage, in which it is desired simply to add to the amount of fluid in the vessels.

CONGENITAL ANIDROSIS.

Dr. C. E. Stedman spoke of a case of eclampsia in which he gave one-third of a grain of pilocarpine and repeated it twice, but failed to produce perspiration: the hot-air bath was also ineffectual. He learned that the patient never sweat when well. The pilocarpine spent its whole force in the salivary glands. The paitent did well, although the child was lost.

Dr. Davenport said he had seen one such case, which terminated fatally.

Dr. Blake recalled Dr. Clarke's teaching, that it was necessary in fevers to bring the skin down to the sweating point, which is about 101° F., before sweating will take place.

Dr. Sinclair alluded to the peculiar feeling of the skin in those who do not sweat, akin to icthyosis.

Dr. Lyman said that some people never sweat, even in hot weather: such people suffer much more from the heat than those who perspire freely.

Dr. Harrington said there was a myxodematous condition of the skin glands in those who did not sweat.

A NEW NIPPLE-SHIELD.

Dr. Forster showed Davidson's patent, duplex nipple-shield, which possessed certain advantages over other patterns.

THE USE OF PERMENGANATE OF POTASH IN AMENORRHŒA.

Dr. Lyman asked what results members had had with this method of treatment: he had himself employed it very unsatisfactorily.

Dr. Strong said that he had used it largely a year ago with out-patients, but had been able to follow up the cases in only a few instances, and therefore his results were rather limited. He believes that the drug is of no value where there is a deficient development, nor again in anæmia, but is more efficacious than any other drug when the patient is run down: he prescribes two grains four times a day, taken one hour before meals and followed with copious draughts of water. Many patients cannot take the drug before meals, and many receive no benefit from it whatever. He does not believe it has any effect to cause abortion: one patient, who thought she was not pregnant, took it for two weeks without bringing on the flow, and she was subsequently delivered of twins at full term.

Dr. Forster had used half-grain doses of permanganate for months, and with very good results.

Dr. J. Stedman thought the drug might do harm, if long continued.

— Sir James Paget has been elected a foreign associate of the French *Académie de Médecine.*

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[2] Vol. CXIV, No. 9, pago 197, of this Journal.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting June 3, 1886.

Dr. C. C. Lee read a paper on

THE FUTURE INFLUENCE OF SURGERY AND SURGICAL RESOURCES UPON OBSTETRICS.

There was nothing more impressive in the history of medicine, he said, than the rapid inroads made by surgery within the last few years into a domain which had been hitherto regarded as one purely medical.

Having given a *résumé* of the history of obstetrics in general, he presented a view of what had been accomplished in this department from a surgical point of view, and spoke first of Cæsarian section. He described its history, its dangers, and the method of performing it; after which he spoke of the four modifications of it, suggested respectively by Franck, of Cologne, Kehrer, of Heidelberg, Sänger, of Leipsic, and Cohnstein, of Heidelberg.

Keher's plan is described as consisting of a transverse incision through the anterior convex surface of the uterus at the level of the *os internum*, of deep sutures for the muscular walls, and superficial sutures to secure immediate contract of the peritoneal borders, and of strict antiseptic precautions during the operation, combined with subsequent drainage of the abdominal cavity. In order to cover the line of incision with peritoneum, he directs that the latter be separated from the underlying muscle for nearly a half inch from the borders of the wound.

Sänger suggested that, after the removal of the child through the ordinary incision, and a temporary elastic ligature had been placed around the cervix, a narrow strip of muscular tissue should be removed by a section running at first parallel to the borders of the wound by diverging outward as the section approached the peritoneal surfaee. The peritoneum was next to be detached, and allowed to cover the expanded portion of the Y-shaped section. He then advised the introduction of deep uterine sutures to the inner border of the wound (avoiding, however, the decidua), with a second set of superficial sutures designed to secure the contact of the peritoneal borders. This principle of "subperitoneal muscular resection," as it is called, has been practised by Leopold, who found it necessary, however, to make certain modifications in its applications.

The method proposed by Cohnstein was to turn the uterus completely out of the abdomen, and open it from behind; but, so far as Dr. Lee was aware, it had never been attempted in actual practice.

Having quoted from Dr. Robert Harris, of Philadelphia, the highest American authority on the Cæsarian section, to show that the greatest danger about this procedure arose from the delay commonly made in resorting to it, Dr. Lee spoke of the substitutes which had been devised to take the place of Cæsarian section. The first of these was Porro's operation, ovaro-hysterectomy, involving the removal, after the performance of the Cæsarian section, of both uterus and ovaries. This was afterwards modified by Müller, who recommended that the uterus, after the enlarging of the abnominal wound, should be tilted laterally, and withdrawn outside the abdomen previous to section.

The other substitute for the Cæsarian section was laparo-elytrotomy, as suggested and successfully practised by Dr. T. Gaillard Thomas, in which the dangers of opening into the perineum and wounding the uterus are avoided by an incision along the upper edge of Poupart's ligament, lifting the peritoneum, dissecting down to the vagina, dividing the latter transversely, and then, having reached the cervix, extracting the child through the passage thus artificially created. Although the number of cases in which laparo-elytrotomy had been performed, was as yet comparatively small, the proportion of successes thus far had been much greater than had been met with either in Cæsarian section or the Porro or Porro-Müller operation. During his remarks on this subject Dr. Lee quoted a number of statistics, most of them being from Dr. Harris' recent article in the "International Encyclopædia of Surgery."

He next took up the matter of extra-uterine pregnancy, and showed what excellent results had been accomplished by the use of electricity in the earlier months of ectopic gestation, as first successfully employed by Dr. J. G. Allen, of Philadelphia. Having spoken also of the results obtained by elytrotomy and laparotomy in the later months, he went on to treat of lacerations of the cervix uteri due to parturition. Personally, he said, he had never been successful in securing union when he attempted to repair this lesion immediately after labor, and he knew of but one surgeon who claimed to get good results in this procedure. In a large number of cases which were left to nature no subsequent operation was required.

With regard to lacerations of the perineum, however, the case was very different. Here the advantages of immediate closure were so immense that he regarded it as a matter of great importance, and he said that he would now as soon think of leaving a parturient woman with an undelivered child in the uterus as to neglect to sew up a torn perineum. The omission to do this on the part of many practitioners was the source of much suffering and misery, which might have been avoided with very little trouble.

Notwithstanding the fact that operative surgery had already accomplished so much in the field of obstetrics, he felt confident that, judging from the triumphs of the last few years, the results noted would be still more satisfactory in the future.

Dr. Wm. M. Polk said that this was a subject in which he was especially interested. For a considerable period after he commenced the practise of medicine he ranked himself as strictly a physician. In the course of time he became an obstetrician; but he entered upon his work in the department of midwifery with the conviction that it was simply a branch of the physician's art. It was true, of course, that surgical procedures were to be resorted to occasionally; but the much the larger part of the field, he believed, was purely medical. This feeling was to a great extent due to the training which he had received, and especially to the teachings of Professor Fordyce Barker. After a short time, however, he began to appreciate the fact that there were certain points in obstetric practice involving surgical methods, which if, at the present stage of scientific progress in the profession a man were to neglect, he would soon be driven to the wall.

When the practice of midwifery began to be taken out of the hands of women, the obstetrician had to contend against opposition on all sides. He stood, as it were, between two fires, that of the physician, who had become developed out of the apothecary, on the one hand, and that of the surgeon, who was the regular successor of the barber, on the other. It was, therefore, only recently that obstetricians had become alive to the domain which was in reality of vast scope. At one time vesico-vaginal fistula was almost as much a reproach to the profession as cancer; but at the present large numbers of women were perfectly relieved, who formerly would have been left to drag out lives of misery and suffering. But the pendulum once started, was apt to swing a little too far, and it was probable that to-day the obstetric surgeon was not infrequently a little too free with the use of his knife.

As to lacerations of the cervix resulting from parturition, he had seen many serious cases, the rent, perhaps, extending to the vaginal roof, recover perfectly under ordinary treatment, without any operation whatever; and his views on this point were quite in agreement with those of Dr. Lee.

In the English hospitals, more than in this country, obstetricians had had to fight their way surgically against the mere physician, and also to contend against the active opposition of those recognized as general surgeons. But the same had been true to a considerable extent here also, and he was happy to say that the obstetrician, notwithstanding the indifference manifested on the one hand, and the active opposition on the other, had now won for himself an enviable position. He need only point to the matter of abdominal section. Surgeons complained that we opened the abdominal cavity too often. It might be: but that was simply a side issue. Before the obstetricians of to-day lay the grandest problem that could possibly engage their attention, namely, that in connection with the Cæsarean section. He did not doubt that within the next ten years it would be possible to eliminate entirely from practice the most repulsive of all obstetrical procedures, the destruction of the life of the fœtus by craniotomy. When this had been accomplished there would have been achieved the greatest triumph ever won in surgery; and the honor of it would belong to the obstetrician.

Dr. Fordyce Barker said that he did not hesitate to accept the position to which he had been assigned by Dr. Polk. He had long since found out that it was useless to attempt to rival many of his brilliant confreres in the matter of surgical procedure, and therefore, not being a surgeon, he was compelled to get along the best way that he could. He regretted that he had not been able to arrive in time to hear the greater part of the paper of the evening, and therefore he would confine his remarks principally to the topic to which the latter portion of it was devoted, laceration of the perineum.

He was not inclined to accept any new proposition until time and experience had determined its real merits; and for a long time he had held his opinion in regard to the immediate operation for perineal laceration in abeyance. Some years ago, at a meeting of the American Gynæcological Society, a distinguished obstetrical authority had made the statement that any physician who did not close by primary operation, a rupture of the perineum occurring in his practice, was neglectful of his duty. He did not express any positive opinion in regard to the matter at that time; but he hesitated to accept this dictum as correct, and at the present time he was still less inclined to acquiesce in its sentiment.

Dr. Barker then made the announcement that in no case that he had ever attended in his private practice had a secondary operation been performed; and this was simply for the reason that it had never been required. He would not say that he had never had any perineal laceration; but only that none of them were of such a character as to demand a secondary operation. The uterus retained its position perfectly in every instance, and no other bad result occurred from the rupture. He could furthermore say that up to the past winter, in no private case of his had a primary operation been performed.

During the season just closed, from November 1, to May 1, there had been a peculiar epidemic in this city. In consultation he had seen forty such cases; but in his own practice only one had occurred. There were no symptoms till about the sixth day, when an explosion occurred in the system; the temperature rapidly running up to 104, 105, or 106. Only one, however, of the patients that he had seen, died. In the case of the others, the symptoms all disappeared, as a rule, within three days. Out of the entire forty, he was called to see only twenty more than once. It was a significant fact, he thought, that in five out of the forty cases, the primary operation for lacerated perineum had been performed; and in only one of these had union taken place. This was the case in which the patient died. In the one that occurred in his own practice there was some contraction of the pelvis, and he delivered the child from the superior strait with the Simpson modification of Tarnier's forceps. Here there was an extensive laceration of the perineum, and the primary operation was performed; but the union did not take place.

In two cases that he knew of, in which the primary operation was performed, there was profuse uterine hæmorrhage, as a result of shock. After referring to other cases, Dr. Barker said that his mature opinion was, that while there were, no doubt, cases in which the condition of the patient was so favorable that primary union was likely to result from an immediate operation, as a rule it was safer to avoid the operation and trust to absolute cleanliness and watchful care of the patient. He could not, therefore, accept the prevalent teaching of the day; and he was glad to hear Dr. Polk express himself as he did in regard to primary operations. If there was any tendency to septic trouble, he thought the immediate sewing up of the perineum would be likely to be attended with unpleasant consequences on account of the interference which was thus caused to free drainage.

Dr. Barker then went on to speak of the marked influence which the gynæcologist had had upon the surgery of the present time, and in this connection referred to the last paper which Dr. Marion Sims had read before the Academy, in advocacy of laparotomy in traumatic lesions of the abdomen; when the late Dr. James R. Wood, in a forcible address, had argued against this procedure on the ground that while the gynæcologist would carefully prepare his patient for the operation, the general surgeon would be called upon to operate suddenly, and under the most disadvantageous circumstances.

Dr. Malcolm McLean said that he felt compelled to advocate the desirability of the primary operation in lacerations of the perineum. He had found that in those cases in which he sewed up the laceration with soft silk sutures, the result was more satisfactory than in those which were left to nature. He did not believe, however, in using silver-wire sutures, as they were apt to displace the parts; but silk sutures, deeply and carefully placed, were generally efficient and satisfactory, while they had the advantage, at all events, of never doing any mischief, even if they did not accomplish the desired result. Moreover, they served a good purpose by their moral effect in backing up the accoucheur in case union did not take place; for in these days when so much was expected of one in the way of operative surgery, a reflection was apt to be cast upon the medical attendant if he neglected to take proper care of a lacerated perineum. In the main, however, he had found this simple operation of decided practical advantage.

Dr. H. J. Boldt spoke against the primary operation in lacerations of the cervix. If repair did not take place by nature, he said it was easy to perform the secondary operation at any subsequent time that was convenient. He therefore would protest against the immediate operation, unless there was a profuse hæmorrhage which was due to the laceration of the cervix.

Dr. Polk said that he wished to correct a misapprehension on the part of Dr. Barker. His remarks were made in reference to lacerations of the cervix, and not of the perineum.

In answer to an inquiry by Dr. Barker, as to what his present views were in regard to the primary operation for perineal lacerations, Dr. Polk said that he felt constrained to say that he entirely acquiesced in the opinions expressed by Dr. McLean. He would admit, however, that there were exceptions, in which the conditions so well described by Dr. Barker contra-indicated the primary operation. There were many cases in which the accoucheur had had a bad operation, or labor had been unduly prolonged, where the exciting condition of shock would be likely to be followed by hæmorrhage; and here we were perfectly justified in declining to operate. We should always be sure that the patient had not already been subjected to the risk of shock before we made any attempt to repair the laceration.

Like Dr. McLean, he greatly preferred the silk suture, and it was now some time since he had abandoned the use of wire sutures in either primary or secondary operations of this kind. Silk, properly prepared and soaked in a bichloride solution before using, was quite as efficient as silver wire. It was natural that the latter should have been preferred to all others before the days of antiseptic surgery; but now that we could summon antiseptics to our aid, we were able to dispense with the metallic suture, which was always a cause of great pain and annoyance to the patient. The withdrawing of the sutures, also, was always attended with more or less suffering.

In closing the discussion, Dr. Lee said that he differed from Dr. Barker in regard to the advisability of the closure of perineal lacerations. It might be that he had not been able to place his patients under the same favorable conditions for spontaneous recovery which the latter had; but, at all events, he had not been fortunate enough to obtain the same satisfactory results when such cases were left to nature. He then referred to the practice observed in the lying-in department of the New York Foundling Asylum, in which the patients were nearly all primiparæ. In this institution it was the uniform rule in every case, whether the patient was attended by the house-surgeon or one of the visiting physicians, that immediately after labor the condition of the perineum should be ascertained, and if it were found to be decidedly torn, to close the laceration at once. Of course, he did not wish to be understood as advocating an operation when there was merely an abrasion, or a tearing of the fourchette, which is almost universally the case with primiparæ. He did not believe, either, in operating when there was profound shock present from loss of blood, or other cause; but he had very rarely met with such a condition in his practice.

The plan which he adopted was simply to continue the chloroform under the moderate use of which the child was born, and to make an examination of the perineum; when, if a decided rupture was found, the chloroform was further continued, and the laceration repaired by means of silk sutures. Like Dr. Polk, he had not in some time employed silver-wire sutures in either primary or secondary operations. If the posterior wall of the vagina was involved in the laceration, he usually put in two or three cat-gut sutures at this point. The whole operation was a very simple one, and he had never seen shock caused by it. He always performed it under chloroform. In his practice at the Woman's Hospital he had seen many bad results, which might have been avoided, which were the direct consequence of ruptures of the perineum which were allowed to go without operation.

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Recent Literature.

Textbook of Ophthalmoscopy. By Edward G. Loring, M.D. Part I. The normal eye, the determination of refraction, diseases of the media, physiological optics, and theory of the ophthalmoscope. New York: D. Appleton & Co. 1886. 8vo. pp. 274.

Dr. Loring has, without doubt, done more to perfect the ophthalmoscope as an instrument of precision than any other ophthalmologist. This fact, together with his well-known accuracy of observation, bespeak for a textbook on the ophthalmoscope written by him more than casual attention. The book justifies our expectations. The language is clear, concise, and accurate. The arrangement of the book is methodical, and it is evident that care and thought have been spent in its construction. The work has all the freshness of an original treatise, and is a pleasing contrast to many of the hastily-compiled so-called text-books in medical literature.

The first two chapters are devoted to the methods of using the ophthalmoscope. The third chapter contains the anatomy of the fundus of the normal eye. This chapter is unique in English literature. Nowhere else is it possible for the student to find the minute anatomy of the optic nerve, retina and choroid so elaborately described in one work. In fact, so clear an idea of the parts could heretofore only be obtained by those who had free access to the library of a specialist; and the student of the future will encounter fewer difficulties in understanding what he sees in the fundus because this chapter and the one succeeding it have been written. The fourth chapter describes the fundus of the normal eye as seen by the ophthalmoscope. The appearances of the various parts as thus seen are well described, and much attention is given to the description of anomalies, a subject too often slighted in text-books of ophthalmology. Dr. Loring has been wise to give much of this, the first part of his work, to the appearance of the normal eye-ground and its variations, for a lack of this knowledge is, in fact, the greatest obstacle that the learner meets in the use of the ophthalmoscope.

The fifth chapter gives the ophthalmoscopic methods of determining the refraction of an eye. The manner of estimating the refraction by means of the upright image is clearly and succinctly given, but when our author approaches the subject of the method of determining the refraction of the eye by retinoscopy, he seems to be entirely at fault. For the manner of procedure in this method of examination he quotes word for word a foot-note in Donders' classical work on the accommodation and refraction of the eye. That foot-note is an extract from a letter from Bowman to Donders, calling attention to the phenomena seen when a mirror is used as described therein. The manner of using the mirror there described is not the manner of using it in modern retinoscopy. The entire subject is then summarily dismissed in the following manner: "It still remains, however, in my opinion, the most difficult and least satisfactory of any of the methods of determining the refraction of the eye. . . . I would refer the curious, however, and those fond of optical problems for their own sake, to papers on the subject by etc., etc."

It would be no more absurd for an author writing an encyclopedic article on methods of communication by means of electricity, after giving an elaborate description of the telegraph, to dismiss the subject of the telephone somewhat as follows: "There is a means of conveying the human voice, somewhat imperfectly, by means of electricity, over long reaches of wire, but it still remains, in my opinion, the most vexatious and unsatisfactory of all methods of electrical communication, etc., etc." This omission of a procedure in common use and highly esteemed by most English and many American ophthalmologists, whatever might be the author's opinion of it, is strange in a book otherwise so carefully prepared.

In the succeeding chapter the examination of the eye by means of the oblique light and direct illumination by the minor is very clear in its minuteness of description. There is an appendix to the book containing a simple explanation of physiological optics, the theory of the ophthalmoscope, and a description of the ophthalmoscope devised by the author. The book is well printed, on excellent paper, and has a neat binding. It is well and judiciously illustrated by wood-cuts and diagrams; the colored plates are good, but the frontispiece is much the best piece of workmanship of this kind in the book. Taken altogether it is a book that bids fair to become classical. M. S.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease and on the General Management of Children. By Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia, etc., with colored plate and other illustrations. Philadelphia: P. Blakiston, Son & Co., No. 1012 Walnut Street, 1886.

This work on the digestive organs of children is presented to us in most excellent form both as to type and binding, and is a very attractive book. There is nothing especially original in the text and it at times falls short of what we would be lead to expect in a discussion of this important branch of pediatrics; it is however, valuable as stating succinctly what is good in the older books. Possibly the part where the analysis of milk is discussed is not so satisfactory as if the more modern analyses had been taken as a basis for the deductions which are made on this subject, but the chapters on "Investigation of Disease" and "General Management," add much to the value of the book. It is to be noticed that the author does not introduce into his nomenclature the term dyspepsia, classifying instead, the symptoms belonging to this set of cases under the general term catarrh.

Cutaneous Memoranda. By Henry G. Piffard, A.M., M.D. Third Edition. New York: Wm. Wood & Co. 1885.

The endeavor to present a consideration of cutaneous diseases, including syphilis, in 264 pages of 32mo, is an application of the homœopathic principle of infinitesimal doses, to the administration of knowledge, which probably induced the *Homœopathic Times* to say of a former edition of this book that it "Can have no superior." The classification used is a peculiar one of the author, which is based on that of Alibert. Pathology is neglected, as it is in most manuals, while the best thing in the book is the chapter on the treatment of syphilis, which is excellent.

Lectures on Syphilis. By G. Frank Lydston, M.D. Chicago: A. M. Wood & Co. 1885.

These are nine lectures on syphilis, given at the Chicago College of Physicians and Surgeons, in which the views taken of the nature of the disease and its treatment are for the most part rational and proper ones, presented in a commonplace manner.

The Student's Manual of Venereal Diseases. By Berkeley Hill, M.D., and Arthur Cooper, M.D. Fourth Edition. Philadelphia: P. Blakiston, Son & Co. 1886.

The object of this manual is "to place before the student, as concisely as possible, the main elementary facts relating to venereal diseases and their treatment" has been accomplished in 119 pages, 16mo, to which are added thirteen pages containing various therapeutic formulæ. The pernicious advice to administer mercury "whenever a patient has a hard based indolent sore with enlarged inguinal glands" is given, but in general the teaching of the book is good, although too condensed to admit of much perspective in the presentation of the subject.

Venereal Memoranda. By P. A. Morrow, A.M., M.D. New York: Wm. Wood & Co. 1885.

This is the aphoristical statement in 321 pages of 32mo, of the present knowledge with regard to the venereal diseases. The work is well done and it is the best of these "manuals," which are more useful in recalling already acquired and forgotten knowledge than for purposes of primary instruction. G. H. T.

— Professor Breisky, of Prague, has been appointed to succeed Professor Spæth as chief of the second clinic for obstetrics in the Vienna General Hospital.

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THE DIAGNOSIS OF INFECTIOUS DISEASES.

There are no diseases in regard to which the general practitioner of medicine is more certain to be called upon to make a diagnosis than the ordinary infectious diseases, measles, scarlet fever, typhoid and typhus fever, diphtheria, etc. These diseases, it is sad to confess, are most of them endemic in all our large cities and towns. The physician may never see a case of perforating ulcer, of Dupuytren's disease, of Basedow's disease, but he is quite sure sooner or later — and sooner rather than later—to be called upon to say whether some patient has measles or scarlet fever or diphtheria; whether he has typhoid or typhus fever; whether variola or varicella is present, or whether a purpura and urticaria or some other non-infectious disturbance of nutrition and circulation is simulating some one of the infectious diseases.

When summoned for such a decision the responsibility of the physician, moreover, is not limited to the welfare of the individual patient, but the prosperity of a whole community and the lives of many fellow-citizens may be, and often are, dependent upon a correct decision being reached. A failure to recognize a case of essential anæmia is likely to do little harm except to the physician's reputation as a diagnostician, and very possibly not even to that; but calling scarlet fever tonsillitis, or hæmorrhagic small-pox purpura, or *vice versâ*, offers opportunity to consequences calculated to make the doctor wish he had chosen some other calling.

The differential recognition of a typical case of the infectious diseases is generally easy enough, especially if attending circumstances are carefully considered; and it is, perhaps, owing partly to this that they prove less attractive subjects of study and observation to medical students than rarer and less important forms of disease. But the exceptional variations from the type — as shown by the occurrence, for instance, of an eruptive fever without the eruption — are both sufficiently numerous and remarkable to amply repay and exercise professional curiosity and diagnostic skill.

Owing to vaccination with strict separation of the sick and to improved hygienic surroundings of the poorer classes, small-pox and typhus fever have happily become so rare that it may show no want of zeal or intelligence on the part of the young practitioner should he hesitate to pronounce a positive opinion in a given case of either of these diseases. In view of the possible evils to the community of a failure to announce a real case of small-pox or typhus fever, or of the possible penalties of the law falling upon himself as a result of a mistaken announcement of such a diagnosis, the physician — unless very confident of his own judgment — will be wise always to refer doubtful cases to local health officers, and will be fortunate if living where such health officers are competent.

At a recent meeting of the New York County Medical Association a paper was read by Dr. Edward G. Janeway on "Certain Points in the Diagnosis of some of the Infectious Diseases," a report of which will presently be published in the Journal, containing useful hints and suggestions for the differential diagnosis of some of the infectious diseases, and especially of small-pox. The writer's experiences as a health commissioner of the city of New York and as a visiting physician of Bellevue Hospital, have particularly fitted him to speak with profit to his fellow practitioners on such a subject, with a knowledge of their strength and weakness, as well as of the difficulties and dangers they encounter. Instances of confusion between small-pox and measles, scarlet fever, purpura, and syphilis had all fallen under his personal notice.

These points are emphasized as of assistance in establishing a diagnosis in perplexing cases:

First, it is important to know the nature of the disease from which a case not itself possessing positive features has developed.

Second, should the patient have died, this may be done by an investigation of others exposed to the originating case, these having, perhaps, a milder and more characteristic type of the malady.

Third, the result of exposure to an uncertain or malignant case without positive features, may, in some instances be a proof of the nature of the disease.

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GLYCOGENESIS AND GLYCOSURIA.

As we compare the phenomena of nutrition in the vegetable and animal kingdoms, we see that the saccharine group of ternary substances has a predominant part in both, and that metamorphoses in which sugar in some form is the principal factor are essential to all the vital and formative processes. The seed cannot germinate till the starch in its cells is transformed into liquid glucose to nourish the sprouting cotyledons and plumule, in which change, heat and force are evolved by breaking up of the sugar into simple elements: a portion of the undecomposed sugar passes by dehydration into cellulose, the substance of which the tissue of the plant consists. The subsequent growth and development of the plant or tree is a continued repetition of this nutritive metamorphosis; insoluble starch, generated from the carbonic acid and water of the atmosphere by the chlorophyle of the leaf, becomes converted into soluble dextrine and glucose and carried in the sap to distant parts where it is reconverted into amyloid granules and stored away for future use in certain receptacles called by Sachs the "reservoirs of reserve materials (seeds, tubers, bulbs, roots, etc.); a part subserves immediate uses by being turned back into carbonic acid and water, or changed into cellulose and woody fibre.

No less important a rôle is played by this group in the animal kingdom, where, as in the vegetable, starch is converted into sugar before it becomes assimilable. In all mammals the placental blood contains sugar in abundance, and the tissues of the embryo are rich in amyloid principle, or zoamyline.[1] The amniotic liquid of cows during the first months of gestation was found by Prout to contain large quantities of sugar of milk and lactates, and Berzelius deduces from this fact the conclusion: "that the constituent principles of the liquor amnii are destined to be absorbed by the fœtus and to serve for its development, since the same substances are also found in milk."[2] Although, owing to the greater complexity of the animal organization it is not easy to designate all the uses and all the mutations of sugar in the animal economy, yet the calorifacient and force-producing properties of this aliment are universally recognized; there is reason to believe that the force manifested in muscular contraction is derived from the combustion in the muscular substance of a form of sugar; if, moreover, it is not clear how this hydrate of carbon can assist in the fabrication of cells and protein structures, the fact, nevertheless, is becoming acknowledged by histologists that sugar is a formative material of prime value and importance. "When we reflect," says Bouchard, "that all the sugar utilized by the tissues results from the transformation of hepatic glycogen, and that this liver-sugar may derive its origin from certain azotized substances, since in carniverous animals the blood and tissues contain a notable quantity of saccharine material, generated by the liver, it is natural to suppose that if the liver breaks up azotized substances to set free glycogen and then sugar, so also the tissues may reconstitute protein substances by combining sugar with some azotized radical."[3]

But the analogy between the plant and the animal in reference to this special subject goes still farther. As the plant stores up in special depots, such as the roots, bulbs, parachyma of the stem and cambrium, the sugar-forming material, to be a reserve fund for future use, so in the animal, during the first half of fœtal life (Robin), the lungs and muscles subserve the same purpose; afterwards, this function is performed by the liver, which becomes the reservoir *par excellence* of amyloid substance. This amyloid substance, like starch, is insoluble, and its reactions to iodine are similar to those of starch; under the influence of a ferment peculiar to the liver, it undergoes transformation into glucose, and is the source of all the utilizable sugar of the economy.[4] Bernard called this peculiar amyloid matter glycogen, and into this substance all the saccharine products of digestion must be converted before they are available for the uses of the organism. According to the experiments of Pavy (Guy's Hosp. Rep., 1859), sugar is generated in but feeble quantities at a time by the liver, being delivered over to the economy as it is wanted; the relative proportion of sugar in the blood to the whole mass of that liquid, according to the estimate of Bouchard, is as 1.30 to 1,000 for arterial, and .90 per 1,000 for venous blood. The mass total of the blood of a man weighing sixty-five kilograms will lose one gramme of sugar in passing from the arterial to the venous state.

According to the observations of Claude Bernard, the formation of glycogen by the liver is intermittent, alternating with the production of bile. The sugar is formed during digestion; the bile, on the contrary, is produced during abstinence, flowing into the gall bladder and intestine. (These observations were made on snails).[5]

When the quantity of sugar generated in the liver and absorbed by the blood of the hepatic veins exceeds 3 per 1,000 of the whole mass of the blood (Lehmann), it passes into the urine; in other words, glycosuria results. It is, in fact, pathologically certain that the liver may, under certain circumstances, manufacture more glucose than can be appropriated by the economy, and this excess is eliminated by the kidneys.

Although there is still much obscurity as to the precise relationship of the liver to saccharine diabetes, and although profound pathologists like Bouchard look upon this disease as fundamentally a vice of nutrition in the tissues which normally appropriate sugar, yet for all practical purposes, and till better informed, we cannot go far astray in considering glycosuria (with Longet and Lecorché) as a functional perturbation of the liver. The fact that the liver may become subsequently the seat of inflammatory lesions does not militate against the view that glycosuria or diabetes is primarily, in the words of Lecorché, "a neurosis of the liver, in virtue of which the glycogenic functions of this organ are augmented."[6]

Lecorché, (who has lately written a very able work on Diabetes) shows conclusively that this functional disturbance may be of central origin (brain, medulla, etc.), and here Dickinson has pointed at the frequent concomitance of cerebral lesions with diabetes, or it may be of peripheral origin and result from disorder of the hepatic circulation by an obstacle to the respiration, by compression of the liver by direct or reflex irritation of the vaso-motor nerves. (Schiff). The production of artificial diabetes by the introduction of irritating substances (ether, chloroform, turpentine) into the blood of the portal vein, seems to Longet to favor this view. and he adds that, "as for the influence of irritation of the pneumogastrics of puncture of the floor of the fourth ventricle on the production of the sugar by the liver, Bernard himself refers all these effects to a common agency, to the reflex excitation of the vaso-moter nerves of the liver, and to the active congestion of the hepatic vessels resulting therefrom; the more abundant afflux of blood to the organ, the greater activity of nutrition, the increased production of sugar are thus three correlative terms. The puncture of the cord *below* the phrenic nerves slows the abdominal circulation, the vessels of the liver contain less blood, the temperature falls, nutrition is retarded, and sugar production is reduced to a minimum."

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[1] Pavy. The Influence of Diet on the Liver. London, 1859.

[2] Longet. Traité de Phys. II, 446.

[3] Maladies par ralentissement de la nutrition. Chap. XII.

[4] This has been shown by Bernard and other experimenters. See also Bouchard, loc. cit.

[5] Claude Bernard, Physiologie Operatoire, p. 598.

[6] Lecorché Etudes Medécales, Paris, 1881, p. 19.

It is believed that most (if not all) of these facts, experimental as pathological, which have a bearing on glycosuria, will fit into the above theory, which, as before said, makes of diabetes a functional disease of the liver.

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AN ISLAND SANATORIUM FOR CHILDREN.

The opening of the new sanatorium at Lowell Island deserves more than a passing comment. Although the list of our charitable institutions is a large one, yet there has been hitherto organized no attempt to afford the treatment of sea-side air for the class which may be termed the scrofulous and rachitic. The Sea Shore Home has devoted its accommodations and means chiefly to the more urgent care of young children whose death-rate in our heated months is so great from intestinal disorders.

It is well known that in many of the continental countries, sea air is looked upon as almost a panacea for that class of disorders of nutrition which is shown in the disorders of joints and bones.

In France is the famous Hospital at Borck, in parts of Germany the Baltic is utilized, and in Italy the Adriatic and Mediterranean afford ample opportunity for the fresh sea air so needed by the poor, crowded in the narrow streets and wretched buildings of the Italian cities and towns. England has, in a measure, used her coast for the same purpose.

The class presenting such disorders in continental cities has been a relatively large one, but it is only within a comparatively short time, since the influx of a large foreign poor class, that there has been any necessity for such care in our own country. The native American population is almost entirely free from rickets and though not exempt from the tuberculous joint-affections, yet they have as a rule been able to give the requisite care for such cases without organized help.

At the present time, however, our large cities contain besides a very large contingent of Irish and Irish Americans, (a class comparatively free from rachitic disorders, but not from the tuberuclous affections), many Italians and Portuguese, among whom rickets is quite common. Furthermore the conditions of our increasing cities favor the development of such disorders.

The difficulty of utilizing our sea coast for such a sanatorium as has just been opened, is chiefly a climatic one. The sea shore summer on our coast is a short one, involving in such an institution, necessarily a large amount of expense *per capita* and a short time of activity. It is for this reason that the managers of the Convalescent Home for the Children's Hospital placed their institution twenty miles from the coast on high land, in a place where the season is longer, if not as free from July heat. This plan has also been followed by the Massachusetts General Hospital in their Convalescent Hospital at Belmont.

In adopting the sea coast plan for their Institute the managers of the Lowell Island Sanitorium were influenced by the generous offer of the Island fully equipped for a summer hotel, and also by the hope that the beneficial effect of sea air would be especially manifest in children suffering from chronic malnutrition, a belief which is entertained by all medical authorities.

It is to be hoped that the financial support of the Lowell Island plan may be such as to justify its continuance.

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MEDICAL NOTES.

— An exhibition of the usual phenomena of hypnotism by a Signor Donato, which has been attended by a good deal of popular interest and excitement in Milan, has revealed the fact that the Italian authorities have the power, apparently, of putting a legal veto on all such proceedings, if they are pronounced injurious to the subjects of the experiments by medical or scientific experts whom the authorities consult. According to the *British Medical Journal*, the Prefect did thus put an end to the performances of Donato, on the passing of a motion by the Medical Society of Milan, that the experiments were injurious to the nervous systems of those who submitted to them, and referred the matter to the central authority at Rome, who consulted the Upper Sanitary Council of the Kingdom. Baccelli, the President of the Council, having requested and obtained permission to summon some of the leading Italian physiologists and psychologists to the assistance of the sanitary members, a meeting took place, and a resolution was passed to the effect that, for the protection of the liberty of every person, it was essential to prevent experiments which, while abolishing the consciousness of actions, produce morbid psychical effects on predisposed persons, and render them subject to the will of others. The Council says that public displays of hypnotism must produce great disturbance in the nervous susceptibilities of the spectators, and maintains that physiology and clinical experience offer decisive proof of this assertion. It is certain that the Government will empower the local authorities to act on this opinion, and that such experiments as Donato's will be no longer tolerated in any Italian city where the Prefect, or his representative, thinks it worth while to interfere.

— A veracious newspaper story comes from the West of a man, who, in a fit of despondency, swallowed a bottle of somebody's hair restorer, and on his death with obscure symptoms some years later, the whole abdominal cavity was found to be lined with a thick growth of hair, attesting the unfailing action of the hair persuader; which sounds like the chestnut regarding a kindred remedy, which, being accidentally spilled on the floor, produced a door-mat.

BOSTON.

— The Board of Health has finally voted to pass without disinfection a cargo of rags detained at quarantine since May, 1885, the disinfection of which has been a *casus belli* between the Board and the importers during all these months.

— Two cases of yellow fever were removed to the quarantine hospital lately from the forecastle of a brig which had visited the ports of Ponce and Miragoane, Porto Rico. The first case made its appearance when three days out, and the second when eight days out. The brig was detained at quarantine for fumigation and general cleaning.

NEW YORK.

— It was stated July 16th, that the rabbits which were inoculated by virus taken from the dog which bit the son of Dr. Newell, of Jersey City, who was recently treated by the Pasteur method by Dr. Valentine Mott, are dying of hydrophobia. Young Newell has as yet remained perfectly well, though the wound made by the bite has been somewhat slow in healing.

— During the week ending at noon July 10th, 1,111 deaths were reported at the Bureau of Vital Statistics, an increase of 203 over the mortality of the corresponding week last year. This large death-rate is directly attributable to the hot weather, and 683 out of the total number of deaths reported, were among children under five years of age. On July 9th, the highest mortality during the week, was reached, namely, 221.

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Miscellany.

SCIENTIFIC ADVANCE IN THE TREATMENT OF TUMORS OF THE BRAIN.

Experimental research is constantly adding to the resources of the curative art, and is aiding to achieve new triumphs over diseases hitherto beyond reach. A correspondent writes: In a paper read before the Royal Society on June 10th, Dr. C. E. Beevor and Professor Victor Horsley, F.R.S., gave the result of an experimental investigation of the functions of that area of the cortex of the brain, which Dr. Ferrier showed to be the centre for the movement of the upper limb. They found that, when the upper part of this area was stimulated, the movements which followed commenced in the shoulder; that, when the lowest part was stimulated, the movements commenced in the thumb; and that, when the intermediate part was stimulated, the movements commenced in the wrist. These phenomena will be seen to be in agreement with the observations on the priority and the "march" of movements made by Dr. Hughlings Jackson in the particular type of epilepsy to which his name is often applied. It was not long before an occasion arose for applying the knowledge gained by these experiments to the cure of disease. A man was admitted into the National Epileptic Hospital (to which both Dr. Beevor and Mr. Horsley are attached), suffering from Jacksonian epilepsy, by which he had been incapacitated for two years. The fits began in the thumb; and Dr. Hughlings Jackson, under whose care the patient was, believed that the case was one to which the new knowledge with regard to the situation of the centre for the thumb might be applied, although the symptoms diagnostic of tumor were very vague. Owing to the great difference in complexity between the brain of the monkey and of man, there was, when the investigations of the functions of the cortex of the brain were first undertaken, considerable difficulty in applying the results obtained. At the present time however, these difficulties have been almost completely overcome, and the relation of the cranium to the subjacent convolutions has been thoroughly worked out. Mr. Horsley, therefore, although the patient presented no external signs of disease, and the skull had not been injured in any way, was yet able, by measurement, to apply his trephine over the cortical area which contained the thumb-centre. On removing the piece of bone cut out by the trephine on its first application, a tumor was detected immediately beneath. The hole made by the trephine was enlarged, and the tumor, together with the rest of the thumb-centre, was freely excised. As in the case to which reference was made a fortnight ago, Mr. Horsley treated the wound on precisely the same principles as those which he had found to be successful with monkeys after experimental operations, and the result has left nothing to be desired. The operation in this second case was performed on June 21st, and the wound healed by immediate union, so that on June 26th there was only a very small granulating surface, where drainage had been maintained. We find, on inquiry, that a week after the operation, the man was quite well, had had no fits, and was recovering power in the paralyzed limb.— *British Medical Journal.*

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HOMŒOPATHIC TREATMENT OF MORAL INSANITY.

It may interest our readers to read of the definiteness of aim with which the homœopathic practitioner approaches the treatment of moral insanity. In the *Hahnemannian Monthly*, the following, among other therapeutic lists, are given for meeting the whole range of manifestations of this malady:

"*Hatred of work:* Spongia. *Arrogance:* Alum, Arn., Chin., Cupr., Fer., Hyosc., Ipec., *Lach.*, Lyc., Paris., *Platina*, *Stram.*, Verat. *Cruelty:* Anacardium, Crocus, Opium. *Cursing:* Anacardium, Corall. rubra, Lycopod., Nitric acid, Nux, Pulsatilla, Veratrum, *Fault-finding:* Ars., Ipec. *Want of religious feeling: Anacardium*, Colocynthis. *Hard-heartedness: Anarcardium*, Crocus. *Inhumanity:* Anacardium, Opium. *Kleptomania:* Ars., Bryo., Kali carb., Lycopod., Nux, Puls., Sep., Sulf. *Malice: Acon.*, *Anacardium*, Ars., Bell., Canth., Caps., Carb. an., Chin., Cupr., Guaj., *Hyosc.*, *Lach.*, Mosch., Nitr. acid, Natr. carb. Nux., Paris., Petrol., Plat., *Stram.* MORAL FEELING, WANT OF: *Anarcardium*, Bismuth, Conium, Hyosc., *Lauroc.*, Opium, Sabad. *Murder, inclination to:* Ars., Chin., *Hepar, Hyosc.*, Lach., Stram. *Slanderous disposition:* Ammon. carb., Anacardium, Ars., Bell., Borax, Hyosc., Ipec., Lycopod., Nitr. acid, *Nux*, Petrol., Sep., Stram., Veratr. *Mental derangements from alcoholic liquors:* Ars., Bell., Carb. v. Chin., Coff., Digit., Hell., Hyosc., Lach., Merc., Nitr. acid, Nux, *Opium*, Puls., Stram., Sulf."

"Clotar Mueller, in his most excellent repertory, gives:

"*Maliciousness:* Canth., Carb. an., Coff., Mosch., *Niccolum*. Nux, Petrol., Phos.; with destructiveness: Mosch. *Great obstinacy: Calc., Carb. Easily angered:* Mangan. acet., Sulf. *Cursing:* Bell., Borax, Hyosc., Lycopod., Nitr. acid, Nux, Plumb., Stram., Verat., Magnes austr. *Loss of feeling: Anacard., Opium, Stram. Homicidal desire:* Ars., Cann., Hyosc., Sec. cor., Stram."

We await with interest an improvement in the already exceptional virtue of the inhabitants of that region where the State of Massachusetts has expended so large a sum of money for the introduction of this treatment; for it is not to be supposed that the influence of these remedies will be expended entirely within the walls of the asylum in which they are administered.

It has been noticed that in some of our public institutions where *spongia*, as an outward application, is strongly indicated, there is a well-marked hatred of work. But the curative influence of the treatment has not hitherto been brilliantly successful. We trust that the internal application will not altogether supersede the external. In the same article, it is advised that, as hereditary moral obliquity is, in most cases, due to alcohol, it might "be advisable to fight fire with fire, and give our patients a very high potency of alcohol." The popularity of this treatment will evidently depend on whether or not the high dilutionist carries the day.

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HEADACHE IN SCHOOL CHILDREN.

Prof. N. J. Bystroff has examined 7,478 boys and girls in the St. Petersburg schools during the last five years, and found headache in 868, that is, 11.6 per cent. He states that the percentage of headache increases almost in a direct progression with the age of the children, as well as with the number of hours occupied by them for mental labor; thus, while headache occurred in only five per cent. of the children aged eight, it attacked from twenty-eight to forty per cent. of the pupils aged from fourteen to eighteen. The author argues that an essential cause of obstinate headache in school children is the excessive mental strain enforced by the present educational programme, which leaves out of consideration the peculiarities of the child's nature, and the elementary principles of scientific hygiene. The overstrain brings about an increased irritability of the brain, and consecutive disturbances in the cerebral circulation. Professor Bystroff emphatically insists on the imperative necessity for permanently admitting medical men to conferences of school-boards. Of palliative measures, he mentions methodical gymnastics, mild aperients, in well-nourished children, steel in the anæmic, bromides, inhalations of oxygen, and, in severe cases, a temporary discontinuance of all studies.—*British Medical Journal*, May 15, 1886.

Correspondence.

MAINE.

One of the most noteworthy of recent events in medical circles in this State was the celebration of the fiftieth anniversary of the entrance into practice of the venerable Dr. Hiram H. Hill, of Augusta. All through Maine Dr. Hill has been recognized for many years as a surgeon of rare ability, of great originality of resource, and of marked devotion to his profession. In any community he would have occupied an exalted position. That he is not known widely in other parts of the country is doubtless due to the fact that he has not put on record in the medical journals the principal results of his large experience and his fertile ingenuity. Unfortunately his modesty, perhaps associated with a dislike for the quill, has confined his fame within narrow limits; but, where it has extended, he has long been acknowledged to be a master-spirit, and it was peculiarly fitting that his associates should make a public demonstration of their respect and affection for their Nestor on the completion of his half-century of active work in medicine.

The arrangements were nearly completed before Dr. Hill was informed of the design, and, with characteristic shrinking from notoriety, he immediately endeavored to effect a stay of proceedings. But his friends were not to be denied the pleasure which they had anticipated, and on the 15th of June, a banquet was spread at the Augusta House, and physicians from far and near gathered to do honor to their eminent guest. There were present, also, many prominent gentlemen from other walks of life, and the assembly was truly representative of the best element in the community.

The dinner was very elaborate, the bills of fare were printed on heavy silk, and the tables were decked with a profusion of flowers. On the wall behind the aged surgeon who is now seventy-six years old, was an oil portrait, for which he sat nearly half a century ago. Dr. H. M. Harlow, of Augusta, for a generation the superintendent of the Maine Insane Hospital, presided, and Dr. A. P. Snow, of Winthrop, acted as toast-master. The toast to "Our Honored Guest," called forth a speech which recited in quaint phrase and with much dryness of humor the leading incidents of a medical career, which, in its fidelity to noble purposes, could well be taken as a pattern by any young man. It showed how the country lad, born with an insatiable desire for knowledge of natural history, studied the living beings around him without the guidance of books or master, learned much about their structure and functions without having names for their parts and processes, and struggled laboriously up from the position of office-boy to that of deserved prominence in the medical profession; and it was all told so simply and unaffectedly as to prove that genius and humility are by no means incompatible. Then came toasts with the following titles, responded to by the gentlemen indicated: "Fifty Years ago," by Hon. J. W. Bradbury, formerly United States Senator; "The Medical School of Maine," by Prof. Alfred Mitchell, of Brunswick; "The Physician and Surgeon as a Factor in the Administration of Law," by Hon. Artemas Libbey, Justice of the Supreme Court of Maine; "The Maine Medical Association," by Dr. A. J. Fuller of Bath; "The Maine General Hospital," by Dr. S. H. Weeks, of Portland; "The State of Maine," by Hon. O. D. Baker, the Attorney General; "The Surgeons of Maine in the War," by Dr. A. Garcelon, of Lewiston, formerly Surgeon-General of the State. The speakers all united in their testimony to the professional skill, the kindness of heart, the unswerving integrity, and the high standard of honor which Dr. Hill has always manifested. Judge Libbey dwelt particularly on the qualities which are necessary to make medical expert testimony valuable, and credited Dr. Hill with that soundness of learning, unbiassed judgment, unpurchasable honesty and candor of statement, which are often conspicuously lacking in alleged experts. The exercises concluded with the reading of a poem, written for the occasion by Dr. F. H. Gerrish, of Portland. The celebration was greatly enjoyed by all present, and every one must have been impressed with the value of such social gatherings in the cultivation of good-fellowship. Dr. Hill is still actively engaged in practice, and enters on the second half century of his professional work surrounded by hosts of friends, and cheered by the love and reverence of the community in which he has spent a long and most useful life.

For some years efforts have been made to effect the removal of the Medical Department of Bowdoin College, often known as the Medical School of Maine, from Brunswick to Portland. The Maine Medical Association at its annual meetings has often expressed its desire in this regard, and the Bowdoin Medical Alumni Association has repeatedly taken action in the same direction; and it is proper to state that these votes have not been prompted by residents of Portland, but are the expression of the unbiassed opinion of physicians of other places. Last year both of these associations sent committees to the governing boards of the college to urge immediate action, and the entire medical faculty went before the boards to plead the cause of removal. The overseers were convinced by the arguments, but the trustees were not; therefore, favorable action could not be taken. This year further efforts were made, but with no better result. The principal reason for desiring a change is that sufficient clinical advantages are not possible in Brunswick, while Portland has the Maine General Hospital, the City Hospital, the Dispensary, and other facilities for the bedside instruction of students. The profession is properly demanding a hospital connection for every medical school, and none can long prosper in these times which does not heed the call.

There is no wish to remove the Medical School from the guardianship of Bowdoin College; none would deplore such a separation more than the members of the faculty, who fully appreciate the value of the prestige which sixty-six years of excellent work have given the institution. Already nearly all the members of the faculty reside in Portland, and it is obvious that they could do more satisfactory work if the school were to be removed to that city than is now possible, with their field of instruction nearly thirty miles away from their homes. The accommodation of the profession, however, is not at all a consideration; the good of the institution is what is kept steadily in view in seeking the proposed removal. That it will be effected within a few years there is very little doubt; but first a deal of timidity, of local prejudice, of unreasonable conservatism must be overcome in the board of trustees.

The annual meeting of the Maine Medical Association this year was marked with fewer incidents of interest than is usual. A number of creditable papers were read and remarkable cases reported. Dr. Frederick C. Thayer, of Waterville, pronounced a scholarly and attractive oration on the progress of medical science. The physicians of Portland gave an elegant entertainment to the out-of-town members at the Falmouth Hotel, which was much enjoyed. The principal officers for the ensuing year are as follows: President, Dr. J. B. Walker, of Thomaston; first vice-president, Dr. F. C. Thayer, of Waterville; second vice-president, Dr. H. E. Hill, of Saco; secretary, Dr. C. D. Smith, of Portland; treasurer, Dr. A. S. Thayer, of Portland; chairman of board of censors, Dr. M. C. Wedgwood, of Lewiston; orator, Dr. E. M. Fuller, of Bath.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 10, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Malarial Fevers.	Diph. and Croup.
New York	1,439,039	1111	689	43.47	10.14	34.02	1.17	4.86
Philadelphia	971,363	498	235	24.80	13.20	18.40	2.00	2.20
Brooklyn	690,000	441	292	38.43	7.00	30.86	.67	2.49
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	188	91	22.26	11.13	16.43	.53	2.65
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	274	174	42.12	9.36	33.12	—	1.80
Cincinnati	325,000	140	64	26.27	7.81	20.59	1.42	1.42
New Orleans, June 5th,	238,000	118	35	11.05	13.60	5.95	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	113	46	14.08	14.96	8.02	2.64	.88
Pittsburgh	190,000	133	85	32.25	8.25	18.00	3.00	.75
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	54	27	28.60	5.55	25.90	1.85	1.85
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	23	8	34.80	21.75	30.45	—	—
Charleston	60,145	59	24	11.83	16.90	6.76	—	—
Worcester	68,383	25	14	28.00	16.00	24.00	—	—
Lowell	64,051	38	25	31.40	5.20	28.60	—	2.60
Cambridge	59,660	20	8	20.00	15.00	5.00	5.00	5.00
Fall River	56,863	39	33	64.00	2.56	56.32	—	2.56
Lynn	45,861	—	—	—	—	—	—	—
Lawrence	38,825	19	6	35.82	14.52	29.04	—	
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	6	50.00	—	50.00	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	18	9	22.22	11.11	5.55	5.55	—
Holyoke	27,894	15	7	39.99	13.33	26.66	—	—
Chelsea	25,709	10	0	30.00	—	20.00	—	10.00
Taunton	23,674	5	1	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	6	1	16.66	—	—	—	—
Brockton	20,783	8	1	25.00	37.50	12.50	—	—
Newton	19,759	7	2	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	10	2	30.00	—	—	—	—
Waltham	14,609	3	1	33.33	—	33.33	—	—
Newburyport	13,716	4	1	25.00	25.00	25.00	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 3,367: under five years of age 1,887: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,146, consumption 354, lung diseases 258, diarrhœal diseases 882, diphtheria and croup 106, whooping-cough 31, typhoid fever 30, measles 28, scarlet fever 25, malarial fever 22, cerebro-spinal meningitis 12, puerperal fever seven. From typhoid fever, Philadelphia 10, New York, District of Columbia and Pittsburgh three each, Lawrence two, Brooklyn, Boston, Nashville, Fall River and Charleston one each. From measles, New York 14, Baltimore, eight, Pittsburgh two. Brooklyn, Boston, Cincinnati and Salem one each. From scarlet fever, Pittsburgh seven, Philadelphia six, New York five, Brooklyn and Cincinnati two each, Cambridge, Holyoke and Brockton one each. From malarial fever, New York seven, New Orleans six, Brooklyn, four, Baltimore two, Philadelphia, District of Columbia, and Charleston one each. From cerebro-spinal meningitis, New York six, Boston two, District of Columbia, Charleston, Worcester and Fall River one each. From puerperal fever, New York, Philadelphia, Boston, Cincinnati and Lynn one each, Pittsburgh two.

In the 18 cities and greater towns of Massachusetts, with a population of 918,161 (population of the State 1,941,465), the total death-rate for the week was 23.39 against 18.76 and 18.02 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending July 3d the death-rate was 17.6. Deaths reported 3,064: infants under one year of age 752; acute diseases of the respiratory organs (London) 197; measles 115, diarrhœa 86, whooping-cough 67, fever 30, scarlet fever 20.

The death-rates ranged from 13.3 in Salford to 30.4 in Preston; Birmingham 15.9; Blackburn 22.7; Bradford 17.8; Hull 18.3; Leeds 19.4; Leicester 15.7; Liverpool 18.2; London 15.8; Manchester 26.9; Newcastle-on-Tyne 21.9; Nottingham 18.7; Portsmouth 20.7; Sheffield 16.8; Sunderland 14.7.

In Edinburgh 19.7; Glasgow 24.2; Dublin 22.9.

For the week ending June 27th, in the Swiss towns, there were 49 deaths from consumption, lung diseases 16, diarrhœal diseases 14, measles 13, diphtheria and croup three, typhoid fever three, small-pox 2, whooping-cough and erysipelas each one.

The death-rates were: at Zurich 13.4; Geneva 11.1; Basle 16.6; Berne 17.0.

The meteorological record for week ending July 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, July 10, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 4	30.115	67.2	78.3	59.6	89.0	76.0	66.0	77.0	N.	E.	W.	6	10	12	O.	C.	C.	—	—
Monday,.. 5	30.133	68.0	82.0	63.9	64.0	85.0	90.0	79.7	N.W.	S.E.	E.	6	11	1	C.	C.	C.	—	—
Tuesday,.. 6	29.879	81.8	95.4	64.1	73.0	25.0	72.0	56.7	W.	W.	W.	10	17	14	C.	C.	C.	—	—
Wednes., 7	29.748	84.2	94.4	73.4	62.0	40.0	47.0	49.7	W.	W.	N.	18	24	10	C.	C.	F.	—	—
Thursday, 8	29.957	72.7	81.3	70.3	61.0	66.0	47.0	58.0	N.	E.	N.	12	12	8	C.	F.	C.	—	—
Friday, ... 9	30.050	66.9	71.4	61.4	52.0	73.0	71.0	65.3	N.	N.E.	E.	12	14	5	C.	O.	F.	—	—
Saturday, .10	29.875	62.7	66.6	60.1	83.0	84.0	86.0	84.3	E.	N.E.	S.E.	3	8	3	O.	R.	C.	.1¾	Inap.
Mean, the Week.	29.979	71.9	95.4	59.6				67.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 10, 1886, TO JULY 16, 1886.

Page, Charles, lieutenant colonel and surgeon. Leave of absence further extended one month. S. O. 156, A. G. O., July 8, 1886.

Gibson, Joseph R., major and surgeon. Granted leave of absence for three months, to take effect about August 1st. S. O. 158, A. G. O., July 10, 1886.

Waters, Wm. E., major and surgeon. Ordered for duty as post-surgeon, Fort Spokane, Wash. Ter. S. O. 112, Department of Colorado, July 2, 1886.

Gardner, Edwin F., captain and assistant surgeon. Granted leave of absence for two months. S. O. 158, A. G. O., July 10, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JULY 18, 1886.

Wentworth, A. R., assistant surgeon. Detached from the United States Steamship "Brooklyn," and wait orders.

Norton, Oliver D., assistant surgeon. Detached from the United States Steamship "Minnesota" and ordered to the United States Steamship "Brooklyn."

INFORMATION WANTED. ARSENIC IN SKIN DISEASES.

The Editor of the "Journal of Cutaneous and Venereal Diseases" is desirous of ascertaining to what extent arsenic is used by American physicians in the treatment of skin diseases, and also the results of their experience as to its therapeutical value. Information upon the following points is requested of every physician who reads this:

Are you in the habit of employing arsenic, *generally*, in the treatment of skin diseases?

In what diseases of the skin have you found arsenic of superior value to other remedies?

What ill effects, if any, have you observed from its use?

What preparation of the drug do you prefer, and in what doses do you employ it?

Address, Editor of

Journal of Cutaneous and Venereal Diseases,
66 *West 40th Street, New York*.

BOOKS AND PAMPHLETS RECEIVED.

On Disorders of Digestion: Their Consequences and Treatment. By T. Lauder Brunton, M.D., etc. London: Macmillan & Co. 1886.

Report of Proceedings of the Illinois State Board of Health. Quarterly Meeting. June 29–30, 1886.

Cincinnati College of Medicine and Surgery. Announcement of the Fifty-Second Regular Session. 1886–87.

A Guide to the Examination of the Nose, with Remarks on the Diagnosis of Diseases of the Nasal Cavities. By E. Cresswell Baber, M.D., London, Surgeon to the Brighton and Sussex Throat and Ear Dispensary. With Illustrations. New York: J. H. Vail & Co. 1886.

Detroit College of Medicine, Detroit, Mich. Announcement for Session of 1886–87.

The Twenty-fifth Annual Report of the Professor of Physical Education and Hygiene, to the Board of Trustees of Amherst College, June 29, 1886.

The "Medical Record's" Position Editorially, as to the Value of Exsection for Hip Disease. By W. R. Whitehead, M.D., of Denver, Colorado. (Reprint from Denver Medical Times.)

Fourth Annual Announcement of the Northwestern Ohio Medical College, Toledo, Ohio. Session of 1886–87.

Hydrophobia. M. Pasteur and his Methods. A Critical Analysis. By Thomas M. Dolan, M.D., F.R.C.S., Author of "The Nature and Treatment of Rabies or Hydrophobia," etc. London: H. K. Lewis, 136 Gower Street, W.C.

Erysipelas and Other Septic and Infectious Diseases Incident to Injuries and Surgical Operations Prevented by a Method of Atmospheric Purification. Second Presentation. With an original and new wood-cut, and with a Report of Cases of Laparotomy. By David Prince, M D., Jacksonville, Ill. (From the American Practitioner and News for April 3d and 17th, 1886.)

Original Articles.

IODOFORM POISONING.[1]

BY ELBRIDGE G. CUTLER, M.D.

I. In October, 1876, a lady about sixty years of age came under my charge with cancer of the uterus involving the upper part of the vagina in front and behind. The history was of over a year's duration. The patient was very feeble and confined to her bed. On examination the uterus was found to be fixed, and an indurated nodular crater of considerable size was discovered in place of the cervix. There was much foul smelling, sanguineo-serous discharge constantly, and considerable pain and occasionally hæmorrhage. After exhausting other resources she received suppositories of cocoa-butter containing five grains each of powdered iodoform, one every second day for twelve days (six in all) to diminish the pain and discharge and to change the character of the odor. After a few days the patient became somnolent, the pulse got high, she refused food, and emaciation set in. Soon somnolence gave place to coma, emaciation progressed and she died in collapse thirty-three days after my first visit, ten days after the last suppository. There was a little albumen in the urine (drawn by catheter) but plenty of urea. It was not until some time afterward that I believed that the iodoform had proved poisonous.

II. A few months ago in a congenitally neurotic patient, with post-partum diphtheritis of the vagina and uterus, I introduced six of Mitchell's iodoform uterine bougies, containing five grains each. One was placed in the afternoon of the first day, one morning and night of the next day, and one in the morning of each of the next three days. Within an hour of having the first bougie she complained of feeling faint, and having a bad taste in the mouth; the sensations recurred several times in the night. After the second bougie this faintness increased in frequency and was attended with nausea and vomiting. After the fourth she got despondent, tearful, melancholy, was sure she never should recover, and that her baby would die. There was nausea, anorexia, and profuse sweating, and she was very sleepy most of the time. After the fifth, she fainted several times, the pulse remaining, good, full, and about eighty in the minute. She took final leave of her friends preparatory to death, did not wish to recover, and once asked to be chloroformed immediately "and make an end of it." All this time she was getting along well in other respects. She vomited two or three times and slept the greater part of the day and night. After the sixth suppository the faintness recurred and the mental depression increased. As there was no longer any appearance of diphtheritis the iodoform was omitted and the symptoms gradually disappeared. The first to depart was the nausea, faintness and bad taste, afterward the sweating, and lastly the mental depression, which continued the longest. It was fully two weeks after the last bougie before all traces of its action had disappeared.

On a somewhat extended search I have found the following cases of poisoning recorded; they are all which were accessible to me. The first thirty were collected by Koenig, who was the first to make any extended observations:

(1) Man, aged eighteen, tuberculous abscess above the knee, opened. One gramme iodoform applied. After a few days appearance of symptoms. Delusion that he was being pursued, attempts to leave his bed. Recovery after a few hours.

(2) Woman, forty-seven, carcinoma of breast, amputation. Iodoform and iodoform gauze applied. Lister dressing. On the fourteenth day the first symptoms began; they were ill-humor, delusions. Recovery on the twentieth day.

(3) Woman, thirty-two, fistulæ in caries of the ileum, scraped out. Filled with iodoform. Symptoms seventh night, leaves bed, attempts to escape, afterward morose behavior and perverted answers to questions. Recovery (day not stated).

(4) Man, sixty-two, caries of foot, Pirogoff's operation. Iodoform and iodoform gauze, Lister dressing. Ninth day restlessness and anxiety, leaves bed, talks confused nonsense. Recovery on the seventeenth day.

(5) Woman, twenty-four, osteo-sarcoma of jaw, resection. Iodoform and iodoform gauze, then iodoform blown in for seven days. On the eighth day sleeplessness, anxiety, fear of being carried off. Gradual improvement after removal of iodoform.

(6) Man, thirty-five, extensive burn of skin. Every second day powdered with iodoform. On seventh day, "after two dressings," talked confused nonsense, absolutely sleepless, gets out of bed, tears bed-clothes. Recovery about the twenty-eighth day.

(7) Man, sixty-eight, tuberculosis in foot, amputation. Fifty grammes iodoform (in three dressings). Eighth day restlessness, gets out of bed. Rapid disappearance of symptoms.

(8) Man, forty-eight, fracture and dislocation of ankle-joint. Drainage of foot. Sixty grammes iodoform. Beginning on the eighth day there was for three weeks confusion, restlessness, getting out of bed, stupor. Recovery about the twenty-eighth day.

(9) Woman, seventy-two, senile gangrene. Sprinkled with iodoform (thickly). After a time (not stated) temporary lethargy, delirium, defective memory, hallucinations. Death in six weeks later.

(10) Woman, seventy-three, carcinoma of rectum, operation. Eighty to one hundred grammes iodoform applied, drainage. On the eighth day restlessness, recognizes nobody, does not know where she is, jactitation. Recovery in about four weeks.

(11) Man, sixty-eight, hypertrophied prostate, no operation. Suppository of iodoform and cocoa-butter, then iodoform-vaseline per rectum. Eighth day after using the salve, confusion, delusion of being pursued, gets out of bed, attempts at flight. Recovery "after a few days."

(12) Man, seventy-one, galvanocaustic amputation of penis. Sprinkling of the scab and eight days later the wound with iodoform. Twelfth night, boisterous, during the day refusal of food. Suicidal tendencies. Recovery after "four or five days."

(13) Woman, fifty-four, tuberculosis of foot, curetting of the medullary cavity of tibia. Forty grammes iodoform placed in the cavity. Lister dressing. On the eighth night, confusion and restlessness, afterward hallucinations and refusal of food. Recovery on the eighteenth day.

(14) Woman, twenty-two, ichorous ulceration of the knee-joint, amputation. Iodoform powder and iodoform gauze. Fifty grammes to the eighteenth day. On the nineteenth night attack of insanity, hallucina-

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[1] Read before Boston Society for Medical Improvement, May 10th, 1886.

tions. Eight days later severer attack of insanity, distracted. After twenty-seventh day improvement (gangrene occurred later).

(15) Man, twenty-one, arm injured by machinery, at first conservative surgery, then exarticulation. At first forty to fifty grammes iodoform. After operation fifteen to twenty grammes. Two days after operation restlessness, confusion. A few days after the first application of the iodoform, anxiety, afterward insanity. Recovery fifteen days after the operation.

(16) Woman, forty-three, carcinoma of breast, extirpation. Fifty to eighty grammes iodoform. Lister dressing. Night following tenth day, restlessness, bad language, then insanity, distracted. Death on twenty-first day. (Erysipelas?)

(17) Man, sixty-one, arthritis deformans, resection. Iodoform eighty grammes. Ninth day restlessness, involuntary discharges, stupor, and on seventeenth day maniacal attacks. Death on twentieth day. Collapse, œdema of lungs.

(18) Man, seventy, tuberculous sequestrum of femur, extraction. Ten to fifteen grammes iodoform. Lister dressing. Ninth day delusion of being pursued. Afterward insanity. Death about the twenty-first day (in the third week after the outbreak).

(19) Woman, sixty-nine, extirpation of breast. Iodoform (quantity not stated). Healing by first intention after nine days. On tenth night restlessness, attempts at flight. Seventeenth day maniacal attacks. Involuntary discharges. Death on twentieth day. Œdema of lungs.

(20) Man, sixty-one, caries in knee, amputation. Iodoform and iodoform gauze, six days later twenty-five grammes iodoform. On the eighth to the tenth day restlessness at night. During the day sleep, pain; eleventh day hallucinations, afterward refusal of food, death on twelfth day. Collapse.

(21) Woman, sixty-seven, tuberculous elbow-joint. Resection. Ten to fifteen grammes iodoform. Lister. Fourteenth day restlessness, confused talk, refusal of food, afterward attempts at flight during the night. Twentieth day clearer consciousness. Death the twenty-first day. Œdema of the pia.

(22) Man, sixty-three, resection of upper jaw. Powdered with iodoform, the following day blown in. Seventh day restlessness, delusion of being followed, hallucinations. Death the twenty-eighth day. Pneumonia symptoms.

(23) Man, twenty-two, complicated fracture of the leg, large incision. Every three days dressing with about fifteen grammes iodoform. Fourth night sleeplessness, restlessness, anxiety; by day rational; loss of appetite, wretched appearance. Improvement after the omission of the iodoform.

(24) Woman, forty-six, struma, extirpation. Iodoform: Lister dressing on the fifth day. Second day repeated vomiting, pulse 164, later more vomiting. On the fifth day dyspnœa, great restlessness, confused talk. Death the sixth day. Œdema of lungs. Autopsy showed fresh pneumonic nodules.

(25) Boy, five, large abscess from coxitis, incision. Sixty grammes iodoform. (Day on which symptoms began not stated). For six weeks somnolence and great perspiration. Recovery after six weeks.

(26) Boy, six, periarticular abscess of the hip-joint, scraped with sharp spoon. Twenty grammes iodoform, then iodoform pencils daily. (Day not given). Apathy, tearfulness, thirst, vomiting, fever, bloody urine. Recovery on eleventh day. Daily change of dressing.

(27) Girl, fifteen, suppuration of hip-joint, resection. Thirty grammes of iodoform, from the fourth day. Lister. Second day vomiting, nausea. Third day flexion contractures. Fourth day sopor. Involuntary discharges. From the fourth day no improvement of the nervous symptoms. Later septicæmia and death.

(28) Boy, fourteen, cheezy abscess of the hip-joint, resection. "Coffee-spoonful" iodoform, iodoform gauze. Second day restlessness, fever, stupor, stammering, and vomiting, and on the third day unconsciousness. Death on the third day. Fatty liver and kidneys.

(29) Man, fifty-one, empyema. Every third day gelatine-iodoform pencils. Cross-grained, iodoform smell and taste, anorexia, dulness of head. Thirteenth night, insanity and insane ideas, getting out of bed. By day confounding of known people. Recovery on the sixteenth day.

(30) Man, forty, stretching of sciatic nerve. After sixteen days iodoform. After two days sleeplessness and increasing restlessness. Seventh to ninth (?) day insanity, getting out of bed. Recovery on the sixteenth day.

(31) Man, sixty-one, iliac sinus after operation for hernia, incision. Three days iodoform on lint, then blown in for twenty-one days. Third day emaciation began. Nineteenth day low feeling, anorexia, dull, heavy, drowsy, disinclined to move, wandering at night, emaciation. Twenty-third to thirtieth day tongue dry, brown, emaciation, pulse 130, temperature 101.6°, hebetude, exhaustion. Three weeks later recovery out of hospital. Iodoform omitted at discharge.

(32) Man, thirty-eight, extensive burn. Iodo-vaseline after four days. Second day pulse and temperature increased. Sixth day delirium, pulse 130, temperature 101.6°, weak. On tenth day restlessness, attempts to pull off bandages and bed-clothes. On following days symptoms continue, emaciation, temperature decreases, pulse increases and is feeble. Symptoms last till end of sixth week when coma came on. Death at end of seventh week. Autopsy shows petechiæ over left lung and posterior surface of heart, congested lungs and broncho-pneumonic nodules.

(33) Child, four, extensive burn. Iodo-vaseline on lint. Second day sleepless at night, screaming suggestive of meningitis; drawing up of legs, intense headache. Temperature 104.6°, pulse 160. Screaming continued, grinding of teeth, unconsciousness, extremely restless, eyes twitching and rolling during the next three weeks, rapid pulse. Iodoform then omitted. Recovery complete on the twenty-second day after omission.

(34) Boy, eleven, lumbar abscess, incision, caries of spine. Wall of abscess wiped out with a sponge filled with iodoform. Drainage tubes. Iodized wool dressing. Third night restlessness, rise of temperature (104.6°) and pulse 138. During the next two days vertical headache, drowsiness, nausea, smell of iodoform in breath. The wounds then washed out with carbolic wash and carbolic gauze substituted for iodoform gauze. Recovery by twenty-fifth day.

(35) Woman, adult, chronic inflammation of middle ear, local application. Small ball of cotton dipped in powdered iodoform and applied, reapplication after twenty-four hours, renewed in three days. Within twenty-four hours dizziness, drowsiness increasing by

fourth day to a very marked degree, pulse almost imperceptible, breathing very slow and superficial, fainting. Iodoform washed out. Perfect recovery on the second day.

(36) Man, sixty-two, white swelling of knee-joint, scraping out of fistulæ. Twenty grammes iodoform put in fistulæ. Iodoform wadding, changed on fourth and eighth days with fresh application of ten grammes iodoform. Ninth night delirium, pain in knee, temperature 101° nearly, iodine reaction in urine, urine passed in bed. Two days later completely unconscious, refused to swallow and bit teeth together on attempts to feed him, tightly closed eyes on attempts to open same, contraction of neck muscles on attempts to move head forward, forearms convulsively contracted, twitchings in arms, increase of pulse and temperature to 140 and 103° respectively, sopor. Death on the twelfth day. Autopsy shows lepto-meningitis and splenic tumor.

(37) Woman, fifty-eight, cancer of breast, amputation and removal axillary glands. Iodoform gauze dressing, six grammes iodoform dusted in the wound. Third day apathetic, complains of feeling bad on being loudly addressed, appetite poor, tongue coated. Iodine reaction in the urine intense. Increase of somnolence and apathy. Trembling movements of hands, attempts to brush things away from face, pulse 120 to 130, temperature normal. Anorexia, pupils do not react, restlessness, increasing weakness, sopor. Death twenty-three days after the operation. Pia injected, œdematous, fatty liver, cloudy kidneys.

(38) Man, eighty-two, carcinoma at angle lower jaw, removed. Four grammes iodoform powder covered with wadding. Second day very restless, excited, tries to get out of bed, answers only on loud calling, complains of great headache, thirst; next day unconscious, jactitation, muscular twitchings of face. Fourth day pupils contracted, pulse 130, temperature 100.1°, occasional convulsive movements of the upper extremities. Fifth day involuntary discharges into bed, no iodine salts or albumen in urine. Great weakness and emaciation. Death on sixth day after the operation.

(39) Man, fifty-seven, tuberculous ostitis of ulna, resection. 150 to 200 grammes iodoform packed into wound. Lister. Second day large quantity of iodine salt in urine, frequent pulse, excited, restless, delirium at night suggestive of delirium tremens, gets out of bed. Third day strikingly quiet, lies for hours motionless, gives perverted answers to questions with stammering speech, urine and fæces passed into bed. Fourth day hard to rouse, small frequent pulse, neck muscles stiff. Seventh day unconscious, pulse and respiration more rapid, appearance of œdema of lungs, coma. Death on the ninth day. Slight chronic leptomeningitis. Fatty degeneration of heart, kidneys and liver.

(40) Woman, sixty-three, periarticular abscess of left knee, incision, curetted. 100 to 150 grammes iodoform. Lister. Fourth day great headache, depression, loss of appetite, malaise, pulse quickened, temperature normal. Ninth day iodine reaction in urine. Eleventh day depression increased, constant somnolence, answers at random or not at all, urine involuntary. Twelfth and thirteenth day apathetic; difficult to rouse, lisps or stammers in answering, next day more comatose, stools and urine involuntary, temperature rising, symptoms continue to sixteenth day when there was œdema of the lungs. Death on sixteenth day. Heart muscles very flabby, spotted yellow and reddish brown, fatty degeneration of epithelium of cortex of kidneys.

(41) Woman, sixty-one, double kolporrhaphia with perinæorrhaphia. Three to four grammes iodoform, strip of gauze. Third day (sixty hours) refuses food and medicine, fears poisoning, tries to get out of bed, delirium later, bites, scratches, cries out, hallucinations of sight, sleepless. Fifth day pupils narrow but react, thumbs turned in, neck stiff, mouth tightly closed, trismus exists, face strongly congested, eyes prominent and bright. Sixth day marked stiffness of neck, regular beating with the forearms, temperature 101°, pulse 80 full and strong, collapse in night, death. Death on the sixth day. Atrophy of one kidney, sclerosis of vessels of brain which presumably acted as predisposing conditions of poisoning.

(42) Boy, fourteen, chronic abscess in front of hip-joint, opened sinus. Washed out with ethereal solution of iodoform, iodoform and eucalyptol bougies introduced every second day each containing five grammes. After a few days great depression, nausea, vomiting, pulse rapid and feeble 130 to 160, frontal headache, dull mental state, dull pain in epigastrium, emaciation, irregular pyrexia. Nine bougies used (about 5.0 grammes). Recovery in three weeks.

(43) Man, twenty-four, laryngeal phthisis. .06 grammes iodoform blown in daily. Thirtieth day irregular and intermittent pulse, fulness at stomach, faintness, exhaustion. Recovery immediate on leaving off iodoform.

(44) Woman, young, ecthymatous ulcerations. Scabs removed on head, surface sprinkled with iodoform powder. In a few hours scalp and neck swollen, quick pulse, nausea, restlessness. Recovery on seventh day.

(45) Woman, forty, syphilitic ulceration under chin. Ointment of one gramme iodoform to thirty, applied on lint. Ninth day face red and swollen, covered with vesicles. Twelfth day temperature 102°, delirious, weak and irregular pulse. Recovery on sixteenth day.

(46) Man, twenty-three, abscess under shoulder-blade. Iodoform 15.5 grammes applied in sinus in seven days. Seventh day delirious, temperature 104°, pulse 120, soon unconscious, stupor, pupils dilated, sphincters relaxed, sleepless, attempts to throw off bed-clothes, impaired muscular power, does not understand spoken words, symptoms lasted five days. Urine scanty, 1036 specific gravity, concentrated, no albumen or sugar, iodine reaction. Recovery on the eleventh day.

(47) Woman, forty, cancer of breast, secondary operation undermining skin. Twenty-five grammes iodoform powder strewn over wound and under flaps. Lister. Second day restless night, face very red, peculiar brightness in eye, pulse 110; next day very much excited, restless, cries out, spits all round herself, refuses food, constantly tries to pull off the bandages, appeared like one with acute mania, albumen and iodine in urine. The next few days unless under the influence of morphia, raved, tried to get out of bed, spat about, pulse 120 to 130, temperature 102°. Death on the ninth day.

(48) Woman, aged forty, ovariotomy (carcinoma). Partial removal. Twenty-five grammes iodoform powder put in the abdominal cavity. Lister. In one hour the temperature became 101.5°, patient became somnolent, feeble pulse, respiration very frequent and super-

ficial, sweating, sleepless night, vomited, very restless, thirst, pulse 140, respiration 32, pupils contracted. Next day same, iodine in urine. Death at night of third day with symptoms of dyspnœa.

(49) Man, forty-eight, sarcoma of thigh; amputation; drainage-tube. Drainage-tube rolled round in iodoform powder and placed. Renewed in two days. Second day, pulse 120, temperature normal; recognizes no one, does not know where he is; tries to tear off dressing, picks at bed-clothes, attempts to jump from bed. Symptoms last five days. Gradual recovery after the fifth day.

(50) Woman, fifty-eight, extirpation of rectum. A little iodoform rubbed into the cavity of the wound. Second day, restless at night; constantly talking, hallucinations; pulse rapid; end of week, loss of consciousness. Symptoms last three weeks. Recovery gradual after three weeks.

(51) Boy, of three; necrosis of tibia, operation. Wound filled with iodoform; dressing changed three times. After a time (day not stated) there was high fever, somnolence; on the skin of the body, flexor surfaces of both arms, and the inner surfaces of the thighs, a diffuse, bright red color, disappearing under pressure; islands of normal skin. Iodine, albumen, and epithelial casts in the urine. Recovery in three days. Renewal of treatment in a month brought on the same symptoms. The patient gradually became accustomed to iodoform, and was dismissed cured.

(52) Man, thirty-six, caries of rib; operation. Iodoform pencil in sinus every second day. On the tenth day, itching of the extremities; next day, urticaria nodules on the skin of the body and the extremities, from the size of a lentil to that of a three-cent piece, and of red color. Iodine in the urine; no albumen. Recovery.

(53) Woman, fifty, recurrent carcinoma of breast; operation. Thick layer of iodoform powder, nine inches long, reapplied after four days. On the tenth day, delirium at night, unconsciousness, patient emaciating, pulse weak, frequent, no fever, constant delirium, refuses food. Eleventh day, temperature 101.5°, collapse, death two days later. Death on the thirteenth day.

(54) Woman, of forty, collection of pus in knee-joint; incised, abscess in popliteal space and thigh, incision, drained. After two days, iodoform powder in wounds, and two pencils in sinuses (one gram. each). After a time (not stated), delirium, anxiety, idea of being followed, hallucinations, emaciation, feeble, rapid pulse, high fever for three days. Recovery in a few days.

(55) ——(?) Empyema necessitatis, incision. Lister. Pencil of two-grm. iodoform inserted twice. On seventh day, delirium, maniacal, pallor, anxiety; must be confined in a canvas jacket; temperature 101°, feeble pulse. Recovery in three or four days.

(56) Woman, of twenty-six, gummata on head and clavicles, ulceration, necrosis. Pills of iodoform 0.1 each (two to four daily), internally up to 42.0 grms. and unguentum iodoform. one part to ten, applied indefinitely. On the eighth day feels faint and weak on legs, double vision, lasting two and a half days, then vomiting, deep sleep, anorexia, lasting two days; then loud outcries, getting out of bed, confused talk, inability to seize and hold objects, double vision, headache. Symptoms improve, but last nine days. Recovery gradual after ninth day.

(57) Woman, sixty-nine, syphilitic necrosis of hard palate. Iodoform pills, 0.1 grm. each, two to four per diem (5.0 grammes had been taken in seven days). On the eighth day, somnolence, does not know what she says, walks clumsily and uncertain, like a drunken person; sleepless at night, headache, coma two days later, occasional incontinence of urine, which contains iodine, mild delirium, gets out of bed. Recovery gradual after the twelfth day.

(58) Woman, sixty-six, cancer of rectum; excision. Iodoform powder applied with finger to wound; iodoform gauze. In about thirty-six hours, cloudy sensorium, answers merely "yes" to all questions, difficult to feed, temperature normal, urine drawn by catheter, normal. In the night crying out; tries to get up. Next day, symptoms more intense; urine cloudy, contains enormous quantity of albumen, dark and transparent casts, epithelium, pus, fat drops. Later, iodine reaction in urine. Next day, restless, soporific, weak pulse (Pilocarpin injection, followed by much sweat and saliva; latter and urine contain iodine). Stiffness of extremities on attempting to flex them, extension easy; tracheal râles. Next day condition worse, pulse weak, intermittent, and irregular, cyanotic color, cold sweat. Transfusion, two hundred grams. blood, no reaction. Death on the fifth day. Autopsy reveals nothing.

(59) Woman, forty-seven, sarcoma of thigh; exarticulation. Iodoform gauze on third and seventh day, and on eighth day iodoform placed in wound. Gauze renewed thrice. On the sixteenth day, pupils dilated, pulse 164, passes fæces in bed, feels bad. End of day, jactitation, cries out, groans, speaks indistinctly, pulse very small, respiration very rapid; *transfusion of solution of common salt*, 500 *grams.;* pulse improves in strength; rate, as before, 160; continues very restless, and cries out terribly; early next morning have to apply canvas jacket; refuses food. Next day, fed by tube. Gradual improvement and recovery on fourth day.

(60) Man, forty-three, caries of rib; excision. Iodoform powder (amount not stated) to wound. Tenth to twelfth day, lassitude, anorexia, vomiting, diarrhœa; temperature normal, pulse rapid. Soon delirium, springing out of bed; tears off dressings, hallucinations, urine contains albumen and much iodine. Iodoform removed; delirium ceased, but patient remained lachrymose and rapidly emaciated. Death on —— day with dropsical symptoms.

(61) Woman, forty; lupus in face curetted. Iodoform powder (quantity not stated) to wound. In a few hours, vomiting, headache, nausea, iodoform smell and taste, diarrhœa, anorexia, lachrymosity, sensorium free, sleepless, rapid and striking loss of strength, pulse small and rapid, temperature 101° to 102°, urine contains iodine, removal of iodoform. Recovery in thirty-eight days. Recurrence of symptoms on renewal of treatment.

(62) Woman, twenty-four and a half, chronic uterine inflammation; six grams. iodoform (daily, .1 for sixty days) in the vagina. At length (day not given) depression, pulse 120, sopor. for three days; then excitation, gets out of bed, delirium, confusion, lasting some days. Recovery gradual.

(63) Man, twenty-one, suppurating glands in groin after urethritis; opened. Iodoform dressing for eight days. On the ninth day, temperature 102°; headache, somnolent, restless, dreams; omitted dressing; re-

covery. Renewed dressing, same symptoms. Recovery in few days.

(64) Man, fifty-eight, blow on head, wound five centimeters long. Wound filled with iodoform powder. On the tenth day, some fever, anorexia, headache, lasting several days; then confused, talking nonsense, attempts to escape; mania later. Quick pulse, iodine in urine. Iodoform omitted and bicarbonate of potash given internally. Recovery complete in seven days.

(65) Man, thirty-six, amputation of leg for diseased ankle. Lister. One week later, iodoform powder sprinkled on for four days, then syringed out with iodoform ether once. On the thirteenth day, breathlessness, anorexia. In the night, unconscious, by day absent-minded; tremor, temperature normal, pulse small, 120; strong iodine reaction in urine; next night escapes from bed; diminished consciousness. Recovery about the nineteenth day.

(66) Boy, of three, resection of hip; chiselling out acetabulum. Cavity washed out with saturated solution of iodoform in ether; then Lister dressing and sublimate gauze. Week later, again washed out and iodoform powder put in. In a few hours from the first application, vomiting, lasting fourteen days; great quantity of iodine in urine, little appetite. Hallucinations of sight by night, less frequent by day. Much emaciation; gradual improvement. Recovery from poisoning after a few weeks. Death from the disease some nine months later.

(67) Man, seventy-two, exarticulation for caries of toe-joint. Iodoform powder applied (small amount). On the eighth day, headache, melancholia; next day, excitation, getting out of bed. Recovery in eight or ten days.

(68) Man, old, crush of hand. Considerable iodoform powder, bound up with charpie. In a "few days," restlessness, confusion of thought, talks nonsense. Recovery shortly (not stated when).

(69) Woman, fifty-six, cancer of breast; extirpation. Iodoform powder (no statement of amount given). On the ninth day, "symptoms similar to meningitis," somnolence. Death on twentieth day. Fatty degeneration of heart, kidneys, liver; œdema of brain.

(70) Woman, fifty-two, cancer of breast; extirpation. Eight to ten grms. coarse crystalline iodoform inside, ten grms. outside. Dressing changed five times; Lister. Before the third day no appetite, refuses food. On third day, sopor, small pulse, moderate fever. Iodoform omitted ninth day; unconscious, cries out very much, excitement alternates with sopor; emaciation. Death on the thirteenth day. Œdema of pia, fatty degenerated liver, cloudy kidneys, granular heart muscle.

(71) Woman, thirty-seven, amputation of breast. Ten grms. iodoform, iodoform gauze. On the fourth day, delirium by night, weakness of memory by day, apathetic. Eighth day, excited, delirious, involuntary urine and fæces. Eleventh day, unconsciousness, thready pulse, exanthema of small, red spots on whole body, diarrhœa. Death on thirteenth day. Fatty degeneration of heart, liver, and kidneys.

(72) Woman, fifty-eight, amputation of breast. Ten grms. crystalline iodoform. Third night, restlessness, delirium, does not recognize attendants; symptoms continue and increase by day, gets out of bed. Sopor, thready pulse. Death on (?) day. Fatty degeneration of heart, kidneys, liver.

(73) Woman, forty, carcinoma of breast; parts of sternum and ribs removed. Twenty-five grms. powdered iodoform in wound. On the second day, after an unquiet night, acute mania in the morning, tears off bandages, escapes from bed, spits, cries out, refuses food; temperature 102°, pulse 120 to 130. Death on the ninth day.

(74) Woman, forty, carcinoma of ovary; partial removal. Twenty grms. crystalline iodoform to pedicle. Symptoms began on the first day with languor, somnolence, great restlessness, constant talking. Death on third day.

(75) Woman, forty-one, echinococcus of liver; opened. Fifteen grms. crystalline iodoform put in cavity. After twelve days, iodoform gauze. About the third week, great restlessness, dyspnœa, crazy ideas. Death in the fourth week.

(76) Woman, seventy, carcinoma of breast; amputation. Iodoform (amount not given) strewed on wound several days. After a few days, insane ideas. Rapid recovery after washing out iodoform.

(77) Woman, of fifty, carcinoma of breast; amputation. Iodoform (amount not stated) strewed into a place where secretion was retained a few days after operation. On the same day mania began, and lasted for eighteen days. Recovery after the eighteenth day.

Of these cases, the first thirty, as before stated, were reported by Koenig; also cases 19 and 50. Cases 31 to 34 are by Beck, 35 by Bermann, 36 and 37 by Czreny, 38 by Langsteiner, 39 and 40 by Henry, 41 by Schwarz, 42 by Clark, 43 by Coomes, 44 by Fifield, 45 by Goodell, 46 by Hayes, 47 and 48 by Hoeftmann, 51 and 52 by Zeissl; 53, 54, and 55, by Lingen; 56 and 57 by Oberlaender, 58 and 59 by Kocher, 60 and 61 by Pick, 62 by Seeligmüller, 63 by Schiffmann, 64 by Behring; 65, 66, 67, 68, by Kramer; 69, 70, 71, 72, by Hoepfl; 73, 74, 75, 76, 77, by Falkson.

(To be continued.)

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A CASE OF STRICTURE OF THE ILIUM; LAPAROTOMY; STRICTURE INCISED, AND THE INCISION CLOSED WITH THE CŒCUM; DEATH ON THE NINTH DAY; AUTOPSY.[1]

BY GEORGE W. GAY, M.D.,
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E. G., aged seven and a half years, had been troubled all his life with a most obstinate constipation. It was noticed soon after birth, and it had grown worse each year, until at the time of the operation nothing had passed his bowels for thirteen days, although faithful and persevering effort had been made by means of cathartics and enemata to produce an action. About half of the patient's life had been spent in painful endeavors to empty the bowels. One or two days in every week were devoted to frequent dosings of cathartics aided by injections. A great deal of severe pain always accompanied these measures, besides occurring at frequent intervals between whiles. It was seldom that more than one or two days passed by without the patient's suffering more or less from the violent peristaltic action of the intestines. The abdomen was much distended, and the peristalsis was plainly visible, accompanied by loud gurgling, which apparently threatened an immediate dejection. The pain was principally referred to the right iliac region, and the peristalic movements were seen to begin there and to extend across the abdomen to the left side, and return. There were two marked features in the case, namely, the absence of vomiting, and the fairly well nourished condition of the boy.

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[1] Read before the Surgical Section of the Suffolk District Medical Society, February 3, 1886.

The patient was thoroughly examined under ether without detecting any obstruction, or abnormal condition to explain the obstinate constipation; strange to say that for a month after this etherization the bowels moved every day without aid. The constipation then returned, and soon became more intractable than ever, so that finally, medicine had no effect upon it. A second etherization failed to afford any relief, and it was soon evident that, unless the difficulty could be overcome by an operation, death would probably occur in the near future.

The absence of vomiting and of emaciation, the seat of the pain, and the origin of the exaggerated peristalsis, all pointed to the right iliac region as being the seat of the obstruction. After a careful consideration of the risks and future prospects in the case, the parents finally requested that an attempt should be made to relieve the patient.

The operation was performed November 24, 1885. Present and assisting Drs. Cheever, Post, Burrell, Kohr, and Timmins. Ether having been carefully given on account of the great distension of the abdomen, an incision, three or four inches in length, was made just above the symphysis on the median line. This was afterwards enlarged by a transverse cut extending toward the righ anterior spine of the ilium. A little ascitic fluid escaped from the cavity of the peritoneum, but there were no adhesions nor other signs of peritonitis.

The stricture was readily found located in the ilium at its junction with the colon. It was about an inch in length, and the calibre was half an inch in diameter, while that of the intestine above was four or five inches. The colon and rectum were full of hard fæcal matter, and the former together with the cœcum was very closely attached to the posterior wall of the abdomen, and the omentum in the vicinity of the stricture was considerably hypertrophied. The small intestines were distended with gas and semi-solid, well digested fæces.

The stricture was divided on that surface, which was free from omentum, by means of a longitudinal incision about two inches in length, extending from a point well above the constricted portion downwards into the cœcum. The bowel including the ilio-cœcal valve, was first laid open throughout this extent. Fæces were prevented from entering the peritoneal cavity by sponges packed about the wound in the bowel.

The large opening into the intestine was closed in the following manner: The ends of the incision were brought together, and the adjacent serous surfaces on each side of the wound were firmly secured in position by means of numerous interrupted, "iron-dyed" silk sutures, which did not include the mucous membrane. The wound having been closed throughout its whole extent in this manner the line of union was nearly transverse instead of being longitudinal as was the direction of the original incision. By this manœuvre the cœcum was brought up and set into the site of the stricture, not unlike a gusset, with the effect of giving a calibre of about one and a half inches to the constricted portion, a capacity nearly as great as that of the colon itself. It would seem as if ample room was thus afforded for the easy transmission of the intestinal contents into the colon, but as the autopsy showed, nothing ever passed this point after the operation.

Owing to the proverbial imperfections of the atomizer the operation was not carried out under full antiseptic precautions, but great pains were taken to keep up the body heat by means of flannels wrung out of hot carbolized water, and frequently applied to the abdomen, and the exposed intestines. The "toilet of the peritoneum" was made as carefully as after an ovariotomy, and the wound was closed by two separate and distinct sets of silk sutures, one for the peritoneum, the other for the skin, muscles and fasciæ. No drainage tube was inserted. Adhesive straps, iodoformed gauze, cotton wadding, and a flannel swathe completed the dressing.

The after treatment was most faithfully carried out by Dr. T. W. Kohr. The shock was not alarming, although the operation lasted over an hour. Very little vomiting followed. Morphiæ in doses of one-sixth of a grain was given subcutaneously every five or six hours, or as often as was required to control pain, and procure rest and quiet. The patient took food and stimulants fairly well till towards the last, yet he wasted very rapidly. Flatus escaped in the natural way on the second, as well as on several succeeding days, but no fæcal matter made its appearance. The urine, scanty at first, became more free, and was never suppressed. Two days after the operation there came symptoms of collapse; the pulse was 180, respiration sighing, skin pale and cool. Under a vigorous application of stimulants and external heat he rallied, so that on the fourth day the pulse was 112, respiration natural, and nervous system quiet. He took notice of his surroundings and called for his playthings. On the sixth day violent peristalsis set in again, and as nothing came from the bowels a careful trial was made with the cathartics, which had formerly proved more or less efficacious, together with enemata of hot water, turpentine, castor oil, gruel and so on. An escape of a moderate amount of flatus was the only result. As the upper part of the abdomen was greatly distended, a No. 2 aspirator needle was introduced in three places giving exit to a considerable quantity of gas, thereby somewhat relieving pain, respiration and restlessness. On the eighth day this measure was repeated, but without relief to the enormously distended intestines. The symptoms were at this time most unpromising; pulse quick and weak, delirium, surface bluish, features pinched, and emaciation very marked. The question of opening the wound in the intestines, and allowing their contents to escape thereby, trusting to a future operation to close the sinus, had been carefully considered. In view of the facts that an artificial anus in the inguinal region gives no end of trouble in keeping the parts clean, and that it would in all probability be difficult, if not impossible, to ever close the fistula without reëstablishing the constriction, this procedure was not urged, and the parents decided, very properly as it seemed to me, not to have it done. Death from peritonitis and exhaustion took place on the ninth day after the operation.

The autopsy was made twelve hours after death. That portion of the wound situated at the junction of the two incisions in the abdominal walls had given way under the great distension on the last day of the patient's life. The rent was about two inches in extent, but there was no escape, nor even protrusion of the intestines. There was a circumscribed peritonitis at the seat of the operation, limited to a space of four or five inches in diameter. The bowels were loosely glued together and to the abdominal walls over this area. There was no suppuration. The wound in the intestines was completely closed, although the union was not very firm. The line of incision was covered with lymph and a piece of omentum. Not a particle of fæcal matter had escaped into the peritoneal cavity. On opening the bowel above the seat of stricture, and passing in the fingers, the diameter of the intestine at that point was found to be fully an inch and a half, and yet none of the soft semi-liquid contents above had passed into the colon. The stricture had been relieved, and the normal calibre of the ileum had been restored, and yet the obstruction persisted after as before the operation. This fact was evidently due, not to constriction, but to a localized paralysis of the peristaltic action of the intestine. How much of this paralysis was due to the recent and limited effusion of lymph, and how much to the surgical lesions of the intestines, it is not easy to determine.

It is a well-established fact that adhesions sufficiently firm to interfere with peristalsis will produce as complete an obstruction of the bowels as will a contraction of their calibre. Fatal cases of strangulated hernia in which only a small portion of the intestine was involved, so little, in fact, that the capacity was very slightly diminished, have not infrequently been observed. However vigorous may be the peristaltic action, it seems to be powerless to drive the intestinal contents through a portion of paralyzed bowel, even of a very limited extent. This fact was well shown in a case of imperforate rectum lately under my care. Although the septum had been incised and was kept fully dilated with the finger, yet after a few days nothing came through, and the child died in two weeks with all the symptoms of obstruction: a distended belly, vomiting, and emaciation. At the autopsy, the rectum was found to be patent throughout, but greatly distended, and containing no fæces. It was evidently paralyzed by its lesions at the seat of obstruction. There was no peritonitis, nor other adhesions. The principal danger of a strangulated hernia is due to the arrest of peristaltic action, in other words, to the local paralysis of the vermicular action of the intestines.

In considering the case which forms the subject of this paper, the following questions may very properly be asked: first, why was not the constricted portion of the ilium cut out, and the remainder stitched to the colon? This point received due attention at the time of the operation, and was rejected for the following reasons: the parts involved were so vascular and so firmly fixed in position that the operation would have been much prolonged, much more severe, attended by very considerable hæmorrhage, and the shock and exhaustion would have been much more profound, which, in a child, is of great importance. It is very doubtful if the patient would have survived the operation. Besides no more space in the capacity of the bowel would have been obtained, nor would the intestines have been any more lax and movable upon their attachments. In short, it is not easy to see any advantages in this plan over the one adopted.

Second, why was not the colon dissected up, and freed from its attachments? Any one who will recall to mind the extensive surface by which the colon is held in its place, will readily understand the difficulties and dangers attending such an undertaking. And were this possible, the new adhesions, which must necessarily have taken place, would in all probability have been as troublesome as was the original condition.

The only other alternative, that of an artificial anus in the groin, had been disposed of before the operation was undertaken.

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OPERATIONS FOR THE CURE OF INTESTINAL OBSTRUCTION.

BY HENRY O. MARCY, M.D.

Case I, 1881. Mrs. M., aged about sixty, a very stout woman of medium size. Had long been a sufferer from a large umbilical hernia, which, at times, gave great trouble and pain in reduction. When summoned, she had been three days in severe suffering, all means at reduction having failed. Vomiting, stercoraceous, and patient apparently in extremis.

Tumor nearly the size of the double fist. Skin tense and discolored. The thin sack was filled with necrosed omentum, in the centre of which was a loop of small intestine about three inches long, nearly black; it was slightly fissured on its mesenteric border. The omentum was sutured beyond the line of demarcation and cut away; the intestinal loop was returned with some misgiving as to the safety of its condition. The ring admitted the tips of two fingers only. The sack and ring were removed by an eliptical incision and closed, as after an ovariotomy. Cure ensued without complication, and patient is well to present time.

Case II, 1881. Mrs. C., aged fifty-six; under the care of Dr. White, of East Somerville. When summoned, found a large, fleshy woman, who had suffered for some days from intestinal obstruction, caused by an enormous umbilical hernia, size of fœtal head. The vomiting had been stercoraceous for thirty-six hours. The sac was sphacelated, and it was a question if operative measnres were permissible. This having been determined, as the only hope, the contents of the sac, consisting of necrosed omentum and a long loop of small intestine, were exposed. The omentum was cut away, as in Case I, and seven inches of the small intestine, including a V-shaped piece of its mesentery attachment. The ends were carefully sutured with tendon used in the over-and-over stitch, care being taken, as far as possible, to include a double fold of only the peritoneal covering in each stitch. This was followed by a second row, just outside the first. Marked peristalsis supervened immediately on returning to the abdomen. The sac and ring were cut away by eliptical incision and closed, as before. Patient rallied slowly, and on the following day was comfortable. Death occurred in about sixty hours.

Autopsy showed the joined ends of the bowel encapsuled in an effusion of lymph, but no peritonitis. Death seemed incident to the prolonged suffering and exhaustion prior to operative, rather than surgical interference. Specimen, when shown to Cambridge Medical Improvement Society a little later, held water at point of juncture.

Case III, 1882. Mrs. B., colored, aged about forty. Had been well until within six months. Nursed her baby until within a few weeks. Had emaciated rapidly, and for some weeks vomited nearly all food taken.

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[1] Read before the Surgical Section of the Suffolk District Medical Society, February 3, 1886.

Was seen by a number of physicians and her condition considered hopeless, as one of cancer.

When seen by me, the weakness was extreme, the emaciation marked, and through the thin abdominal wall could be easily felt a small, movable tumor. This was believed to be the thickened pylorus, and since movable, it was determined to advise exploration. Assisted by Drs. Holt and Nelson, of Cambridge. I found the stomach nearly empty; the pylorus, enlarged in a firm, hard, movable mass, size of large walnut, was without abnormal adhesion or surrounding glandular infiltration. It was determined to resect. Tied above and below with rubber ligature, packed about with sponges, for the better protection, and excised the mass with scissors. The duodenum was, by nearly half, too small to fit into the stomacic section, which was reduced to size by a V-resection of the lower border. The parts were joined as in previous cases, and the only complication was a sharp hæmorrhage from a branch of the gastro-duodenalis artery of considerable size, in the superior border of the wound. This was quickly secured, the peritoneum cleansed, and the wound closed. The patient rallied slowly, but well; was nourished by rectal enema, and the second day was bright and comfortable, gave direction as to household affairs, and was very hopeful. She sank at the end of about seventy hours from exhaustion. The autopsy showed a limited effusion of lymph; no peritonitis. The wound was well closed, and there had been no escape of the contents of the stomach into the abdomen. The other organs were healthy.

CASE IV, 1885. Mrs. B., aged about sixty. In previous good health, had all the symptoms of a sudden intestinal obstruction. When operation was made, had not had a free dejection for three weeks, and for some days, stercoraceous vomiting. The case was one of Dr. Cunningham's, of Cambridge, and it was believed that the cause might be found in some mechanical obstruction, as band or twist, since it ensued suddenly, and had persisted as complete. Aided by Drs. Cunningham and Somers, of Cambridge, I made a careful exploration. The abdomen was greatly distended, and the intestines gave much trouble in keeping within control. Used the aspirator, but failed to reduce distension of intestines, as the needles soon filled with the thin, churned-up contents. After a little examination, detected constriction near illeo-cæcal junction in a nodule of cancerous mass, size of end of finger. This easily broke under manipulation, and left nothing less than resection as the alternative. Tied with rubber ligature, and cut out the piece with scissors. The distension was so great, that it was thought wise to empty the bowel of a part of contents. Two quarts or more of liquid fæces were allowed to escape into a bowl outside the abdomen, the cavity having been protected by sponges.

The ends of the bowel were then joined as in previous cases, and the wound closed. The patient did not fully rally, and died about twelve hours after from shock. No autopsy. The operations were all conducted under thorough antiseptic precautions.

— At the Paris Société de Thérapeutique, Dr. Boulonmié lately exhibited a biliary calculus weighing 20 grammes = 5.144 drachms. It was of cylindroid shape, and measured 2 inches in length, 3¼ inches in circumference, and on section, 2 inches in its long axis.

CLOSURE OF ARTIFICIAL ANUS BY INTESTINAL SUTURE.[1]

IN THE SERVICE OF DR. C. B. PORTER.
REPORTED BY DR. W. M. CONANT.

MR. S., a carpenter, entered the Massachusetts General Hospital on the 4th of June, 1884, with an artificial anus on the right side of the abdomen.

The history is as follows:

He had had for eight years a right inguinal hernia which from time to time he had been in the habit of reducing himself, without any difficulty, until about two years ago when the hernia came down and he discovered that he could not reduce it. After trying some time without success he became alarmed and sent for a physician.

The physician, after many trials, failed to reduce the hernia by taxis and the man was put to bed. The man was kept in bed for nine days, and then was allowed to get up and have a movement and afterwards sit up for five hours. At that time he says he had a feeling as if something had broken in the region of the hernia. For several days after he was allowed to get up and use the cabinet chair whenever he wished to have a movement of the bowels. He used the chair for five days, and on the fifth day there was a rupture of the skin on the right side; and ever since there has been an opening through which his fæces pass.

He had great difficulty in keeping himself clean, and for the last eighteen months he had been confined to his room and to his bed. So great a burden had he become to himself and family that he had decided to have an operation performed even if it should prove unsuccessful.

Examination. Patient was about fifty. Frame much emaciated, but general condition was fair.

On the right side of the abdomen there was a circumscribed portion, as large as a man's palm, that was very red and much excoriated. There were three distinct openings in the skin, and the skin about them was very indurated. From these openings the fæces oozed with every breath, and on every slight impulse of any kind, as a cough or attempt to change position.

The three openings were situated somewhat as follows: —

No. 1 was just above the middle of Poupart's ligament.

No. 2 was about an inch higher up and a little to the outside.

No. 3 was about three inches higher and was four inches from the middle line of the body.

There was also a large mass of tissue in the right side of the scrotum; and the entire right side of the scrotum was enlarged and somewhat tender to the touch.

The man was put to bed: the openings were washed several times a day with carbolic acid 1–80; oakum pads were applied to catch the fæces. For a week every endeavor was made to build up the man's general condition.

On June 12th, eight days after he entered the hospital, the man was operated on.

Patient having been etherized, Dr. Porter made an incision in the line of the inguinal canal down upon the abdominal rings. This incision was about six inches long and began above opening No. 2 and extended through No. 1 into top of scrotum. Later this incision was extended to No. 3 and it was then found that only No. 2 opened into the abdominal cavity. After careful dissection the two ends of intestines were discovered protruding through the ring and glued to the sides of opening No. 2. These ends proved to be only the anterior portion of the intestinal wall, as, on drawing out the intestines, the posterior portion was found to be intact. The intestinal edges were freed; a portion of the intestines lifted out and placed on towels rung out in hot carbolic 1-100. The edges of the ruptured portion were refreshed and then carefully approximated and sewed with split-silk sutures. Sutures were placed very near together, not being more than a sixteenth of an inch apart.

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[1] Read before the Surgical Section of the Suffolk District Medical Society, May 6th, 1885.

Then the mass in the scrotum was examined and found to consist of omental tissue which had become adherent to the scrotal tissue. A portion of this mass was cut off and then was allowed to remain with the hope that it might be nourished by the surrounding tissue and so cause less disturbance than if time were taken in removing it.

After the intestines were sewed up the hernia was replaced through the ring and the ring was then stitched up.

A drainage tube was placed in most dependent part of the wound and then the wound was sewed up. A Lister dressing was applied, as during the operation full Lister precautions had been used.

Patient was taken to the ward and heaters were put about him. He came out of his ether nicely having but very little vomiting. Was given nothing but ice until evening, when he was allowed to drink a little strong French coffee, which relieved him of his ether sickness.

June 13th. Patient passed a very comfortable night and obtained considerable sleep. Had small amount of nourishment during the day, but only in liquid form consisting largely of beef tea.

June 14th. Lister changed this morning, wound in excellent condition. No sign of redness or soreness. Patient in the best of spirits and very sanguine that the operation will prove a success. This afternoon, next day after the operation, the patient passed wind.

June 15th. Lister changed. Everything looked favorable. Had movement of bowels, second day after operation.

June 16th. Lister changed. Wound has a red and angry look, but there is no temperature to indicate formation of pus.

June 17th. Lister changed. An abscess was discovered leading into the scrotum, and on being opened several ounces of foul smelling pus flowed out. This was on the fifth day after the operation. This abscess is due without doubt to the omental tissue left in the scrotum and is the cause of the increase in temperature.

June 18th, 19th. Lister changed. Abscess discharging freely. Rest of the wound healed by first intention and all stitches have been removed. Patient allowed a more nutritious diet, as boiled eggs, rare steak or chop, a little toasted bread, and an occasional egg-nog.

June 21st. Lister changed. A mass of dark, foul-smelling tissue pulled out of the scrotal abscess. This was on the ninth day after the operation.

June 22d. Lister changed. Another mass of tissue like that of yesterday withdrawn from scrotum.

June 23d. Lister omitted. Very little discharge from scrotum. Patient placed on extra diet.

July 1st. Allowed to get up and sit in a chair. This was on the nineteenth day after the operation.

July 4th. Allowed to use a wheel-chair alone.

July 8th. Patient very anxious to go home, therefore on the twenty-sixth day after the operation the man was discharged.

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REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

CARBONIC OXIDE.

Zaleski,[1] as a result of experiments on cats with carbonic oxide, comes to the conclusion that when the gas is injected into the peritoneal cavity it acts poisonously, though not rapidly; that it is absorbed by the blood, though more slowly than from the lungs; that it appears unaltered in great part, if not entirely, in the expired air; that it is not detectable in the expired air, if, instead of the gas itself, carbonic oxide blood has been injected. Zaleski's results are contrary to those of Kreis, who found no carbonic oxide in the expired air after the gas had been injected into the peritoneal cavity, or subcutaneously. Zaleski's experiments have an important bearing on the elimination of the gas in ordinary cases of poisoning by it, since it is disputed by many that the gas is excreted unoxidized. These allege that the unoxidized gas actually found in the pulmonary air is merely a portion of that which has never been absorbed by the lungs in ordinary inhalation experiments.

N. Grehant[2] declares, in opposition to Kreis, that in poisoning by carbonic oxide, the gas is not in any degree oxidized in the system to carbon dioxide, but is wholly eliminated unaltered.

ATROPINE.

Kratter[3] contributes a long paper on poisoning by atropine, based on a study of eight cases in his own experience. The following are his conclusions: —

(1) The detection of atropine in the body is certain, provided proper methods of analysis are employed.

(2) The urine is especially valuable for this purpose, since atropine is quickly absorbed and entirely excreted through the kidneys, apparently without undergoing change. It can be detected in the urine in cases which have not terminated fatally.

(3) The examination of the pure crystalline residue in polarized light, though not conclusive, is to be recommended, since the crystals of the sulphate are sufficiently characteristic to render the detection of atropine in this way tolerably sure.

(4) Positive proof of the presence of atropine is only to be found in its physiological action. The human eye is best of all for this purpose, since it is the most sensitive. The eye of the cat is also very sensitive.

(5) Atropine shows great resistance to putrefactive processes, and can be detected in bodies which have been buried for some months.

(6) Owing to the rapid elimination of atropine through the kidneys, the results of the chemical

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[1] The London Medical Record, March 15, 1886, page 121, from Archiv. für Exper. Pathologie und Pharmacie, xx., page 34.

[2] Comptes Rendus, 1886, page 825.

[3] Vierteljahrsschrift für Gerichtliche Medicin, XLIV, page 52.

analysis are liable to be negative if the patient survive for some days.

Professor Flückiger[4] confirms the observation made by Mr. A. W. Gerrard in 1884, and noticed at that time in these "Reports," that the mydriatic alkaloids are possessed of quite exceptional alkaline power towards mercuric chloride, from the aqueous solution of which they precipitate mercuric oxide, the other natural alkaloids giving no precipitate at all with mercuric chloride, or, at least, in no case separating mercuric oxide.

Flückiger now makes the further observation that atropine, quite exceptionally, is able to impart a red coloration to phenolphtaleïn paper, thus contradicting the assertion made by him in 1884, that alkaloids generally were deprived of such an action. He has demonstrated that atropine is the only alkaloid (speaking, however, of the more generally used alkaloids) which displays the same action as the inorganic alkalies. This is a remarkable coincidence, and goes far to favor the suggestion that atropine must be peculiarly constituted, differing from other solid alkaloids, none of which, as far as we actually know, show the same behavior towards mercuric chloride and phenolphtaleïn. The author has also tried other coloring matters, and found them to be acted upon by atropine in the same way as by potash and soda. Atropine, therefore, has an alkaline power like the hydrates of sodium and potassium, differing in this respect from (probably all) other alkaloids. The author states, however, that mercurous chloride is not blackened by atropine as it is by the alkaline hydrates. Mr. Gerrard,[5] on the other hand, asserts that this statement is contrary to fact, and he has placed on record the experiments on which his assertion is based.

Flückiger describes modifications of the other tests for atropine. The original paper is referred to for details. It is to be borne in mind that phenolphtaleïn can be used in the identification of atropine only in the absence of the inorganic alkalies.

THE PHYSIOLOGICAL ACTION OF CERTAIN COLORING MATTERS.

P. Cazeneuve and R. Lépine[6] state that rosaniline sulphate is entirely without physiological action, even in quantities of several grammes, whether taken into the stomach or injected into the veins. Safranine, however, when injected into the veins of a dog, caused rapid acceleration and weakening of the heart's action, severe diarrhœa, and often albuminuria, ending in death. If administered through the stomach, diarrhœa was the only serious result, the irritant action of the poison probably preventing its absorption.

The authors[7] have also made experiments with three coal-tar yellows, which are used somewhat largely for coloring confectionery and beverages: namely, *Manchester*, or *Martius yellow* (dinitronaphthol yellow); *NS yellow*, a sulphonic derivative of the first color; and *solid yellow*, a sulphonic derivative of amidoazo-orthotoluene. These were administered through the alimentary canal, or were injected into the veins. Manchester yellow, even in small doses, has a somewhat poisonous action, and produces vomiting, diarrhœa, panting respiration, and a high temperature, followed by death. NS yellow has no appreciable toxic action, and solid yellow is at least as innocuous.

PHYSIOLOGICAL ACTION OF ACETOPHENONE.

Mairet and Combemale[8] have made experiments on dogs, cats, rabbits, guinea-pigs, and sane and insane human beings, the acetophenone being administered in several different ways. This substance is not a hypnotic, and its advantages as a sedative are very doubtful. It acts on the nervous system, and also produces congestive and inflammatory lesions of the kidneys, lungs, and liver.

QUANTITATIVE ESTIMATION OF ARSENIC BY THE BERZELINS–MARSH METHOD.

According to W. P. Headden and B. Sadler,[9] this method gives satisfactory results under the following conditions: The zinc must be free from carbon and pure in other respects. The arsenic must be present in the form of arsenious acid. Iron, copper, platinum or their salts, and probably the other heavy metals and their salts must be absent. The calcium chloride used for drying the gas must be neutral, and must not be used more than once. The action must be slow and regular, and the decomposition tube kept at a dull red heat. Two decomposition tubes are necessary, about three per cent. of the arsenic being deposited in the second tube.

COPPER.

Du Moulin[10] has recently studied the action of copper compounds and finds that copper sulphate may be administered to dogs and rabbits in doses of three, four and five grammes, without producing any other symptom than vomiting. Doses of one-half to one gramme of copper sub-acetate were administered daily for six weeks to dogs and rabbits without producing poisonous effects. Vomiting occurred at first, but ceased after four or five days and did not recur. Oxide and carbonate of copper were administered to rabbits during a year without causing any trouble. Compounds of copper with fatty acids gave similar results. The author has administered copper sulphate to infants in doses of twelve to fifteen centigrams without producing any symptoms of poisoning.

BORIC ACID AND BORAX.

Dr. Johnson[11] has made a number of interesting experiments relative to the elimination of boric acid and borax. The amount of boric acid administered varied between 0.90 gramme and 3.6 grammes daily; that of borax was 1.5 grammes. In one case, in which the dose was 3.6 grammes, symptoms of poisoning ensued. In the remaining experiments the only noticeable effect was occasionally an increased diuresis. The compounds of boric acid appear very quickly in the urine after their internal administration; in one case, in ten minutes after administration by the mouth. They could ordinarily be detected in the urine for eight days after the last administration; in one case for fifteen days. The acid was frequently detected in the perspiration, in one case for two days after the last administration. The saliva gave a feeble reaction in three cases. There was great irregularity as regards the fæces. The acid appeared quickly in the urine after its application to the skin in the form of an ointment, and the reaction was obtained for two or three days after the last administration.

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[4] American Journal of Pharmacy, March, 1886, page 129, from Pharmaceutical Journal, January 16, 1886, page 601.

[5] American Journal of Pharmacy, April, 1886, page 198, from Pharmaceutical Journal, March 6, 1886, page 762.

[6] Journal of the Chemical Society, London, March, 1886, page 272, from Compt. Rend., 101, page 1011.

[7] Journal of the Chemical Society, London, March, 1886, page 273, from Compt. Rend., 101, page 1167.

[8] Journal of the Chemical Society, London, April, 1886, page 385, from Compt. Rendus, 101, page 1506.

[9] Journal of the Chemical Society, London, May, 1886, page 489, from American Chemical Journal, 7, 338.

[10] Journal de Pharmacie et de Chimie, 1886, page 189.

[11] Journal de Pharmacie et de Chimie, 1886, page 267.

BISMUTH.

Steinfeld[12] contributes a long paper on the toxic effects of the salts of bismuth. The bismuth was administered in the form of soluble double citrate of bismuth and sodium, and was in every case injected into the circulation or subcutaneously. Bismuth is fairly rapidly excreted, especially through the kidneys so that after ten to fifteen hours it is not possible to detect the metal in the urine or blood though it is still present in the intestines, through which (mainly the large intestine) it is also excreted. It is not excreted by the liver or pancreas.

TIN.

Dr. Patenko,[13] of St. Petersburg contributes a paper on the toxic and physiological effects of metallic tin and the bichloride of tin. His conclusions, which are based upon twenty-one experiments on frogs, dogs and guinea-pigs, carried on in the laboratory of Prof. Vulpian, are as follows:

(1) Metallic tin has no appreciable action on the system.

(2) The bichloride of tin injected subcutaneously in small amounts produces a local anæsthesia. The salt may be wholly absorbed without producing any lesion, or may give rise to the formation of small abscesses. When larger quantities (0.100 gramme) are introduced, gangrene results at the point of injection. This tends to spread and may involve not only the skin but the subjacent organs. These effects are due solely to the caustic action of the salt.

(3) The bichloride injected into the peritoneal cavity provokes a peritonitis, which is usually circumscribed if the amount injected is small, but invariably general if the amount is large.

(4) The bichloride introduced into the bloodvessels of a dog, in doses of 0.015–0.020 gramme, produces no bad results. It is rapidly fatal in doses of 0.050 gramme. The toxic dose for a dog weighing seven kilogrammes appears to be between twenty and fifty milligrammes. After death, the membranes of the brain are found injected; the tissue of the brain moderately hyperæmic; the sinuses filled with dark liquid blood; lungs normal; left ventricle contracted, but yet containing a small amount of dark liquid blood; right ventricle dilated; liver and kidneys congested.

(5) The bichloride introduced into the stomach of a dog in doses of 0.5 gramme produces no symptom of poisoning, although it coagulates the albuminoid matters and mucus with which it comes in contact. One gramme administered daily for more than two months produced no other effect than vomiting, which occurred first on the fifth day. The vomiting occurred soon after the introduction of the tin compound, but did not continue long. The general health of the animal remained unimpaired throughout the whole experiment.

VOLATILE FATTY ACIDS IN URINE.

R. v. Jaksch[14] finds traces of fatty acids in normal human urine; the amount does not exceed 0.008 grammes per diem. By oxidizing normal urine, formic, acetic, and probably butyric acids are formed to the extent of 0.9 to 1.5 grammes in the daily quantity. Under certain pathological conditions, the proportion of free acid is increased, but not that obtained by oxidation. In cases of fever and liver disease, from 0.6 to 1 gramme of free acid, chiefly acetic, was found.

THE FORMATION OF HIPPURIC ACID.

H. Tappéiner[15] has made investigations the result of which shows the presence in the alimentary canal of phenyl-propionic acid (one of the putrefaction products of albumen) and increases the probability of Salkowski's suggestion, that hippuric acid in the urine may be derived in part from putrefactive changes in the alimentary canal.

PEPTONURIA.

H. Pacanowski,[16] has examined the urine for peptones by Hofmeister's method in 211 cases of different diseases, with positive results in 94 cases. He divides the latter into cases of acute and chronic peptonuria. He corroborates the statements of Maixner and von Jaksch relative to the influence of suppurative processes on acute peptonuria. Earlier observers disagree with reference to peptonuria in case of ileotyphus. Maixner found peptones in the urine in this disease while von Jaksch obtained negative results in eighteen cases. The author investigated 36 cases and found peptones in 25, but only at the beginning of the period of defervescence, so that the peptonuria was indicative of beginning improvement. The result was similar in other acute infectious diseases. The author's explanation of the appearance of peptones assumes that the products of typhus processes in the intestines and mesenteric glands are reabsorbed with the occurrence of healing, while during the period of ulceration they are quickly separated from the body with the stools. The author determined the presence of chronic peptonuria in tuberculosis of the lungs. He examined the urine in twenty-five cases of this disease and found peptones in eleven, and in most of these only in the early stages of the disease when the physical signs were scarcely perceptible. The author thinks that as the destruction of the lung tissue proceeds, the vessels become less and less capable of absorbing the peptones which have their origin in the broken-down products.

The author also investigated thirteen cases of carcinoma of various organs and found peptones in the urine in ten.

— The address in Medicine at the forthcoming meeting of the British Medical Association will be delivered by Dr. John S. Billings of the United States Army.

— The English hydrophobia commission is said to be retarded in its investigations by the difficulty of obtaining a rabid dog with which to test the efficacy of the protection afforded by inoculation.

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[12] The London Medical Record, March 15, 1886, page 121, from Archiv. für exp. Path. und Pharmacie, xx, page 40.

[13] Archives de Physiologie, 1886, page 33.

[14] Journal of the Chemical Society, London, April, 1886, page 384, from Chem. Centr., 1885, page 905.

[15] Zeit. Biol. 22, page 236.

[16] Centralblatt für die Med. Wissenschaften, 1886, page 321, from Zeitschrift für Klin. Med., IX, page 429.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

February 3d, 1886. The chairman, Dr. George W. Gay, presiding.

Dr. D. W. Cheever reported

A CASE OF CHRONIC OBSTRUCTION FROM CONGENITAL MALFORMATION OF THE BOWELS; TENTATIVE OPERATION; DEATH.

The child upon whom the operation was performed, was a patient of the Drs. Webber, in Cambridge, with whom he was twice seen in consultation. At birth, nothing unusual was noticed, but three or four days after, symptoms of obstruction became very marked. These symptoms were finally overcome by the use of cathartics. Recurrent attacks of a similar nature were treated in the same manner. The patient was first seen by the reader when four months old. On examination under ether the rectum and anus appeared to be perfectly normal, and no tumor of abdomen could be felt. The stools were of usual size, showing that the point of obstruction was above the sigmoid flexure. The parents at this time refused any operative interference.

After a year and a half, the patient being then nearly two years old, he was seen again. The rectum and anus were again found to be normal but the abdomen was much enlarged, the child presenting a peculiar conical appearance, the head forming the apex and the abdomen the base of the cone. He was fairly well nourished but every little while had attacks of obstruction, accompanied with vomiting and pain. An operation for the formation of an artificial anus was proposed, but refused by the parents, who, however, were willing to accept any other operative procedure and the following operation was performed under ether and with antiseptic spray. A median incision extending from the pubis to the umbilicus, exposed a large, flat, ovoid sac, occupying the lower part of the abdomen. The incision was enlarged and the tumor was lifted out. It was found to consist of a dilatation of the intestine containing about two quarts of fæcal fluid, and at one end was attached to a piece of contracted and strictured intestine, twelve to eighteen inches in length, ending at the sigmoid flexure. This was quite impervious to solid fæces.

The dilated and constricted intestine occupied such a large portion of the large intestine that excision with union of the divided ends was impossible, and an artificial anus being ruled out by the express wish of the parents, the only thing that could be done was to aspirate the sac, return it to the abdomen and sew up the incision. This was accordingly done, peritoneal surfaces being approximated, and the boy recovering well from the ether, did perfectly well for six days, when severe symptoms of obstruction presented themselves, accompanied by great swelling of the abdomen, the abdominal wound being forced apart, and death followed in thirty-six hours.

The important and peculiar points in this case are the presence of such a length of strictured intestine, undoubtedly congenital, and the size of the tumor formed by the dilated intestine above the stricture. The reader had never before seen a case where the abdominal wound, apparently healing by first intention, had been forced open by intestinal distension.

Dr. C. B. Porter exhibited a patient upon whom he had performed an operation for the closure of an artificial anus following sloughing hernia. The case was reported by Dr. W. M. Conant[1] before the Surgical Section, May 6th, 1885.

Dr. Porter said that in this case the pillars of the ring were united with catgut and a radical cure of the hernia obtained. This was the second successful case that he had had. In a third case where a fæcal fistula had resulted from a crush of the abdomen by a cart wheel, it was found impossible to lift out the intestine on account of adhesions, and the patient had died eighteen hours after the operation.

Dr. H. I. Bowditch recalled to mind many cases in his past practice, where the lives of the patients might have been saved or made endurable by the methods of modern intestinal surgery. Cases of non-malignant stricture of the intestinal tract, obstruction by gall stones, and many other diseases of the abdominal organs, should no longer be regarded as incurable.

Dr. George W. Gay reported a case of

STRICTURE OF THE ILIUM; LAPAROTOMY; DEATH ON THE NINTH DAY; AUTOPSY.[2]

Dr. Cheever emphasized the fact that in cases of chronic obstruction, the intestine above the constriction becomes much dilated and its muscular coats paralyzed, thereby greatly increasing the difficulty of operating and the danger of a fatal result.

Dr. Porter said that the case reported by Dr. Gay interested him particularly, as in his first case the portion of intestine excised had been at the ileocœcal valva, the site of the stricture in the case reported by Dr. Gay.

Dr. Henry O. Marcy reported four cases operated on by him for

INTESTINAL OBSTRUCTION.[3]

Dr. Marcy exhibited frozen sections through the tumor of the pylorus, (Case III) mounted in balsam as stereopticon slides. These showed the complete occlusion of the canal. He expressed his belief that had the operation been performed earlier, the outcome, very probably, would have been different, since the case was a very favorable one for operation. Dr. Marcy strongly advocated the use of the tendon suture, prepared after Mr. Lister's formula, from the tail of the Kangaroo in the over and over stitch. It is reliable, non-irritating, holds the enclosed parts more firmly and evenly, and has the great advantage of saving time in the rapidity of application, while it requires but a single knot in the entire circuit of the bowel. The second row may not be necessary, but it gives a further protection, and requires but a very few minutes in its application.

Dr. J. W. Chadwick reported a case of

INTESTINAL RESECTION FOR MALIGNANT STRICTURE OF THE LARGE INTESTINE.

In this case there had been symptoms of obstruction for six months, and the slight hæmorrhage for three months. The right side of the abdomen was somewhat fuller than the left. An incision was made to the right of the rectus, and a prolonged search was necessary before the obstruction was found. It was at last discovered in the large intestine about three inches above the ilio-cæcal valve, well up under the liver. The constricted portion, about three inches in length, was excised, and the dilated upper end united to the lower contracted one. Great difficulty was experienced in introducing the stitches according to the rule of Lembert, as the dilated portion was very thin, and in both ends the coats of the intestine were very movable one on the other. Death from shock took place in twelve hours.

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[1] See page 80 of this Journal.

[2] See page 77 of this number of the Journal.

[3] See page 79 of this Journal.

Time seems to enter as a very important factor in these operations, and familiarity with the methods of operating will probably bring the best results.

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THE AMERICAN OTOLOGICAL SOCIETY.

The nineteenth annual meeting of the American Otological Society was held at the Pequot House, New London, Connecticut, July 20, 1886.

The Society was called to order by the President, Dr. J. S. Prout, of Brooklyn.

A business committee consisting of Drs. Webster, Holt and St. John was appointed.

Dr. Friedenburg and Dr. Bartolett were invited to take part in the proceedings of the society.

The treasurer then made his report stating that there was a balance of $51.82 in the treasury.

Dr. S. Sexton, of New York, read the first paper, entitled

ACUTE AND CHRONIC PURULENT INFLAMMATION OF THE MIDDLE EAR TRACT AND THEIR COMPLICATIONS.

The paper was based on a study of over two thousand cases of acute purulent inflammation of the middle ear, acute catarrhal inflammation of the middle ear, and chronic purulent inflammation. Acute catarrhal inflammation was included in the consideration of acute purulent inflammation, since in the beginning, the conditions were probably the same although not always going on to suppuration. Of this number there were twelve deaths.

The speaker held that in no disease of man is a knowledge of regional anatomy more important than in diseases of the middle ear and gave a *résumé* of the anatomy of the temporal bone, accepting the description of Professor Leidy as the most satisfactory.

The temporal bone at birth is peculiar in the fact that the tympanum and mastoid antrum are about as large as they ever become in adult life. The petroso-squamosal suture is imperfectly closed.

The symptoms were next referred to. Brain symptoms such as headache, vertigo, pain, delirium, nausea and vomiting may occur in consequence of middle ear disease without lesion of the cerebral structure.

The prognosis of purulent inflammation of the middle ear is favorable when non-meddlesome treatment is adopted, both as regards life and the preservation of hearing. Out of twenty thousand cases of ear disease, where the patient has been seen at the beginning of the attack, no fatal case has occurred. Cases which have come under observation after severe symptoms have appeared, have given twelve deaths. Some of the fatal cases occurred long after the ear trouble had abated.

In regard to treatment, the speaker recommended incision of the drum head. Trephining of the mastoid process has been recommended by some authorities. Dr. Sexton took up a consideration of the indications which have been regarded as calling for the application of the trephine and held that they were insufficient. From his experience, he was led to believe that drainage could be best maintained through the natural channel.

The speaker also described

A NEW OPERATION FOR THE RADICAL CURE OF CHRONIC PURULENT INFLAMMATION OF THE MIDDLE EAR TRACT.

Since describing a form of chronic purulent inflammation of the attic in a paper read before the society last year, it had occurred to him that something might be done with these cases by means of an operation. It seems especially desirable to cure these cases, when the ear remains simply a reservoir for purulent matter, liable at all times to infect the system. It is found that in the greater number of these cases that the remaining portion of the conducting mechanism no longer serves to aid in the transmission of sound but acts rather as an obstruction to drainage. Where the membrana flaccida and a portion of the ossicular chain only remain, the former often becomes thickened and everted, forming with the altered mucous membrane a pouch for the retention of putrescent matters which may slowly escape. Where granulation tissue or polypoid growths are present in the attic or antrum the escape of secretions is still further interfered with. This produces long continued and great irritation.

The author had observed that in a number of cases where the transmitting mechanism had been lost, a spontaneous cure followed, and it occurred to him that the curative action of nature might be imitated with advantage. Where drainage from the attic and antrum is interrupted, a cure can only be assured by an operation permanently clearing the passage outward from the tympanum.

Last year the operation was tried on a long-standing case of otorrhœa, due to chronic purulent inflammation of the attic. In order to avoid the danger of using an ordinary lamp in connection with the administration of ether, an electric light was used. The operation has since then been fully performed in several cases.

The first step of the procedure is to separate the membrana flaccida from the edge of the auditory plate and to remove any portion of the membrana vibrans adherent to the auditory ring. If the malleus and incus remain in situ, it is well to divide the tendon of the tensor tympani muscle when present, where it leaves the handle just behind the short process and below the chorda tympani. The chorda tympani when remaining is then divided where it enters the tympanum at the pyramid and also at its exit into the canal of Hugier. The long process of the malleus, being also received into the glenoid fissure by means of this short oblique canal, along the chorda, may be more or less detached at the same time. The detached tissues and ossicles should now be removed with the forceps. It will frequently be found that the incus having been displaced, still remains. It may be removed with the attic scraper, which is to be introduced from below and passed up along the inner wall of the tympanum, when the distal extremity may be carried over the incus or malleus, if the latter bone remains, and by traction the ossicles can be detached; polypoid masses, granulation tissue and the products of inflammation may now be removed with the cutting curette or cutting forceps, and the parts dressed with a four per cent. solution of cocaine to relieve pain.

There is usually free bleeding during the operation, often sufficient to protract it and increase its difficulties.

The effect of injury or destruction of the chorda tympani nearly always manifests itself in some way, but had never in his experience been a matter of serious import. Disturbances of taste sometimes follow the operation, but they gradually disappear and leave the sense of taste unaffected.

The drum should be kept well cleansed and light dressings of boracic acid applied until healing takes place. The salicylic acid powder may be applied as freely as can be borne. In some cases this is irritating at first, but tolerance is soon established. It may then be kept up until the parts cease to discharge.

In the cure resulting from this treatment, a dermic transformation of the tympanum takes place, but mucus may occasionally gain admission from the Eustachian tube during recurrent head catarrh or on blowing the nose. This should be frequently removed with cotton wool, and if necessary the drying applications renewed for a time.

Where the incuso-stapedial connection remains, I should not hesitate to perform this operation, unless a very considerable portion of the membrana vibrans was present.

The instruments employed and some of the diseased ossicles removed, were exhibited.

DISCUSSION.

Dr. C. R. Agnew, of New York. I infer from the speaker's remarks that he objects to the opening of the mastoid.

Dr. S. Sexton, of New York. I have never had any difficulty in obtaining drainage in cases of periostitis externa by a free incision with a small tenotomy knife.

Dr. Agnew. Where the inflammation has come to involve the mastoid cells, I think that some portion of the external wall of the mastoid should be removed. The objection to the trephine is that it does not expose a sufficient area of the cancellated tissue of the mastoid. I do not see how the new operation, which has been described, will be of service in these cases.

Dr. Sexton. The new operation I recommended only in chronic cases.

Dr. H. Knapp, of New York. The upper tympanic pneumatic cells resemble, to a certain degree, the frontal sinuses. These have a direct natural drainage through the infundibulum into the nose. When this is closed by disease, the lateral part of the sinus over the orbit dilates, and the cavity is more easily reached and more effective drainage is obtained by opening the sinus from the orbit. In a like manner, we obtain, in most cases, easier and more effective drainage of the supra-tympanic cells by opening the mastoid cells with which they communicate.

PAINLESS, AND ONLY SLIGHTLY PAINFUL ULCERATION OF THE MEMBRANA TYMPANI, PROBABLY OF A TUBERCULAR NATURE,

by Dr. A. H. Buck, of New York.

The speaker stated that the recognition of the early stages of tubercular disease was important, and the object of the paper was to call attention to the features by which this could be recognized. Three cases had been seen by the author. The patients were in a condition of fair general health; one of them had suffered with back-ache for months, and its significance, disease of the vertebræ, was recognized only a short time before the patient came under the speaker's observation. There was no evidence of pulmonary disease in either of the three cases. Tinnitus and slight impairment of hearing were the first symptoms noticed.

In two of the cases, which were examined at an early period, there was slight redness and swelling at the upper part of the membrana tympani, and of the skin covering the bony wall. In a short time, the infiltration extended into the entire posterior superior quadrant. The membrane became bulging, and at the most prominent point a perforation established itself.

Following this, the disease followed a somewhat different course in the different cases. In one the redness spread, and other portions of the membrane became involved. In the case where spinal disease coexisted, the upper posterior portion of the canal became more congested, as though the bone were the seat of the disease. In the last case there was gradual improvement. The hearing was slightly impaired. In the other two cases, discharge became profuse. In one case, sudden hæmorrhage from the lungs occurred.

In the incipient stage, the distinguishing features are the tendency to localization in the upper posterior portion of the membrana tympani, the marked insignificance of the pain, or even its entire absence, and the intolerance to all but the simplest local measures.

The author read a communication from Dr. Clarence J. Blake, of Boston, describing similar cases.

Dr. Sexton. I have seen many of these cases of catarrhal inflammation of the middle ear in phthisical subjects. The tendency of the structures of the ear to break down in advanced phthisis is very great.

Dr. E. Gruening, of New York. I have seen a number of cases, in which I was led to infer that the ulceration of the drum-head was due to tuberculosis. I distinctly recall three cases. In one case, that of a young man, only one ear was affected. The opening was in the inferior posterior quadrant of the drum-head. There was very little purulent discharge. There were two openings, showing that this was not the result of perforation from accumulation. It appeared to be a melting-down process. In another case there were multiple openings, so that the membrane appeared to be honey-combed. These, also, were in the membrana tympani proper. These cases improved under treatment, but the openings remained.

Dr. C. R. Agnew. I have seen a number of cases, in which I supposed that the origin was tuberculosis. In a considerable number of these cases, the main lesion has been in the drum-head, below the extremity of the handle of the maleus. I recall the case of a young man, who had trouble at the apex of both lungs when he came under observation. He stated that a short time previous, he had begun to have slight ringing and a sense of dulness in the ear; that this had gone on for two or three days; and then, when blowing his nose, he found that he whistled through his ear. In the ear complained of I found an opening, looking as though it had been removed by a punch.

The opening was eliptical. Within a few days, the same thing occurred in the other ear.

Dr. J. A. Andrews, of New York. In regard to the presence of the bacillus in middle-ear trouble occurring with phthisis, although I have examined a large number of cases, and some with a great deal of care, I have never found the bacillus.

Dr. A. H. Buck. I have not looked for the bacillus, but even if they are not found, tuberculosis should not be excluded, for their chances to escape detection are too numerous. I have seen cases like those described by Dr. Grenning, but I have not seen them in the early stages, and have, therefore, not considered them in my paper, as there is a possibility that they were due to previous ear disease.

Dr. J. Orne Green, of Boston. I have been much interested in this paper, and I recognize several characteristics which I apply to tuberculosis. Where I find this destruction coming on without pain and without discharge, I at once suspect a tubercular diathesis, and I generally find a history of it. I also agree with the speaker that only the very mildest measures can be used. Strong applications make the trouble worse.

Twice, in cases of advanced tuberculosis, I have seen, on examining the drum membrane, little white, glistening points about the size of a pin-head, not secreting at all, and in one case, with no congestion. In both cases, the spots disappeared in a few days, and within twenty-four hours there was a little clean, punched-out opening in the drum membrane. This occurred without any discharge. It seemed to me that I was dealing with isolated tubercles in the tissue of the drum membrane. One of these cases died a few months later from the general disease.

CERTAIN TECHNICAL DETAILS RELATING TO OPERATIONS ON THE MASTOID PROCESS,

by **A. H. Buck**, M.D., of New York.

The speaker first referred to the objections which had been made to the drill. It has been stated that there is danger of plunging the drill into the lateral sinus, or even into the brain. He had, however, found no tendency for the drill to go astray. It had been said that the opening made was too small, but any sized drill might be made. He used a drill one-fourth of an inch in diameter until the antrum was reached, and finished the operation with a smaller drill. This gives a sufficient opening for drainage. Where there is a large sequestrum, it is necessary to make a larger opening.

After the use of the drill, pyæmia and septic fever is rare. With a knowledge of the part to be operated upon, the drill may be used with perfect safety. It can be guided perfectly by resting the fingers on the bone. The conical shape of the drill also enables the operator to tell when its point has entered a cavity.

The objections to the use of the chisel were next taken up. When this is used, the wound in the adjacent soft parts must be larger, and the opening in the bone is more extensive, leading to a depressed cicatrix. More time is required in the operation, and it is not free from danger. These objections are, however, trifling, if the results of the operation are found to be more satisfactory than those following the use of the drill. A study of the statistics of both methods seems to show that there is nothing to warrant the statement that chisels and gouges are to be greatly preferred to drills in establishing opening into the mastoid process.

In operating with the drill, after making the opening, I cut out a little canal for the escape of the discharges, for the opening made by the drill is covered by the flap when it comes into position. For the first four or five days after the operation, the wound is irrigated once a day with a bi-chloride solution, one to two thousand.

In reply to a question, Dr. Buck said that is his earlier operations, he applied the drill a short distance in front of the vertical line. His present plan is different. A straight vertical incision three inches long is made. By this means he exposes the mastoid process where it curves into the meatus. The drill is then applied to the first flat surface. The only difficulty is in establishing the final communication between the canal and the antrum.

Dr. J. Orne Green. In my practice I have used the drill almost entirely. I prefer to make a small opening at first and I am then guided by what I find. Some cases require a large opening, and in such cases the gouge and chisel will come into play. In the majority of cases a small opening is sufficient.

In some of these cases the use of the dental engine is very applicable. I have a modification of the engine which may be screwed to a table; it is turned by a handle, and any one can furnish the power. No skill is required, as in the engine worked with the treadle. Used in this way, I have found the engine of great service. The burrs can be used with the greatest delicacy. In the cases which I have operated on, I have put in a drainage tube and kept it in as long as possible. In the after-treatment I have used a solution of carbolic acid, one to eighty. Of late years I have applied an antiseptic gauze dressing and kept that on.

Dr. H. Knapp, of New York. I wish to make some remarks in favor of the chisel. In my first operations I used a drill, but I have abandoned it. With the chisel you can at every step observe the condition of the tissue which you are cutting. With the chisel you have a perfectly smooth surface, rendering it easier to cleanse the wound. It is also very easy to manage the chisel. The principle reason in favor of it is, however, that it enables each step of the operation to be seen.

Dr. H. D. Noyes, of New York. There is much less danger in the use of the chisel than of the drill. There is often great differences in the anatomical relations of the parts. The lateral sinus is not always found in the same place. With the drill, there is danger of perforating the walls of the sinus or of some important vein. With the chisel or the gouge, you explore the part, layer by layer, and ascertain how the parts are situated. This is a strong argument in favor of this instrument.

Dr. J. A. Andrews, of New York. In my operations, I have always used the chisel, but have always begun with the drill. I believe that the chisel is the best instrument and can be used with more caution than the drill. I always make a large opening, for I believe that a collection of pus should always be given free vent. Instead of the ordinary drainage tube I use a small rubber gutter to keep away the soft parts.

Dr. E. Gruening, of New York. I have opened the mastoid process seventy-seven times. At first I used the drill, and in acute cases the results were all that could be desired. The drill was, however, not applicable to all cases and I have since used the chisel. A small opening may be made with the chisel. What can be done with the drill can be done with the chisel.

Dr. A. H. Buck, of New York. From the direction which the discussion has taken, it might appear that I am in antagonism with the chisel. I am not in antagonism with the chisel in those cases where a large portion of bone is to be removed. I leave those out of consideration in my paper. Where a large mass is to be removed it cannot be removed with the drill. The two instruments cannot come into conflict.

A communication with reference to the organization of a congress of American physicians and surgeons, was presented and referred to a committee consisting of Dr. C. R. Agnew, Dr. H. Knapp, and Dr. John Green to consider and report at the evening session.

The morning session was then adjourned.

EVENING SESSION.

FATAL TERMINATION OF A CASE OF SCLEROSING MASTOIDITIS AFTER CHISELING OF THE BONE,

by H. Knapp, M.D., of New York.

A man, aged fifty, had extensive suppuration in both ears after scarlet fever in childhood. The right ear became totally deaf and the left, very hard of hearing, became deaf (hearing reduced to a quantitative perception of sound) by a recent attack of dizziness. Dr. Knapp found both tympanic membranes absent, the cavities sclerosed in both, pale in the right but congested in the left ear. Behind the left ear was found a cavity fully an inch deep, lined with immovable skin, the result of former exfoliation of bone. Three weeks later facial paralysis on the left side occurred. It disappeared in two weeks, under steaming and large doses of iodide of potassium. Two weeks later the patient suffered with constant intense headache and nausea. The mastoid was opened to the depth of half an inch by chiseling. The bone was compact and in the depth very vascular. During the first two days the patient was sleepy; could not be roused on the third, and died comatose on the fifth. No autopsy was allowed.

Death was due to traumatic meningitis. In regard to opening the bone in sclerosing mastoiditis; the prognosis is good when the sclerosis is the result of catarrhal or plastic inflammation, but bad when it was the consequence of old caries or necrosis. There are cases on the border line, and even when the prognosis was bad, the indications might be strong. The operation will rescue a certain number of the otherwise fatal cases.

A CASE OF ABSCESS OF THE MASTOID CELLS WHERE THE CHIEF INDICATION FOR OPERATION WAS ELEVATION OF TEMPERATURE,

by O. D. Pomeroy, M.D., of New York.

A. S., age twenty years, fairly robust, had a violent attack of otitis of the right ear, which came on January 30, 1886. The following morning there was free discharge. February 1st, he entered the hospital, when a large perforation was found: a poultice and warm douches was ordered. By February 4th, the membrane looked almost normal. There was some pain in the occiput and a temperature of 103.6°. Ten grains of quinine with twenty grains of iodide of potassium, to be repeated in three hours, was ordered. This was followed by a reduction of two degrees in the temperature. The following day the temperature again went up, and it was apparent that a purulent process was going on. There was no swelling over the mastoid, and the pain was no greater than might be expected from a neuralgic condition.

After consultation it was decided to open the mastoid process. A drill was introduced and from four to six drops of pus evacuated. After the operation the patient continued to improve until he was discharged cured.

DISCUSSION.

Dr. J. A. Lippincott, of Pittsburgh. In connection with Dr. Knapp's case, I should like to report a recent case in which an operation in a similar case resulted in failure. Something over two years ago I operated in a case of sclerosing mastoiditis, which had been suffering intense pain for twelve months, and which did not yield to alterative and tonic treatment. After the operation the patient remained well for thirteen months. The pain then returned and continued in spite of all treatment. Last March a second operation was performed, and a larger opening with the drill made. No benefit was produced.

Dr. H. Knapp. I should like to state that the cases which I have reported where benefit followed chiseling open a sclerosed mastoid, have remained well.

TWO CASES OF CHRONIC PURULENT INFLAMMATION OF THE ATTIC OF THE TYMPANUM WITH PERFORATION OF THE MEMBRANA FLACCIDA TREATED WITH PER-OXIDE OF HYDROGEN,

by Charles H. Burnett, M.D., of Philadelphia.

In the first case no application had had the same good effect as the peroxide of hydrogen. Every other medicament had seemed to irritate rather than heal the inflammed mucous membrane. In the second case, the discharge, which had been very chronic, was promptly checked by the use of the peroxide of hydrogen.

The chemical formula of this drug is H_2O_2, and by its affinity for albuminous matters, especially those of pus, it seeks every particle of this matter in a cavity like the middle ear and thoroughly cleanses the parts. The union with pus is shown by a copious foam, which boils out of the external ear. When the foaming ceases and the peroxide returns clear, the diseased cavity has been thoroughly cleansed. In many cases this seems sufficient to effect a cure. Where there is a perforation in the membrana flaccida, the application is made by means of the tympanic syringe, the long and slender nozzle of which is introduced through the perforation at the attic of the tympanum. The peroxide is used undiluted.

IN THE PHYSIOLOGY OF HEARING IS THERE AN OVERLAPPING OF EACH AUDITORY FIELD THE SAME AS IN BIOCULAR VISION,

by William S. Little, M.D., of Philadelphia.

Cases of one-sided deafness afford the opportunity of mapping out the auditory field for one ear and it is found with the watch at two feet from the ear the tick can be heard about ten or fifteen degrees across the median line of the head. This gives more scope to hear sounds produced on the side of the head opposite the good ear. The tuning fork is not heard even up to the median line on the side of the ear tested. The watch has been used in making the observations. If the field of one ear reaches beyond the median line to about ten degrees, we have when both ears are normal an over-lapping of each field to the extent of fully ten degrees on either side of the median line in front, above and behind the head. Each ear hears sounds in this area of twenty degrees. Outside of this area, each ear hears singly. By means of this, there is no need to turn each ear towards the source of sounds which reach the individual: the direction of sound is best found in this way for safety in walking and maintaining the erect position. Sudden loss of hearing on one side puts the sufferer to great annoyance, as the ability to determine the direction of sounds is in a measure, lost, the patient often looking in the wrong place when called. It is fully as perplexing, if not more so, than in a case of sudden loss of sight in one eye, making seeing dependent on one organ of vision.

The attempt to restore hearing should be directed not only to obtain hearing in a line directly in front of the ear, but also to increase the area of hearing in the affected ear or both affected ears, till it reaches, if possible, the coalescence seen in normal ears.

A PAPER ON TWO CASES OF EAR DISEASE DUE TO TRAUMATISM,

by Dr. Gorham Bacon, of New York, was read by title.

The society then went into executive session.

The proposition with reference to the organization of a Congress of American Physicians and Surgeons was discussed, and a committee of conference was appointed, consisting of Drs. C. R. Agnew, of New York, H. Knapp, of New York, John Green, of St. Louis, W. H. Carmalt, of New Haven, and George Strawbridge, of Philadelphia.

The officers for the ensuing year are as follows:— President, Dr. J. S. Prout, of Brooklyn; vice-president, Dr. Samuel Sexton, of New York; secretary and treasurer, Dr. J. J. B. Vermyne, of New Bedford, Mass.; committee on membership, Drs. Gorham Bacon, W. S. Little, and E. W. Bartlett.

The following were elected to membership;— Dr. J. B. Emerson, of New York; Dr. J. O. Tansley, of New York; Dr. J. L. Minor, of New York; Dr. Henry L. Morse, of Boston; Dr. Huntington Richards, of New York; and Dr. T. Y. Sutphen, of Newark, N. J.

The society then adjourned.

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THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

The Twenty-Second Annual Meeting of the Society was held at the Pequot House, New London, Conn., July 21st and 22d, 1886.

The meeting was called to order by the President, Dr. William F. Norris, of Philadelphia.

A communication with reference to the organization of a Congress of American Physicians and Surgeons was read and referred to a committee consisting of Drs. C. R. Agnew, Charles S. Bull, and B. E. Fryer, for consideration with instructions to report at the present session.

Dr. Peters, of New York, Dr. D. Hubbel, of Buffalo, Dr. E. Friedenberg, of New York, Dr. Carvelle, of Manchester, and Dr. Cutter, of New York, were invited to take part in the proceedings of the Society.

The first paper read was entitled:

PYOGENIC MICRO-ORGANISMS, WITH DEMONSTRATIONS AND EXPERIMENTS,

by Dr. H. Knapp, M.D., of New York.

Dr. Knapp made some general remarks with reference to the dependence of suppuration on certain kinds of micro-organisms, the pyogenic bacteria, of which pure cultures have been obtained during the past two years. He exhibited these bacteria in numerous test-tube specimens on agar-agar, and also under the microscope. He also exhibited slides of different tissues of the eyes that had been infected with these germs. He showed two rabbits which he had operated on for cataract, the day before, in the presence of members of the Society. Extraction had been made on the left eyes with clean instruments, and on the right eyes with instruments contaminated with staphylococcus pyogenus aureus. The left eyes were free from secretion. The wound of one eye in a doubtful, the other in a good condition, whereas the right eyes discharged matter profusely and were in a state of intense destructive inflammation. He then operated on two other rabbits in the same way. The four rabbits were examined the next day. The eyes were examined with much interest by the members. The right eyes in all were suppurating; the wounds of the left eyes in three of the rabbits were in good condition. In one of the first two rabbits, it was suppurating. This eye had become infected from the right eye of the other rabbit. They had been kept in the same box and the operator had found them with their heads in contact.

These demonstrations were made to draw the attention of the members to this new and important field of inquiry, and the speaker would be happy to furnish cultures of these organisms to any one who intended to make investigations in this department.

In reply to a question as to the best method of cleaning instruments, Dr. Knapp said that in the institutions in Europe the instruments are placed in an antiseptic solution. This, however, has the disadvantage of dulling the edge of cutting instruments. His experiments had shown him that simple washing with water in the case of smooth instruments, followed by friction with a clean towel renders them bacteriologically clean. Where an instrument has a groove or is at all rough, it is much more difficult to clean. Instruments, like forceps, may be put in the antiseptic solution. It must be remembered that in the majority of our operations a certain quantity of infecting material is required to produce any effect. Where there is a free escape of liquid from the wound the material is washed off, but where there is a sucking-in process the danger of infection is much greater.

Dr. B. E. Fryer, of Kansas City. There is one antiseptic which has lately come into use which would probably not interfere with the edge of cutting instruments. That is hydro-napthol. It has, however, not been sufficiently long under observation to enable us to say whether or not it will completely sterilize instruments. It has also occurred to me that chloroform would probably perfectly sterilize instruments.

Dr. Hubbel, of Buffalo. I would ask Dr. Knapp if there are not certain conditions of the eye which would favor infection of the wound after operation. I recently operated in a case of cataract in a man sixty years of age, where there had been a long standing purulent inflammation of both conjunctivæ. I performed an iridectomy following it in two weeks with extraction. Both operations were entirely successful and without accident, notwithstanding the fact that there was a constant purulent discharge. The only antiseptic used was a solution of boracic acid.

Dr. H. Knapp. I think that a lachrymal discharge with a certain amount of conjunctivitis furnishes a favorable soil for the growth of bacteria. In operating in such cases, the discharge should be completely removed. As I said before, a certain quantity of the pathogenic bacteria are required to produce infection. I have pricked the cornea to one-third or two-thirds its depth and covered the wound with an emulsion of the bacteria. In only one out of every four or five cases did abscess develop.

Dr. J. A. Andrews, of New York. I have frequently pricked the cornea and applied the staphylococcus pyogenus aureus and have repeatedly seen recovery follow without suppuration or inflammation. Mere contact with the microbe with the wound is not always sufficient to produces suppuration, especially in the case of the cornea where the discharge is liable to be washed off. Where the material has been introduced into the wound and kept there for a short time, I have never seen a failure.

In the cleaning of instruments, I use what I term an aseptic fluid. I procure clean water and boil it for some time. This I use for the washing of instruments. The principal value of antiseptic solutions in hospitals is I think because they furnish something you are sure is clean. The water is not always clean. I do not mean to be understood as saying that I use boiling water. I simply boil the water to render it aseptic.

AN ANALYSIS OF ONE HUNDRED CASES OF EXUDATIVE RETINITIS OCCURRING IN THE COURSE OF BRIGHT'S DISEASE,

by Dr. C. S. Bull, of New York.

Only such cases were included in the report as had been examined by the writer personally and had been followed to their termination. All cases due to scarlatina or pregnancy were excluded. Out of five hundred cases examined only one hundred and three fulfilled these conditions. The ophthalmoscopic examinations were made by the author, and the urine was always examined. In fifty-four of the cases, both eyes were affected when the patient came under observation, and in ninety-three per cent., both eyes were ultimately involved. Hæmorrhages occurred in sixty-nine cases. In thirty-four cases, there were no hæmorrhages. The hæmorrhages were intimately connected with disease of the bloodvessels. Only one instance of color affection was observed.

The prognosis with reference to the duration of life is very unfavorable. The one hundred and three cases reported, were collected during a period of thirteen years. Of this number eighty-six have died, fifty-seven during the first year and twelve during the second. Seventeen were still living, but fourteen of these were seen for the first time within the last six months. One of these cases, however, was seen for the first time seven years ago.

A rather unusual complication was seen in four of the cases; that was the presence of sugar, as well as albumen, in the urine. The amount of sugar was variable.

Dr. E. Greuning, of New York. I have collected over one hundred cases of this affection, and I find that none of my cases have lived over two years after the diagnosis of retinitis albuminurica has been made out. In this class of cases, I have included only those in which the typical stellate changes were seen in the maculæ of both eyes. I have lately seen this appearance in the macula of one eye in a patient who presents no evidence of Bright's disease. This is the first time that I have seen this exquisite change without signs of renal disease.

Dr. B. E. Fryer, of Kansas City. In these cases, albumen is occasionally absent from the urine for a short time. In two such cases I have found albuminose during the time that albumen was wanting.

Dr. David Webster, of New York. I am satisfied that, in rare instances, these patients do recover their general health and may live indefinitely. Some years ago I examined the eyes of a clergyman, and found the typical appearances of retinitis brightii. He had been examined fifteen years previously by a competent observer, who found the same condition, and also found albumen and casts in the urine. I had the urine examined, and found a slight trace of albumen.

Dr. O. F. Wadsworth, of Boston. Where the retinitis albuminurica comes on during, or immediately after pregnancy, I have seen the stellate spots in the maculæ entirely disappear. I have also seen typical stellate deposits in cerebral tumor, and in what was supposed to be meningitis, but in which there was no albuminuria.

Dr. E. Greuning, of New York. The cases of retinitis brightii which we see in our offices differ very materially from those which we see in hospitals. The patients who consult the oculist are usually those with the small, contracted kidney, while the patients with the large white kidney find their way to the hospital.

Dr. C. S. Bull, of New York. I wish merely to repeat what I said in my paper, that I exclude all cases where the albuminuric retinitis was due to scarlet fever or to pregnancy. I do not mean to say that the so-called stellate exudation in the region of the maculæ is typical of Bright's disease. I have seen it in intra-cranial tumor, and in cases supposed to be meningitis. Retinal exudation other than stellate I have seen not infrequently in cases of large white kidney.

(To be continued.)

— The Library of the Society for the Advancement of Medical Science at Tokio, Japan, has just been presented with 64 volumes of the Boston Medical and Surgical Journal, being from 1848 to 1879 inclusive, bound in half calf.

— A correspondent writes us that he has lately witnessed the triumph of linseed oil in the treatment of pruritus ani where all the classical remedies had failed. In the case of two patients who had been for several years sufferers from pruritus ani with a trifling erythematous eruption and no rectal complications that could be discovered, the free external use of linseed oil at bed time about the parts gave immediate relief, and thus far free inunction with this simple remedy has given complete exemption from the nocturnal annoyance.

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THE DOCTOR AS PATIENT.

The study of medicine, and personal devotion to the alleviation of suffering, does not insure the doctor against the ills common to all mankind; nor does an intimate acquaintance with the vagaries of the sick enable a physician to pass through his own trials with equanimity. In fact, the doctor is far from appearing at his best in the *rôle* of patient: he feels as much out of place on a sick bed as would a general officer if he were reduced to the ranks. He has been so long accustomed to command, that he finds it very hard to obey, at least, without some sort of a protest.

During his student days he was led astray by his imagination, which made him suffer from the ills of which he studied. He probably, at that time, convinced himself of the ease with which one exaggerates his own sensations, and learned to disregard his own feelings for the most part. Only in such a way as this can we account for the neglect in himself of those beginnings of disease which a layman would suppose would infallibly arrest a doctor's attention, as they certainly would in a second person: as it is, he usually disregards his early symptoms and goes about with a temperature higher than that of the patient whom he sends inexorably to bed. He hopes for the best in his own case, as in others, but he fails to prepare for the worst, as he advises his patients to do, for he uses up, by continuing his work, the strength he ought to reserve to carry him through the sickness, it needs no angel sent from heaven to foretell. Once fairly prostrate, it is usually the alarmed relatives who summon the doctor, rather than the patient himself.

And it is no light task for the brother physician who presides over his sick bed to care for the prostrate individual, who insists on discussing the method of treatment, and with a disordered imagination and weakened intellect, desires to sit in judgment on the conduct of his own case. The patient is apt to be sceptical as to the powers of the drug on which his friend and adviser relies. He suspects his friend of a want of candor in his bedside talk. The little talks outside his door, the ruses of his wife to gain a little private conversation with the doctor, excite his anger. He listens for the noise of the wheels after his friend has left the room and if the sound of his chariot is too long delayed he feels sure that the long suffering man is delaying at the door to tell what he "really thinks," and he takes pains to interrupt the conversation by some abrupt message; perhaps, if it happens to be evening, by saying that it is time to close the house for the night.

But if he is critical and somewhat sceptical, he learns to know his physicians by their steps, and even the roll of their carriages on the street; and no patient gives them a more cordial welcome, or parts with them more reluctantly. He feels sure that his memory of their kind attentions certainly must be longer than that of certain patients who, according to the familiar lines, whose truth is too often confirmed by experience, forget even the doctor's face when they have recovered.

He seldom escapes making himself disagreeable to his nurses. It is hard to convince him that it is his own fault that his food does not taste as it ought. He is indignant that his own kitchen cannot produce broth as good as that of his neighbor's; but the tales of his own peevishness, when he hears them after recovery, he can but believe are grossly exaggerated.

Nothing is more surprising to the doctor, when reduced to the position of patient, than to find that he himself is subject to like weaknesses as other members of the human family. The nervousness, for which, in others, he has had too little sympathy, shows itself in a thousand ways. The little noises impossible to avoid disturb him, and the children of his household seem most unruly. Most strange of all, and most humiliating in his remembrance afterwards, he even calls his doctor for nothing. He wakes from sleep, sure he is going to have a chill, or some equally unpleasant manifestation, and when, with grave face and careful attention, his hastily summoned physician has felt his pulse, taken his temperature, and sought for the signs of any possible complication, to inform him at the end that there is nothing to justify his fears, he admires, and is grateful for the patience that has borne with his apprehensions, but he feels great curiosity to know what his doctor says to himself as he goes home to resume his broken sleep; and most of all, he wonders at himself and mutters, "is thy servant a dog, that he should have needlessly disturbed a doctor's sleep?"

But especially trying to an invalid doctor, is a tedious convalescence. His knowledge of the possible complications and sequelæ gives a wide field of possibilities, over which his imagination wanders uncontrolled, and he is fortunate if he does not become a hypochondriac. He is pretty apt to partake of the lay fondness for talking about the unusual features his case has shown. If he thinks about the matter at all, he finds how difficult it is to know at what length to detail his symptoms to inquiring friends. Unless he keeps his tongue in due subjection, he is apt to realize that few men are really good listeners, and his kind friends, when they are released from his story, may be excused if they say, "poor fellow, he needs bracing up." But really, there is some excuse for him if he is a little garrulous; personal experience of pain is different from looking on, but interested as he is in his own closer acquaintance with disease, his account of it differs little, in the ears of his medical brethren, from the story they have often heard before.

But a little personal experience of the sick bed teaches the doctor many things. He certainly learns that a sick man does not look upon things as a well man does, and his charity towards an invalid's whims is greatly increased. He cannot fail, too, to be touched and softened by the many kind inquiries and pleasant messages that come to him. Busy men come and sit down beside him as though the dearest object of their hearts was to see him recover; men who justly plead bodily infirmity as an excuse against the slightest exertion climb his stairs to express their sympathy, and patients who have seemed thankless and forgetful show that they needed only the opportunity to show their gratitude. And when the sick man resumes his place in life, he is pretty sure to have not merely an increased enjoyment in living, and a better idea of his fellowmen, but also a higher estimate of the value of his own profession.

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A LIST OF THE PUBLICATIONS OF HARVARD UNIVERSITY AND ITS OFFICERS, WITH THE CHIEF PUBLICATIONS OF THE UNIVERSITY, 1880–1885.

The Bibliographical Contributions, just issued from the library of Harvard University, and edited by Justin Winsor, the librarian, includes the publications of the University, and its officers for the period from September 30, 1880, to September 30, 1885. The titles are grouped under the head of publications relating to the University and afterwards under the names of the different authors, alphabetically arranged, and these lists, of course, include the literary work of the instructors of the Harvard Medical School.

It is often said that Boston physicians write very little; certainly the number of books whose authors claim residence in Boston is not very large. Perhaps that is because their knowledge of books is sufficient to show them how rare are absolutely new ideas. Let the reason be what it may, they have the reputation of writing somewhat less than the medical population of some other cities. It is, then, something of a surprise to see how large a number of titles in the Harvard Bibliography is comprised in the contributions of the physicians who make up the faculty of the Harvard Medical School.

The first title of medical interest is the "New Century and the new Building of the Harvard Medical School," which contains the address of Dr. Holmes, and the remarks of the other gentlemen who took part in the exercises of the dedication. Dr. Holmes figures again more distinctly, on a later page of the collection, as the author of various works, not always strictly medical in character, but which are known to have something of a medical flavor, and which are carefully studied by the profession, not only in this, but in other lands, as any one may assure himself by reading the story of the poet's present wanderings.

The modern lithotritie frequently appears, not alone because the author's own name graces the list, but, as it would in any similar catalogue, because the subject has given rise to quite an extensive literature of its own. The subject is the basis of a title by nearly all the surgical instructors.

In the matter of clinical reports, the Bibliography shows an abundance of contributions, which often hide, under very modest titles, the results of careful observation. The number of contributions to encyclopædias and the amount of editorial work is also very large, and one who looks upon the encyclopædic articles as mere hack-work would greatly misjudge them: many of them are the result of personal experience rather than mere scholar's digests made in the library.

The number of articles representing work done in the physiological laboratory shows the encouragement to original research which is presented in that department. When one remembers the few years that such a laboratory has been adequately furnished, the results are exceedingly gratifying.

The object of this "List of Publications" we suppose to be two-fold, to show what has been done by the Faculty, and to stimulate the number of contributions in the future. The medical portion certainly contains some remarkable, and a large number of extremely creditable articles, but an attentive study will show that in many of the medical departments the literary production might be stimulated without great danger of forcing an over-growth.

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THE SUCCESSFUL LEAP FROM THE BROOKLYN BRIDGE.

Hanging is said to have been considered by President Lincoln the worst use to which a man could be put: it is, perhaps, an open question whether a man subserves a better purpose who contributes to our knowledge of the results to the human frame of falls from great heights. If he kills himself in attempting to demonstrate his belief that he can safely jump from the Brooklyn Bridge he serves to point a moral, but if he succeeds, as the individual has done whose exploit has been so recently a subject of newspaper gossip, it is more difficult to know how to regard him. The Journal has reason, however, to be grateful to the "hero of the fourth ward." A year ago, in commenting upon the fatal attempt of the late "Professor" Odlum, it ventured to say that "if they (the Sam Patchs and Odlums) could have struck the water squarely, feet foremost, they would doubtless not have been killed." "Steve" Brodie by *dropping* from the lowest wire instead of leaping from the rail succeeded in striking the water in that manner; and in fulfilling the necessary conditions, showed the truth of the Journal's conclusions by surviving the fall.

The time of three seconds is stated to have been consumed in the transit: whether this statement is derived from accurate observation at the time, or from an abstract mathematical calculation we cannot say, but information seems to be reliable that the fallen body is in the receipt of one hundred dollars a week from an enterprising Dime Museum.

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MEDICAL NOTES.

— An International Congress of Climatology and Hydrology is arranged to commence on October 1st, at Biarritz. A list of excursions into the Pyrenees and adjacent parts, which have been organized for the benefit of the members of the Congress, and which are spread out over the month of October, reaches upwards of thirty in number. Membership, the fee for which is fixed at 10s., confers the right to travel on the French railways at a reduction of fifty per cent., and entitles the member to join all or any of these excursions.

— The *Sanitarian* relates a case in which a rat had died under the floor of a large drawing-room, and was giving great offence to the owner of the house, who had had the carpets and furniture removed preparatory to taking up the floor. An ingenious friend drops in, suggests that the doors and windows be shut, steps out to the stables and traps a couple of blue-bottle flies, and returning, sets them free in the apartment. The flies, after a little undetermined buzzing, settled pertinaciously on a certain crack in the floor, and on the removal of one plank at this point, the cause of offence was readily removed.

— A case is reported from Port Elizabeth, South Africa, in which a man, while bathing had his leg completely bitten off by a shark; he was rescued, and, after immediate amputation above the condyles, recovered. On examination of the amputated stump there were distinct marks of the serrated edge of the shark's teeth on the outer condyle of the femur, two-thirds of which had been, as it were, sawn through; the monster must have caught the leg obliquely, crushed through the condyle and wrenched the leg off, going obliquely across the joint. There were also three wounds of the skin on the same side just below the rim of the pelvis, where the shark first caught his victim.

— Anything with a spice of horror in it has an attraction as a newspaper item. The following appears among the items of a daily paper:—

"A novel industry, to which a large manufactory in the suburbs of Paris is devoted, is that of preparing skeletons for the market. The proprietor contracts for a supply of corpses from all the dissecting-rooms and hospitals in the city, and the raw material is sent to him by the wagon load, to be dumped upon its arrival into huge cauldrons, in which it is boiled for days. When the contents of one of these cauldrons are sufficiently cooked, the grease is skimmed off, to be subsequently sold, and the soup having been poured away, the human fragments are laid upon a table, where the adhering tissues are carefully removed by the "bone peelers," as they are called. The bones are then bleached in the sun, and ultimately pass into the finishing room, where they are assorted and converted into articulated skeletons. To choose from the miscellaneous collection bones wherewith a skeleton may be constructed, which will pass for that of a single individual, requires no small amount of ingenuity. A female skeleton is worth several francs more than that of a male.

"The disarticulation of the skulls is performed separately, as it is a branch requiring greater skill and nicety in its manipulation. It is effected on the skulls of young adults or children by the ingenious plan of filling the emptied cranial cavity with dried peas, which are then steeped in water, and, in swelling, compel the disjunction more delicately than could be done in any other way. In some of the vats the bodies of infants only are boiled, and in the show-rooms of the establishment the skeletons of children are beautifully arranged in a graduated scale from minus four months up to three years. Other cauldrons are used for the bodies of animals, whose skeletons are valuable to the students of natural history. These are sold in great numbers to schools and colleges. The preparation of frogs, lizards and various reptiles occupies a separate department. The comparative cheapness and abundance of the skeleton supply from Vienna since the Russo-Turkish war has somewhat depressed the trade, but really good osteological preparations always command a high price."

NEW YORK.

— In a suit brought by the Society for the Prevention of Cruelty to Animals, of Jersey City, against Dr. Beriah A. Watson, a surgeon of eminence of that place, to recover damages for alleged cruelty to dogs in experimental surgery, Justice Lane gave judgment July 20th, against Dr. Watson, and an appeal is to be taken to the Court of Common Pleas.

— At a meeting of the Board of Managers of the St. John's Riverside Hospital, at Yonkers, held July 19th, the resignation of the visiting medical and surgical staff, which were recently tendered because of the failure of the board to appoint Dr. Edgar M. Hermace, a consulting physician, were accepted; while at the same time resolutions were adopted acknowledging the faithful service of the staff, and expressing the regret of the managers at their resignation. The resolutions also asserted that the reason for the failure to appoint Dr. Hermace was the fact that he had been ungentlemanly in his treatment of the Ladies' Committee and of the Board of Managers.

— Dr. Alfred S. Purdy, one of the oldest and most highly esteemed practitioners of the city, died of pneumonia on the 22d of July, at his residence, No. 308 Madison Avenue. He was born in New York in 1808, and commenced the study of medicine in the office of Dr. Alexander H. Stevens, a noted surgeon of the day. He was graduated from the College of Physicians and Surgeons in 1831, and continued in active practise in his native city for fifty-five years. His funeral, which occurred July 24th, was attended by delegations from the New York Academy of Medicine, the Medical Society of the County of New York, and the New York Pathological Society, of which societies he had been a member for many years. The services were held at St. Paul Methodist Episcopal Church, of which he was one of the founders, as well as a trustee, at the time of his death.

— In Troy there would seem to be an admirable opportunity for the enforcement of the existing statutes against the illegal practice of medicine. A certain Mrs. Hoyt, of that city, some time ago obtained a diploma from an institution known as the "American Health College," of Cincinnati, claiming, it is said, to be incorporated under the laws of Ohio, which authorizes her to practice the "vitapathic system of medicine," whatever that may be. She states that she was graduated from the college after an attendance of *eight weeks* upon its course of study, and that she also has a certificate from the institution authorizing her to perform the functions of a minister of the Gospel. Acting upon the powers conferred by the latter, it is asserted that she has already officiated at two marriages; but to what extent she has inflicted the "vitapathic system of medicine" upon the community has not transpired.

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Miscellany.

MEDICO-LEGAL CASE — ALBINO BIRTH — IS IT WHITE OR BLACK?

Readers of the Journal who read "Mr. and Mrs Morton" cannot fail to find interest in the following letter which originally appeared in the *Virginia Medical Monthly.*

Mr. Editor,— At a recent term of the Corporation Court of this city, a case involving legal medicine occurred of sufficient interest to justify a short account of it.

William H. Brothers and Sarah E. Brothers, both negroes, were married some years ago and are the parents of two children, a boy and a girl. On November 4th, 1883, after many quarrels, they parted, and in April, 1884, Sarah E. Brothers obtained a decree of absolute divorce against her husband, Wm. H. Brothers, and the chancellor gave to her, the plaintiff, the custody of the children, and imposed upon her the care of their property, consisting of some city real estate.

On August 6th, 1884, nine months and two days after last opportunity of access, Sarah Brothers was delivered of a white child. Becoming aware of this fact, Wm. H. Brothers entered a petition before the court to have his two children removed from the custody of their mother and their property remanded to other care, alleging that the fact that her child was white was sufficient proof that he, a negro, was not the father of the child, and therefore proof of the adultery of the mother. She resisted the petition, declaring that the child was the offspring of the petitioner and an albino. After the case had been in court many months, the chancellor declined to decide the parentage of the child, and a jury was called to determine "Whether W. H. Brothers is the father of the child of Sarah E. Brothers, born on August 6th, 1884."

On the trial the child was produced in court; opportunity of access was proven as late as the 4th of the November preceding, the motherhood was proved, and I was called upon to testify as to the race.

I found a child of skin as white as pearl — glistening, smooth and very thin — hair woolly but perfectly white, eyes light gray with pinkish pupils, oscillating continually, nose flat and thoroughly African, head heavily developed behind, low forehead, rather rounded, lips thin. I had therefore no hesitation in declaring the child to be an Albino. Then came the question is it a negro or mulatto albino? I concluded that the "kinky" wool and flat nose were sufficiently marked to demand the opinion that it was not a mulatto; but what was I to do with those thin lips? At last I concluded that the thinness of lip was probably due to the atavism or the reversion to strain, and that possibly there was a trace of white blood somewhere in one or other of the parents. The mother was pointed out to me, and I thought that I could see that she was not a full-blooded negro. The two undoubted children of the contestants were now presented in court, and I was pleased to find both of them the possessors of thin lips. Wm. H. Brothers was shown to me, and I found he had the same sort of lips, and undoubtedly had white blood in his veins. I had seen the child before, but never any other member of the family. I pointed out each feature to the jury and discussed it before them, and called their attention to the lips as the only feature which prevented me from asserting that the child was a full-blooded negro, and then pointed to the lips of the other members of the family.

After argument, the jury retired and soon returned with the verdict, "We the jury, find that W. H. Brothers is the father of the child of Sarah E. Brothers, born on August 6th, 1884."

Wm. A. Thom, Jr., M.D.

Norfolk, Va., May 31st, 1886.

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HYDROPHOBIA AND PASTEUR. TWO OPPOSING STATEMENTS.

The first is practically the substance of a special despatch to an enterprising daily:—

"Henry Bergh, the man who prevents cruelty to animals in New York and vicinity, is taking an interest in the case of the young man Harold Newell, the son of a Jersey City doctor, upon whom Dr. Valentine Mott has been 'experimenting, after the Pasteur fashion, to cure him of a dog bite.' He said to a reporter to-day that 'Dr. Mott and the rest of them ought to be arrested. He is probably acquainted with Pasteur's financial success, and is making this an experiment advertisement for future operations. The whole principle of inoculation is wrong. The medical profession fears to express its honest convictions because of the popular belief in vaccination. The human race is deteriorating under vaccination. Smallpox, cancers, tumors, syphilis and other forms of disease are resulting from it. There are no end of fanatics who find microbes for every disease. They will be finding one for delirium tremens before long. There is no proof that Pasteur has ever cured a patient of hydrophobia, for there is no proof that he has ever had a hydrophobia patient. He has bulldosed his countrymen, the government has subsidized him, and the people take what he gives them. He has insulted common sense. What healing power is there in veal broth injected into the blood? Can anything be more absurd than this taking virus from a diseased sore and putting it into the veins of a healthy person?'

"The experiments on young Newell were temporarily suspended because it was feared they were giving him hydrophobia, instead of curing him of it."

The second is the account from an honored medical contemporary of a lecture in which M. Grancher, the collaborator of M. Pasteur, presented, for the first time, the clinical history of the patients treated for hydrophobia by vaccination. The persons bitten and vaccinated were grouped in three classes:—

"(1) Those bitten by a dog of which the nervous system was sent to Pasteur's laboratory, inoculated in rabbits, and caused death of the latter by hydrophobia; or those who had been bitten by a dog the bite of which had caused death by hydrophobia in other animals or man.

"(2) Those bitten by a dog which before or after death had been examined and declared rabid by a veterinarian.

"(3) Those bitten by a mad dog which had escaped observation.

"The statistics extend to April 22, 1886.

"The total of the three categories includes 1,335 patients. Elaborate and rigorous statistics prepared by M. Leblanc, Member of the Academy of Medicine and Veterinarian to the city of Paris, show that of 100 non-vaccinated persons bitten by rabid animals, 16 die.

"In the first group above mentioned there were 96 patients, of which 1 died, a mortality of 1.04 per cent.

"In the second series are 641 subjects and 3 deaths, a mortality of 0.46 per cent., or for the two series, of 0.75 per cent.

"In the third series are 232 cases, which are here disregarded.

"The mortality among patients bitten on exposed surfaces (the face and hands), was in the first group 54, with 1 death, mortality 1.8 per cent.; in the second group, 400 with 3 deaths, mortality 0.75 per cent. M. Brouardel, in examining the statistics of the Council of Hygiene from 1862 to 1872, finds that in non-vaccinated persons bitten on exposed surfaces, the mortality is 80 per cent.

"In addition, M. Pasteur has vaccinated 48 persons bitten by mad wolves; of these 7 have died, giving a mortality of 14 per cent. M. Brouardel has shown that non-vaccinated individuals similarly bitten present a mortality of 66.5 per cent.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 17, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whoop'g Cough.	Diph. and Croup.
New York	1,439,039	892	533	34.11	7.56	27.36	1.08	3.07
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	394	239	59.02	8.00	35.88	1.04	5.20
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	181	89	28.05	12.65	24.20	.55	4.95
St. Louis	400,000	166	75	31.80	4.20	16.20	.60	7.20
Baltimore	417,220	212	125	36 66	9.40	31.49	.47	1.41
Cincinnati	325,000	126	72	34.76	9.48	20.54	—	6.32
New Orleans,	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	113	52	29.58	7.83	20.80	—	.87
Pittsburgh	190,000	105	65	29.45	5.70	17 10	2.85	2.85
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	61	24	31.16	14.76	29.52	—	6.06
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	33	15	45.45	12.12	24.24	—	—
Charleston	60,145	42	23	14.00	16.80	19.20	—	—
Worcester	68,383	25	18	36.00	8.00	28.00	4.00	—
Lowell	64,051	33	15	39.39	6.06	36.36	—	—
Cambridge	59,660	28	15	35.00	17.85	28.56	—	—
Fall River	56,863	25	18	52.00	8.00	48.00	—	—
Lynn	45,861	17	0	11.76	5.88	5.88	5.88	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	9	4	11.11	—	11.11	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	5	10.00	20.00	10.00	—	—
Holyoke	27,894	14	9	50.00	14.24	71.20	7.14	—
Chelsea	25,709	—	—	—	—	—	—	—
Tanuton	23,674	4	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	—	—	—	—	—
Brockton	20,783	6	4	—	—	—	—	—
Newton	19,759	4	1	—	50.00	—	—	—
Malden	16,407	4	2	50.00	—	—	25.00	25.00
Fitchburg	15,375	7	2	14.28	—	—	—	14.28
Waltham	14,609	2	1	100.0	—	—	—	50.00
Newburyport	13,716	4	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,510: under five years of age 1,379: principal afections diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 928, consumption 235, lung diseases 158, diarrheal diseases 720, diphtheria and croup 85, whooping-cough 27, scarlet fever 24, measles 20, typhoid fever 19, malarial fever 17, cerebro-spinal meningitis 14, puerperal fever two. From scarlet fever, St. Louis six, New York and Pittsburgh five each, Cincinnati three, Cambridge, Brooklyn, District of Columbia and Waltham one each. From measles, New York nine, Baltimore four, Cincinnati three, Brooklyn, Pittsburgh, Nashville and Worcester one each. From typhoid fever, District of Columbia five, New York and Cincinnati four each, St. Louis and Nashville two each, Baltimore and Pittsburgh one each. From malarial fever, St. Louis five, New York four, Brooklyn, Baltimore and Nashville two each. From cerebro-spinal meningitis, New York eight, District of Columbia and Nashville two each, Fall River and Holyoke one each. From puerperal fever, Brooklyn and Boston, one each.

In the 20 cities and greater towns of Massachusetts, with a population of 956,052 (population of the State 1,941,465), the total death-rate for the week was 21.27 against 18.76 and 18.02 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending July 10th the death-rate was 18.4. Deaths reported 3,213: infants under one year of age 907: diarrhœa 225, measles 116, whooping-cough 58, scarlet fever 33, fever 27, diphtheria 18.

The death-rates ranged from 25.2 in Preston to 11.7 in Wolverhampton; Birmingham 15.0; Hull 15.3; Leeds 19.5; Leicester 14.6; Liverpool 18.2; London 19.4; Manchester 20.1; Nottingham 18.5; Sheffield 15.1; Sunderland 13.1.

In Edinburgh 20.5; Glasgow 18.9; Dublin 23.1.

For the week ending July 10th, in the Swiss towns, there were 29 deaths from consumption, lung diseases 23, diarrhœal diseases 10, measles five, diphtheria and croup three, puerperal fever two, small-pox and erysipelas each one.

The death-rates were: at Zurich 9.9; Geneva 17.2; Basle 11.8; Berne 21.4.

The meteorological record for week ending July 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, July 17, 1886.	Barometer. Daily Mean.	Thermometer. Daily Mean.	Thermometer. Maximum.	Thermometer. Minimum.	Relative Humidity. 7.00 A. M.	Relative Humidity. 3.00 P. M.	Relative Humidity. 11.00 P. M.	Relative Humidity. Daily Mean.	Direction of Wind. 7.00 A. M.	Direction of Wind. 3.00 P. M.	Direction of Wind. 11.00 P. M.	Velocity of Wind. 7.00 A. M.	Velocity of Wind. 3.00 P. M.	Velocity of Wind. 11.00 P. M.	State of Weather.[1] 7.00 A. M.	State of Weather.[1] 3.00 P. M.	State of Weather.[1] 11.00 P. M.	Rainfall. Duration. Hrs. & Min.	Rainfall. Amount in Inches.
Sunday,...11	29.774	70.2	82.7	60.2	78.0	31.0	54.0	54.3	S.W.	W.	N.E.	10	16	12	C.	C.	C.	—	—
Monday,.. 12	29.889	67.6	78.7	54.5	55.0	31.0	66.0	50.7	N.	N.W.	W.	8	12	12	C.	C.	C.	—	—
Tuesday,..13	29.998	67.1	77.1	56.8	63.0	64.0	76.0	67.7	N.W.	S.E.	S.W.	4	11	6	C.	F.	C.	—	—
Wednes., 14	30.040	63.8	66.6	62.5	79.0	93.0	89.0	87.0	S.E.	E.	E.	12	20	13	C.	O.	O.	—	—
Thursday, 15	29.922	70.6	79.1	62.3	100.0	74.0	92.0	88.7	E.	S.W.	S.W.	12	15	12	R.	O.	O.	—	—
Friday, ...16	29.907	71.7	77.0	69.6	88.0	85.0	93.0	88.7	S.	S.W.	S.	12	8	6	R.	R.	O.	—	—
Saturday, .17	29.892	73.0	84.1	68.8	84.0	71.0	89.0	81.3	S.W.	S.E.	W.	6	6	9	O.	F.	F.	.9	1.25
Mean, the Week.	29.917	69.1	75.0	62.1				74.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 17, 1886, TO JULY 23, 1886.

Perin, Glover, assistant surgeon general and colonel. Leave of absence extended one month. S. O. 165, A. G. O., July 19, 1886.

Gardner, Wm. H., major and surgeon. Granted four months leave of absence, to take effect August 10th, or as soon thereafter as his services can be spared. S.O. 165, A. G. O., July 19, 1886.

De Witt, Calvin, major and surgeon. Assigned to duty at Fort Sully, Dak. S. O. 66, Department of Dakota, July 14, 1886.

Barnett, Richards, captain and assistant surgeon. Leave of absence extended six months on surgeon's certificate of disability. S. O. 156, A. G. O., July 15, 1886.

Kane, J. J., captain and assistant surgeon. Ordered from Fort Ringgold, Tex., to Fort Hancock, Tex. S. O. 85, Department of Texas, July 13, 1886.

Carter, Wm. F., captain and assistant surgeon. Ordered from Fort Concho, Tex., to Fort Ringgold, Tex. S. O. 85, Department of Texas, July 13, 1886.

Dickson, Jno. M., captain and assistant surgeon. Ordered from Alestrag Island, Cal., to Fort Mason, Cal.

Cochran, Jno. J., captain and assistant surgeon. Ordered from Fort Mason, Cal., to Presidio of San Francisco.

Gibson, R. J., captain and assistant surgeon. Ordered from Fort Winfield Scott, Cal., to Alestrag Island, Cal., on return from leave of absence. S. O. 56, Department of California, July 8, 1886.

Owen, Wm O., Jr., first lieutenant and assistant surgeon. Ordered for duty at Fort Schuyler, New York Harbor. S. O. 84, Division of the Atlantic, July 15, 1886.

BOOKS AND PAMPHLETS RECEIVED.

On Some Forms of Paralysis from Peripheral Neuritis; of Gouty, Alcoholic, Diphtheritic, and Other Origin. The Harveian Lectures for 1885. By Thomas Buzzard, M.D., London., Fellow of the Royal College of Physicians in London; Fellow of King's College, London; Physician to the National Hospital for the Paralysed and Epileptic. London: J. & A. Churchill. 1886.

Annual Announcement of the School of Pharmacy of the University of Michigan, for the Nineteenth Year, 1886–87, with a Register of the Residences and Occupations of the Alumni.

An Accidental Divulsion of a Pterygium Leading to an Improvement in the Regular Operation. By A. E. Prince, M.D., Jacksonville, Ill. (Reprinted from the Archives of Ophthalmology, Vol. xiv., No. 1, 1885.)

A Summary of Work done in Pa. Oral School for Deaf Mutes, Scranton, Penn. A Paper written for the Eleventh Convention of American Instructors of the Deaf, held at California Institution for the Deaf, Berkeley, California, from July 15 to July —, 1886. By Emma Garrett, Scranton, Penn.

The Hygiene of the Vocal Organs. A Practical Handbook for Singers and Speakers. By Morell Mackenzie, M.D., London, Consulting Physician to the Hospital for Diseases of the Throat; Formerly Physician and Lecturer on Physiology at the London Hospital; Physician to the Royal Society of Musicians. London: Macmillan & Co. 1886.

The Treatment of White Swelling of the Knee. By A. B. Judson, M.D., Orthopædic Surgeon to the Out-Patient Department of the New York Hospital. (Reprinted from the New York Medical Journal for June 5, 1886.)

Permanent Drainage for Ascites. By Llwellyn Eliot, M.D., Washington, D.C. (Reprinted from the New York Medical Journal for June 26, 1886.)

A System of Practical Medicine. By American Authors. Edited by William Pepper, M.D., etc. Vol. V. Diseases of the Nervous System. Philadelphia: Lea Brothers & Co. 1886.

The Genuine Works of Hippocrates. Translated from the Greek, with a preliminary Discourse and Annotations. By Francis Adams, LL. D. Vol. II. New York: William Wood & Co. 1886.

Diseases of Digestive, Urinary, and Generative Organs. Illustrated by 106 fine wood engravings. Being Volume II. of the Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. This is Vol. VI. of Wood's Library for 1886. New York: William Wood & Co.

Relations of the State and the Medical Profession. An Address Delivered before the Alumni Association of the Department of Medicine and Surgery of the University of Michigan. By Charles J. Lundy, M.D. Reprint.

Lecture.

ON COMPLETE ALIMENTS AND ON THE MILK DIET.[1]

A CLINICAL LECTURE ON HYGIENIC THERAPEUTICS.

BY PROF. DUJARDIN-BEAUMETZ, M.D., PARIS, FRANCE.

Gentlemen: — My last lecture was concerned with the primordial alimentary principles (albumen, fibrin, sugar, salts, etc.) No one of these *per se* can suffice for sustenance, and it is only in a state of combination that they constitute food. The number of alimentary substances that contain these proximate principles associated in the proper proportion to subserve all the necessities of nutrition, is, as you know, very limited, in fact, milk and eggs are almost the only complete aliments. With regard to ordinary foods, the alimentary principles are unequally distributed through them, and it is only by combining foods of various kinds that we have a dietary capable of meeting all the wants of the economy. Hence the division of foods which I have before given you into complete and complex aliments.

Milk has to-day an important therapeutic *rôle*; it is in fact a food medicine which renders us great service in a large number of diseases. I shall therefore devote this lecture to the consideration of milk diet, concluding with a few words about eggs and their employment in alimentary hygiene.

Milk is the type of complete aliments, containing in its composition (the gelatinous substances alone being excepted), all the primordial principles in large proportion. The albumen and casein represent the albuminoid principles; the butter represents the fats; the sugar of milk the carbo-hydrates, and the whey contains the water and salts which stand for the inorganic principles; two alkaloids have also been found in milk, if we may trust the experiments of Winter-Blyth; galactine and lacto-chrome. But these researches have not been confirmed, and we may say the same of those still later investigations, whereby casein has been shown to have a multiple albuminoid composition, (Hammesten, Radenhausen, etc.)

The table which I here place before you shows you the *average* composition of the milk of the human female, the ass, the cow, and the goat. (Henri Fery.)

Milk in 1000 Parts.	Woman.	Ass	Cow.	Goat.
Density.	1033.50	1032.10	1033.40	1033.85
Water	9009.10	9149.00	9109.08	8699.52
Dry Extract	133.40	118.10	123.32	164.34
Butter	43.43	30.10	34.00	60.00
Sugar	76.14	69.30	52.16	48.56
Casein	10.52	12.30	28.12	44.27
Salts	2.14	4.50	6.00	9.10

By glancing over the above table it will be seen that if the density varies but little, oscillating between 1032 and 1033, and if the proportion of water remains about the same in the several kinds, being expressed by a mean of 900 grammes, it is not so with the other principles of milk and particularly with the butter, lactose and casein.

If the milk of the human female and that of the ass resemble each other in the quantity of casein which they each contain, they differ very much in this respect from that of the cow and the goat which contain twice and three times as much, (28.12 for cow's milk, 44.27 for goat's milk). As for the sugar, the ratio is the reverse, this principle existing in less quantity in the milk of the cow and goat, as the table shows. As for the butter, it is the goat's milk which takes the precedence, while that of the ass contains the least.

The Municipal Laboratory of Paris, which has rendered such great service in the prosecution of frauds and sophistications of milk in this city, has established the following mean for cow's milk, below which the milk is considered bad.

One hundred parts of milk ought to yield the following substances in the following proportions:

Water		87.00
Extract (by heat maintained at 95°)		13.00
Ashes	.60	
Butter	4.00	
Lactose	5.00	
Casein	3.40	
		100.00

Chief importance in this analysis should be assigned to the figure of the extract, which should not be under 13 per cent. This is the proportion found by Carter Bell in England and Dr. S. W. Abbott, of Boston, (see especially the excellent report of the latter on the Milks of Massachusetts, published the present year).

But the above estimate must be considered only as a fair average, and milk, from whatever source, will present numerous variations, according to the age of the animal, the state of fatigue or repose, according to the time the milk has remained in the udder, frequency of milking, etc. But the food of the animal or nursing woman has the principal influence on the composition of this liquid, and this leads me to speak of medicinal milks.

Medicines may in fact be eliminated in the milk, and during the past few years important researches have been made which concern this very point: I will call your attention more particularly to those of Thomas Dolan,[2] of Pauli, and Lewald,[3] of Kehler, of Lazansky, of Fehling,[4] of Max Stumpf, etc.

It has been proved that medicinal and toxic substances derived from plants pass out in great part in the milk. It is well known that the solanum alkaloids may render the milk toxic to the infant. As for mineral substances, a great number are excreted in the milk. Thus the milk may become impregnated with iodine and iodide of potassium by giving these medicinal agents to nursing women. It is so also with salicylic acid, and it is known to be dangerous to give very large therapeutic doses of arsenic to wet-nurses; Brouardel and Pouchet, in fact, report a case where it appears that the death of the infant was the result of such administration. Although Keller has maintained that mercury is not eliminated by the milk, except when given in poisonous doses, all experimenters are of opinion that the mercurial preparations when taken in therapeutic doses by nursing women may pass out in the milk, and that syphilitic infants may in this way be treated.

There is the same general agreement with regard to quinine. Instances have been cited of nurslings being cured of malarial fevers by quinine given to the wet-nurse and passing out in the milk. As for alcohol, it is never eliminated by the mammary gland, but it gives rise to milk of bad quality. This question has been often discussed in connection with the subject of the feeding of cows on the malt refuse of breweries.

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[1] Printed from advanced sheets.

[2] Practitioner, 1881.

[3] Berlin, 1879, Lombardy, 1875.

[4] Journal of Obstetrics, 1875.

If milks may thus become medicinal or toxic by the fact of the administration of medicaments, they may also become the factors in the genesis of certain diseases by being the carriers of the germs of those diseases, and it has been claimed that in this way typhoid fever, tuberculosis and even syphilis may be transmitted. As far as syphilis is concerned, the experiments of Padova and Gallois have shown the perfect innocuousness of the milk of syphilitic wet-nurses, and if this disease is transmitted to the nursling, it is not by the milk that it is communicated but by mucous patches on the lips or nipples of the wet-nurse.

If typhoid fever has ever been propagated by milk, it was by the water fraudulently added to the milk by the vendor that the *materies morbi* was transmitted. It is known that the sources of drinking water are often contaminated by typhoid fever dejecta (as in the case of proximity of walls to cesspools), and dishonest milkmen have on some occasions adulterated their milk with such water, thus spreading the disease.

Moreover, there is no doubt that Koch's tubercle bacillus may penetrate the mammary secretion in tuberculous females, or cows affected with bovine phthisis; such milk has been proved capable of communicating tuberculosis when inoculated in animals susceptible to the disease (like hares).[5] Other animals as dogs, are incapable of being in this way rendered tuberculous. Most men show a similar resistance to the virulent principle; moreover, when milk containing the bacilli are taken into the healthy stomach, these micro-organisms are likely to be destroyed by the gastric juice.

It is also notorious that none are more exposed to emanations from tuberculous persons than physicians, who are often for hours in an atmosphere abounding in dried sputum particles, and if they resist the contagion, it is because their organisms are an unsuitable culture medium for the bacilli. As you see I do not believe much in the dangers supposed to arise from tuberculous milk, and there is at any rate an easy way of rendering such milk innocuous, namely, by boiling it.

Milk undergoes fermentation through the influence of a special organism, the *oidium lactis* or *bacterium termo*, the lactose being transformed into lactic acid, as the following formula shows:

$$\underset{\text{Sugar of milk.}}{C_{12}H_{24}O_{12}} = \underset{\text{Lactic acid.}}{4(C_3H_6O_3)}$$

The lactic acid when formed causes the precipitation of the casein and the milk separates into two parts, the whey and the solid matters. Whey is very much employed in medicine, and you will see in Switzerland and in the Austrian Tyrol and other parts of Europe numerous stations where the "whey cure" is carried out.

Whey is composed principally of the salts, sugar, and a certain quantity of casein and of butter which has escaped precipitation. The following analysis from Valentiner gives you the composition of whey:

	Sheep.	Cows.	Goats.
Water	91.960	63.264	91.380
Albuminoid matters (albumen and casein)	2.130	1.080	1.140
Sugar of milk	5.070	5.100	1.530
Fatty matters	0.252	0.116	0.372
Salts and extractives	0.558	0.410	0.578
	100.00	100.00	100.00

The patients drink a small tumblerful, morning and evening, increasing the quantity until ten or twelve a day are taken. During the whey treatment they are compelled to submit to a rigorous dietetic regimen, which consists principally in abstinence from meat and in the use of vegetables and fruits; moreover, they are required to take regular exercise in the open air. Whey has been very much vaunted in the treatment of certain affections, and particularly phthisis and dyspepsia.

It is especially in the dyspepsia of high livers that the whey treatment has furnished brilliant results, and these are in my opinion due more to the good air which the patient breathes and the daily walks which he takes and the rigorous diet to which he is subjected than to the whey he drinks, which seems to me devoid of any very energetic therapeutic action.

Whey baths were formerly given; these have been abandoned on account of their cost. In fact, the skin covered with its epithelium does not absorb saline medicinal solutions, as you well know.

If the action of air on milk which has undergone the lactic fermentation be prolonged, a new transformation takes place under the influence of a new rod-shaped vibrio; I allude to the butyric fermentation. The lactic acid breaks up into butyric acid, carbonic acid and hydrogen.

$$\underset{\text{Lactic acid.}}{2(CO^3H^6O^3)} = \underset{\text{Butyric.}}{C^4H^8O^2}+CO^2+H$$

Lastly, this butyric fermentation may give place to still another change, leading to the formation of leucine and tyrosine, ammonia, etc.; here you have the putrid fermentation. Cheese results from these two fermentations, the butyric and the putrid.

The following table will show you the richness of cheese in nitrogen. The Parmesan has the first rank. These figures explain how it is that a man can live on bread and cheese, since he finds in the latter aliment a notable quantity of nitrogen, fat and salts.

TABLE OF THE COMPOSITION OF CHEESES.

Cheeses.	Water.	Azotized Substances.	Fats.	Non-azot'd Substances.	Salts.
Blanc	68.760	19.969	9.429	6.032	0.810
Roquefort	34.550	26.520	30.140	3.720	5.970
Gruyère	40.000	31.5	24.00	1.5	3.00
Hollande	36.10	29.43	27.54	1.5	6.93
Neufchâtel	34.47	13.03	41.91	6.96	3.63
Camembert	51.94	18.90	21.05	4.40	4.71
Brie	45.25	18.48	25.73	4.93	5.61
Chester	35.92	25.99	36.34	7.59	4.16
Parmesan	27.56	44.08	15.95	6.69	5.72

All these fermentations take place more or less rapidly in milk, according to the temperature, and the cleanliness or want of cleanliness of the vessels which contain the milk. In fact, it requires but a small quantity of ferment to alter the milk, and this explains why it is that bottle-fed babies are so apt to sicken and die in the hot weather; according to Henri Fauvel the milk of nursing bottles is "turned" twenty-eight times out of thirty.[6]

Thus far, we have had to do only with the lactic fermentation, but the milk sugar may, like other sugars, undergo directly the alcoholic fermentation, and be transformed into alcohol and carbonic acid. There are three kinds of fermented milk; koumiss, kefir and galazyme. On the banks of the Caspian Sea and in the immense plains which surround it, the Tartar tribes raise innumerable troops of horses. It is mare's milk which is utilized; this is poured into a leather bottle containing a little old dried koumiss, then, whether the milk be beaten with a rod or the horseman uses his leathern bottle as a saddle, a fermentation takes place which results in the production of alcohol. This fermented mare's milk constitutes the koumiss which is distinguished as young or old koumiss according as the fermentation has been going on for a short or long time; the young koumiss having one per cent. of alcohol, the old two, and even three per cent.

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[5] Klebs and Peuch.

[6] Academy des Sciences, 1881.

You can judge of the modifications which this milk undergoes by the following analysis of Hartier:

Per 1000.	Mare's Milk.	Koumiss.
Albuminoids	19 to 28	11.20
Fatty Matters	12 to 15	12.00
Sugar of Milk	53 to 57	22.00
Lactic Acid	53 to 57	11.50
Carbolic Acid	53 to 57	7.85
Alcohol	53 to 57	16.50
Ashes or Salts	0.280	0.280

It is in another part of Russia, in the mountains of Caucasas, that kefir is made. Here a special substance is employed to ferment cow's milk, and which is now sold under the name of *Kefir grains.* This kefir grain owes its property to a microbe, the *dispora Caucasica*, which induces the alcoholic fermentation of the milk.

We have here a confirmation of the brilliant theories of our illustrious countryman, Pasteur, who has shown us that each special fermentation is due to a special micro-organism, and while the *oidium lactis* transforms the sugar of milk into lactic acid, the *dispora Caucasica* changes it into alcohol. A few of these grains are put into a bottle of milk, and the bottle is tightly corked, and its contents are subjected to a constant temperature of 15° or 16° C., and a fermented milk very similar to koumiss is thus obtained, a milk, however, which is less rich in alcohol, which is explained by the fact that cow's milk contains less sugar than mare's milk. This kefir is also distinguished as young and old kefir, the one containing 60 centigrammes per 100 of alcohol, the other as much as 1.50 grammes per 100. The following analysis indicates the difference between cow's milk and kefir.

Per 1000.	Cow's Milk.	Kefir.
Albumin	48.00	38.00
Fats	38.00	20.00
Sugar of Milk	41.60	20.025
Lactic Acid	41.60	4.00
Alcohol	41.60	8.00
Water and Salts	873.00	904.975
Density	1028	1026

To explain the diminution of butter and albuminous substances, it is necessary to take note that the kefir was made with skim milk.

Under the name of *galazyme* Schneep has described certain kinds of milk rendered alcoholic by the addition of sugar and a special ferment. Schneep made use of brewers' yeast, to which he added three parts of cane sugar and five parts of sugar of milk, which, if supposed to represent grammes, are sufficient for a litre of milk. This formula has been more or less modified by Pigatti, of Trieste, who associates with brewers' yeast, honey, alcohol, and wheat flour. Adam Gibson adds sugar of milk and cane sugar to skim milk in the process of fermentation, while Wolff employs grape sugar and brewers' yeast. My pupil, Deschiens, has very happily modified these formulæ; he makes use of those improved ferments which are employed to-day in the fabrication of pleasant liquors, ferments which are known under the name of high malt yeast. This yeast, as you see, has no odor, and is of a bluish-gray color; take four grammes, add ten grammes of sugar, and dissolve them in a little water, and pour the whole into a litre of milk; the bottle is corked and the cork tied in, and the next day, you have a sparkling beverage which you can enjoy, and which contains one per cent. of alcohol and a great deal of carbonic acid.

All these fermented milks — whether you have to do with koumiss, kefir, or galazyme — are identical in composition; they contain alcohol, carbonic acid, lactic acid, and the other elements of the milk. Their richness in alcohol is always the same, and oscillates between one and two per cent. At the same time, you can easily understand that with the process of Deschiens you can augment the quantity of alcohol by increasing the quantity of sugar and ferment. These fermented milks are generally well tolerated, especially by stomachs habituated to alcoholic liquors. By their alcohol and lactic acid they add to the tonic and digestive properties of the milk; by their carbonic acid they calm pain and vomiting, and we have consequently derived from these "champagne milks" good effects in the torpid form of tuberculosis, and especially in the gastric catarrh of drunkards. These fermented milks also enable us to institute an exclusive milk diet for our alcoholic patients, while, at the same time, restricting to a minimum the usage of alcohol.

Before entering on the study of milk diet and its applications, I must say a few words about the digestibility of milk and its physiological action. When milk enters the stomach, its casein is precipitated under the influence of the acid of the gastric juice; then this casein is subjected to the action of the pepsin which liquefies it and renders it absorbable under the form of pepto-casein. As for the lactose, it undergoes the lactic acid transformation, and furnishes to the stomach an element useful for digestion, the acid which I have just mentioned. The salts and the water are absorbed principally in the intestine, and it is the presence of these salts in notable proportion which tends to diminish the intestinal secretion. Lastly, the butter and fatty substances are subjected to the action of pancreatine in the intestine.

Of all these digestive acts, there are two which you ought especially to keep in mind, namely, the action of milk on the stomach and intestine. As Charles Richet has well said in his admirable treatise on the gastric juice, milk is the regulator of the acidity of the gastric juice; when this acidity is lacking by reason of atrophy or destruction of the peptic glands, milk furnishes, by its lactic acid, an element necessary for the stomachal digestion. When, on the other hand, the acidity is too great, the precipitated casein carries with it a great quantity of this acid, and thus mitigates the evil. Of these two modes of action, the first is certainly the most important. It often happens, however, that certain stomachs, by reason of excessive acidity, tolerate milk badly, but you have always ready at hand a means of attenuating this acidity by mixing with the milk lime-water, or the natural alkaline waters.

The action of milk on the intestines renders milk of great value in intestinal complaints, as milk is one of the most active constipating remedies which we possess. Lastly, do not forget that each litre of milk contains nine hundred grammes of water, and this explains the powerful diuretic action of this aliment.

To sum up, from the point of view of its physiological and therapeutical action, milk presents itself under the four following aspects: it is a reconstituent food; it is a regulator of the acidity of the gastric juice; it is a constipating medicament, and it is a diuretic. We will now consider the applications of these properties in the usage of the milk diet.

The milk treatment may be exclusive, and here the patient takes nothing but milk. In other cases, the regimen is a mixed one, and the patient takes, along with his food, a considerable quantity of milk. There is an important precept laid down by Karel, of St. Petersburg, namely, that it is not enough to tell a patient to drink milk, but you should also vigorously fix the rules of this treatment.

The quantity of milk to administer daily varies between two and three quarts. Maurel has shown that three quarts per day suffices for nutrition, and that patients lose weight when any less quantity is used.[7] This quantity ought to be taken in fractional doses, and every hour you should give the patient a small tumblerful (from four to six ounces). When the stomach is intolerant, you can give one-fourth this amount every quarter of an hour, as Galliard recommends. The milk may be drunk hot or cold, and even ice-cold. You can also, to increase the thirst of the patient, add a little salt to each glass of milk. I also advise you to "cut" the milk, according to circumstances, with a great spoonful of alkaline water (Vichy or Vals), or with the same quantity of lime-water. Some have pretended that these additions impair the digestibility of milk; it is not so, and I have always ascertained, on the contrary, that milk is more easily digested by reason of this admixture.

Milk passes rapidly out of the stomach, and I have always found, in the hospital experiments which I have made to test the speed of the digestion of milk, that at the end of an hour, in healthy stomachs, a pint of milk had completely disappeared from the gastric cavity.

In fixing, then, at two hundred grammes (between six and seven ounces) the quantity of milk which a person ought to take every hour who is living on this aliment, you will not be likely to go astray. These results are completely opposed to those which Reichmann has recently obtained.[8] This experimenter pretends that three hundred cubic centimetres of milk take three hours to pass from the stomach to the intestine. He pretends also that boiled milk passes more readily out of the stomach than raw milk. My own experiences as before said, do not confirm those of Reichmann. As I have found no difference between raw and boiled milk from the point of view of digestibility, I ought, however, to tell you that some authorities, and Pinard in particular, have claimed that prolonged boiling favors the digestibility of milk in peptonizing a part of the albuminoid substances therein contained. This is a point that demands farther investigation.

But whatever pains you may take to lay down the rules of the milk diet, you will often see your efforts fail by reason of an unsurmountable obstacle, namely, the disrelish of certain patients for milk. At other times the patient tires of the milk diet after persevering a while with this regimen. To overcome this disgust, some have proposed to flavor the milk with essence of peppermint or anise; others to add a little coffee, rum or whiskey; others still (as Harzen), broth. All these expedients may be tried; often they will succeed, oftener they will fail.

As for the applications of milk to therapeutics, they are numerous. As a diuretic, this alimentary medicament finds its place in diseases of the heart and dropsies. We apply its reconstituent and diuretic action to the treatment of the nephrites, catarrhal and interstitial. By reason of its rapidity of digestion, the little labor which it imposes on the stomach, the production of lactic acid which it determines, we are enabled with advantage to utilize milk diet in the treatment of simple ulcer of the stomach, the gastric catarrh of drunkards, and in gastritis generally. Its constipating properties render milk eminently serviceable in diarrhœa and in chronic dysentery. Lastly, its reconstituent properties render it applicable to the treatment of diathetic states, such as gout and tuberculosis. But do not forget that the sugar of milk contraindicates the use of this diet in diabetes, despite the contrary affirmations of Dongin, and that, in certain cases of dilatation of the stomach, the milk regimen, by reason of the very abundance ingested, augments the gastrectasia; moreover, in certain cases of too great acidity of the stomach, the milk is badly supported. These reservations do not retract from the real therapeutic value of milk, of which I shall hereafter have more to say.

In concluding what I have to say to-day about the employment of milk in medicine, I can but just allude to a very singular application of milk to cachetic and anæmic states. I refer to intra-venous injections of milk. Certain authorities, struck by the similarity which exists between milk and blood, have proposed to utilize the former in transfusion. Hodder was the first to practise intra-venous injections of milk in the case of three patients in collapse from cholera, and several physicians in the United States have followed his example, particularly Howe, of New York, Gaillard Thomas, Meldon, Robert McDonnell, William Pepper, and Brinton. Jennings also has made an able defence of the employment of transfusions of milk in the last stages of cholera, of typhoid fever, of pernicious anæmia, and as a *succedaneum* to the injection of blood in all cases where the latter cannot be readily obtained.

Medical authority has not favored this practice in France; and despite the favorable opinion of Brown-Sequard and Dupuis respecting these intra-venous injections, they have been regarded as extremely dangerous; and in support of this view the experiments have been cited of Laborde and Culcer, Moutard, Martins and Richet, and Miglior Ranza in Italy. These experimenters have shown that the globules of butter constitute fatty embolisms which determine mortal accidents, due to anæmia of the bulbus; moreover, they show that the the therapeutic value of these injections is very questionable. These experiments seem to me to have settled the question.

EGGS.

Eggs constitute a complete aliment for birds, though incomplete for man. If, in fact, the egg contains azotized substances, albumen, vitelline, and an extract of meat; if it contains a fatty matter, the oil of the yolk (a phosphorated oil); if also it contains salts it still lacks the requisite quantity of water to satisfy nutrition, so that if eggs are more nourishing than milk, (ten parts of milk representing one of egg), they are nevertheless inferior to milk as a complete food.

The different primordial elements of which I have spoken, are distributed in the egg in the following manner:

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[7] Maurel. On the Treatment of Diarrhœa and Chronic Dysentery by Milk Diet and the mixed Regimen (Bale de Thér., 1881, t C p. 199.

[8] Reichmann. Experiments on the digestion of milk. (Zeitschrift für Klin. Med., 1885. ix).

Azotized matters	14 per cent.
Fatty matters	10 per cent.
Salts	2 per cent.

In an egg weighing fifty grammes, the shell represents six, the yolk eight, and the white thirty-six.

Eggs are rapidly digested, but the digestion is influenced especially by the degree of cooking. While a hard-boiled egg is indigestible, a rare egg is speedily digested and demands little labor on the part of the stomach.

The different albuminoid substances that compose the egg contain a certain quantity of sulphur, hence it often happens, and in cases where the gastric juice is deficient, that a putrid decomposition of eggs takes place in the stomach, giving rise to an eructation of sulphuretted hydrogen. This is what I have described under the name of *putrid dyspepsia.*

It seems demonstrated, that the egg albumen may pass out in the urine (see in this connection the experiments of Robinson and Semmola), thus constituting an alimentary albuminuria, analogous to alimentary glycosuria. Hence the white of egg is proscribed from the dietary of the albuminuric. I shall return to this subject when I come to speak of the dietetics of Bright's disease. But I ought to tell you here that recent experiments of Stokevis show that if an exclusive alimentation with raw eggs may determine the passage of albumen in the urine, it is easy enough to prevent this by cooking the eggs.

It has also been maintained that the albumen of egg possesses constipating properties, hence the white of egg has been recommended in the treatment of diarrhœa. I do not think there is much to support this view.

In pharmacy we make much use of eggs for emulsions; there is one which is in general use, and is described under the name of *lait de poule* (hen's milk), and which consists, you know, in emulsifying the yolks of two eggs in boiling water, and flavoring the whole with orange-flower water. I also recommend the preparation known under the name of *American cream.* You beat up the yolks of two eggs, add powdered sugar and flavor the whole with a little rum or brandy or sherry wine. This is a very strengthening nutrient mixture which is generally well supported.

Do not forget also that eggs poached in broth, or broth with the simple addition of the yolks of eggs forms a nutrient preparation which patients are likely to be fond of.

I have now finished the complete aliments, and propose to devote the next lecture to a subject much more extensive, the study of the complex aliments.

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Original Articles.

IODOFORM POISONING.[1]

BY ELBRIDGE G. CUTLER, M.D.

Most of the cases of poisoning by iodoform recorded have followed its application to wounds, but it has also resulted from internal administration (as is seen in the accompanying table, cases 56 and 57, by Oberlaender where 42.0 grammes were taken in eighty days and 5.0 grammes in seven days respectively), as well as when introduced into the vagina or rectum and when applied to the skin.

The symptoms observed have sprung from disturbances of the heart and brain more especially.

That the physical qualities of iodoform cannot be essentially different from iodine is seen from the fact that it contains 96.47 per cent. of iodine.

Animals. Experiments which have been made on animals with iodoform especially by Binz[2] Hoegyes[3] Moleschott[4] Moeller, and Hoepfl seem to bear out this belief. The symptoms which Binz and Moeller obtained after exhibiting large doses were hypnotic action, emaciation, fatty degeneration of the liver, heart, kidneys and lung epithelium. In the subcutaneous injection of iodoform the mucous membrane of the stomach was one of the first organs to be injured. Hoegyes observed besides the symptoms just mentioned, hæmorrhages into the lobes of the lungs. Death occurs with the appearances of general paralysis, according to Binz, special paralysis of the respiratory centre. Falkson[5] experimented by placing the iodoform in the peritoneal sac. He distinguished an acute and a chronic form of poisoning. In the acute the animal is languid, trembles a good deal, is sleepy, has no appetite, occasionally vomits, and has a disturbed gait. The somnolence increases to coma, respiration and the heart's action are quiet, the latter may be quickened, reflex excitation is retained in the coma, epileptic attacks frequently occur with marked opisthotanos. There is a decided loss in weight. An intermediate stage of apparently perfect health is seen between the operation and the beginning of toxic symptoms (in dogs), which shows that a certain cumulation of the poison occurs in the blood and tissue-fluids before these symptoms come on. This stage sometimes covers a period of several days.

In the chronic poisoning the preliminary stage of health lasts longer. The first symptoms are diminished appetite, with vomiting and increased thirst, then occur languor, indisposition to move, anger at being disturbed, nasal catarrh, dyspnœa, irregularity in the urinary secretion, albumen in the urine, emaciation, trembling of the muscles, coma, difficult respiration.

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[1] Concluded from page 503.

[2] Archiv. für experimentelle Pathologie und Pharmakologie Band, viii und xiii.

[3] Archiv. für experimentelle Pathologie und Pharmakologie Band, x.

[4] Wiener Medicinische Wochenschrift, 1878.

[5] Archiv. für Klinische Chirurgie, 1882, xxviii, 112-156.

The result of his autopsies was similar to that of the above observers. He found that the iodoform might become encapsulated in the peritoneum just like any other foreign body, but its resorption was not thereby stopped. This same encapsulating was found to occur by Gussenbauer in some of his patients.

Human Subject. The toxic symptoms caused by iodoform in human subjects are very much the same as those obtained on experimentation with lower animals. A narcotic soporific action is observed and a considerable increase in the frequency of the pulse, 130 to 160 beats or more. These symptoms are not serious but sometimes very grave ones occur which may lead to a fatal issue. In some cases "aseptic fever," so-called, has been observed with a temperature of 103°, and death with a clear sensorium. More frequently, severe brain disturbances occur either with the picture of an acute meningitis or true mental disease which may be followed by death, even when the drug has been discarded. Autopsy in such cases has given fatty degeneration of internal organs, especially the liver. Sometimes very severe and lasting attacks of diarrhœa have been observed.

It has been found that in factories where iodine preparations are manufactured the employés suffer from acute, subacute, and chronic poisoning. The acute form is distinguished by severe irritative cough, headache, inflammation of the conjunctivæ and nasal mucous membrane, sometimes also by temporary loss of consciousness. In the subacute affection is comprehended protracted swelling of eyelids, flow of tears, severe frontal headache, frequent sneezing (iodine catarrh). Fever, elevation of temperature, increase of pulse seldom occur in these employés. More frequent than the above are cases of chronic poisoning, so-called iodism, a cachectic condition which develops as the result of frequent and lasting gastric catarrh.

Symptoms. The symptoms of poisoning by iodoform in patients show different degrees. Schede made out six degrees, Koenig divides cases into mild and severe, Nussbaum gives three as follows:

(1) The mildest form is that in which the symptoms disappear in a few days after removing the iodoform. They consist chiefly of iodoform taste and smell, patients cease eating, sleep little, are excited, angry, sometimes a little delirious and consider themselves sicker than they really are.

(2) The second degree is distinguished by complete loss of appetite which may increase to absolute refusal of food so that finally patients will not even swallow wine or beer; when they are persuaded to take food they complain that everything tastes like wood to them. The worst feature is the mental disturbance. There is melancholy and tearfulness, an excitability and despondency which is truly most painful for the patient and the friends. Morphia and chloral sometimes refuse to act. With open eyes patients frequently do not recognize those around them, suddenly spring from bed, will dress and attempt to get away without knowing why or where. They pick at the bed clothes, throw their arms about, are wholly inconsolable, believe that they will never recover and that they will surely become insane. This wretched condition may last for weeks in spite of leaving off the iodoform, it may make a pause and then come on again although the wounds treated with iodoform have long been healed; indeed this condition sometimes first occurs after healing (encapsuling, see case 19 in table). Finally refusal of food ceases, melancholy gives place to an animated appearance and patients recover.

(3) The third degree, on the other hand, shows itself two or three days after the application of iodoform, there is complete apathy, the patient wholly loses consciousness. From the beginning there is absolute refusal of food, the pulse is rapid and thread-like, respiration is sighing, there is sopor. Patients spring out of bed if they still have the power, cry out in words which are indistinguishable, and lisp or speak imperfectly. They lie for hours without reaction, then again they are unquiet. Morphia and chloral are often of no service. The temperature constantly sinks lower. The wild crying out and throwing about of the arms, picking and tearing at the bed-clothes and dressings, permit us to suppose that patients have most unpleasant sensations. All stimulating means, camphor injections, ether, atropine, strychina and so forth prove to be wholly fruitless. The removal of all the iodoform is of just as little use. Patients die with the appearance of pronounced collapse after they have been for hours and days even cold and pulseless with stertorous breathing.

These groups include most of the prominent symptoms, individual cases present others which may be mentioned.

Long continued headache is frequent.

Rise of temperature is not unfrequently seen, though severe even fatal cases run their course without it; 102° is seldom exceeded.

The pulse is almost always increased in frequency, usually as the case progresses towards a fatal issue it becomes small, easily compressible and weak. It ranges from 110 to 180 or a number which cannot be counted.

The respirations are frequently suspirious, or superficial and rapid.

The tongue may have a brownish coat.

Restlessness and delirium are very frequent symptoms. Involuntary discharges are not rare.

Emaciation is marked usually, especially in the chronic cases and where it is progressive a fatal issue is to be apprehended.

Pallor and a feeling of faintness with a good pulse are not so very rare.

Feeling of weakness, hebetude and sleeplessness accompany the milder cases usually.

Nausea, vomiting and anorexia are extremely frequent.

Papulous and simple erythema of the whole body has been seen; it usually has disappeared rapidly on leaving off the iodoform.

The symptoms are most striking and severe at night usually.

Chemical changes. Hoegyes considers that iodoform dissolves in the fatty matters with which it comes in contact, from this solution iodine becomes free and forms with the albumen present iodine albumen which is resorbed. According to Binz and Moeller it is dissolved by the fat, iodine is set free which is changed by the alkali present, into iodides and iodates which again circulate in the blood and act on the ganglion cells of the brain and finally appear in the urine and other secretions as iodide of soda and other iodine organic compounds. They deny the occurrence of the intermediate stage claimed by Hoegyes of iodine albumen.

Behring, who experimented on rabbits, thinks that iodoform acts by abstracting alkali from the organism, that in sufficient doses it may cause the death of the animal by this action, and that one may by a proper exhibition of alkali establish a remarkable tolerance of iodoform.

Etiology. It is difficult to explain why the poisoning occurs. Various views are entertained on this point. The manufacturers have been blamed, the article being at first expensive and now cheap, it has been suggested that the iodoform might perhaps be impure. That this is not the case may be inferred from the fact that the best and worst results have followed the use of the drug from the same parcel. Others believe the cause to lie in the variable power of absorption of the tissues and consider that it has an especially injurious action when it comes in contact with much fat because it becomes dissolved thereby. If this assumption were correct we should expect to see very fat persons more susceptible to the drug than others, which has not thus far been observed to be the case. Others again, blame the age of the individual, that is advanced age. Young people are said to bear it well, cases of poisoning are less severe with them because they can eliminate it better, their organs of elimination being more apt to be sound at the start. It is certain that of the recorded cases fewer deaths have occurred under the age of fifty than above it. Idiosycrasy is a sufficient cause for many. Ludwig thinks that in the circulation of iodoform through the body besides the giving off of iodine there is probably some other organic combination formed which causes the toxic action. Nussbaum[6] believes that probably the concurrence of many conditions causes a liability to poisoning. He speaks especially of a large fatty wound capable of resorption, degenerated heart muscle and diseased kidneys, and recognizes also in a sick enfeebled organism the most dangerous disposition to iodoform poisoning. Mosetig finally regards the simultaneous application of iodoform and carbolic acid as the chief cause. He always used pure iodoform treatment himself. He washes the wound with clean water, then strews the iodoform powder on it and over it lays charpie free from fat and gutta-percha paper. The carbolic acid, according to him, causes nephritic irritation and that is said to hinder the elimination from the body and so cause poisoning. This opinion has a great deal of probability in its favor, first, because Mosetig in spite of his very extensive use of the treatment (3,000 hospital and 4,000 ambulatory patients), has observed no poisoning at all, and second, because in many of the cases recorded in the above table other disinfectants are stated to have been used at the same time. On the other hand the number of cases where no mention of other disinfectants is made, is very large and there are also many where none such could have been used. We are forced therefore, to the conclusion that the cause is yet to be proved.

Bum arrives at the following conclusions:

(1) Iodoform has a poisonous action when the iodine freed in the organism does not become perfectly combined.

(2) This poisoning will happen where the quantity of iodoform introduced is 1, over large, 2, and in qualitative and quantitative changes of the blood. It is surest to occur where these two forces work together.

(3) The use at once or in short intervals of very large quantities of iodoform, especially in anæmic, very young and old individuals is to be avoided.

(4) The iodoform dressing is to be changed as seldom as possible in order to avoid a cumulative action, (and at the same time the iodoform is not to be removed the wound washed and fresh powder or other form applied, as a surface the best suited for absorption is left.)

(5) The iodoform in the wound must never be exposed to a strong pressure as it aids absorption; the dressing is therefore never to be applied tightly.

Absorption. With regard to the absorption of iodoform Zeller[7] found that the solubility of iodoform in water was the same as in blood-serum, that is, 0,212 grammes to 1,000 grammes water. Resorption from the stomach was very slow (shown by determining the quantity of iodine eliminated in the urine), that from the peritoneal surface very rapid, and that from the surface of wounds could not be reckoned. Falkson found that even dry crystalline iodoform was absorbed through the intact skin. He made four experiments on different individuals by strewing crystals of iodoform on the forearm and covering it with dry charpie free from fat and gutta-percha paper. After twenty-four to forty-eight hours the urine gave the iodine reaction distinctly. The arm on removing the bandage was always perfectly dry. General testimony seems to prove that a granulating surface will absorb it more readily than a fresh wound, a serous membrane quicker than a muscle-wound, a freshly-sawed bony surface easier than a sequester-capsule, a serous surface in normal condition better than a thickened inflamed one. It is absorbed very readily from the vagina. When applied to a wound by the finger or rubbed in, absorption seems to be almost certain.

Detection in Urine. If the iodine reaction is not obtained in all cases in the urine where iodoform is employed it certainly is obtained in all degrees of poisoning. In some severe cases there is albumen and perhaps casts in addition.

(1) To detect iodoform or rather iodine in the urine, the compound is to be first decomposed by fuming nitric acid and dilute sulphuric acid, then a little starch paste and a few drops of bisulphide of carbon are to be added, whereupon a beautiful blue color occurs. On shaking it about, a small portion of the iodine is dissolved by the bisulphide of carbon and a dark-blue ring of iodide of starch is formed on the layer of bisulphide of carbon.

(2) A second though less reliable method is as follows: After starch paste and dilute nitric acid have been added to the urine a few drops of fuming nitric acid are added, when a blue color occurs which on heating disappears and returns again on cooling.

(3) By a third method, after sulphuric acid and fuming nitric acid have been added the fluid is shaken with chloroform. There occurs through solution of the iodine in the chloroform a violet color.

(4) Sometimes the iodine is in such combination that the above reagents do not free it, chlorine water may then be added for this purpose, as I learn from Professor Hills, or the urine may have to be incinerated and then tested (Harnack).

Pathological appearances are not constant.

Fatty degeneration of the heart muscle, cloudy swelling of the renal tubular epithelium and fatty degeneration of the liver have been reported not unfrequently; sometimes gastritis has been seen. Croupous pneumonia has been observed by Aschenbrandt in lower animals after inhalations and "pneumonic symptoms," by Koenig, Case 22 (no account of autopsy). In this latter case and in Cases 24 and 32 of the table the suspicion is well founded, I think, that the appearances were probably due to inspiration of foreign matter from the wound or of particles of food. Œdema of the lung has been several times observed. Sometimes there has been œdema of the meninges or brain. Harnack found that certain organs of the body, namely, the brain, contained disproportionately more iodine than others, as the liver and kidneys, and curiously enough, this was found far more abundantly in the cerebellum.

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[6] Werth und Gefahr der Antiseptica, Vortrag in der Sitzung des Aerztlichen Vereins zu Muenchen am 12 April, 1882.

[7] Versuche ueber die Resorption des Iodoform. Congress of German Society of Surgery in Berlin, June, 1882.

General Remarks. With regard to the age of the individual the table shows that of seventy-seven cases of poisoning, twenty-six were under forty years, about one third, and that of the fatal cases, twenty-nine in number, all but two were under forty. A larger number of cases might materially alter these figures.

There seems to be no maximum dose of safety from symptoms; one gramme has given rise to grave consequences and even from a minute amount as in Bermann's case, number 35, in the table, unpleasant results have followed. On the other hand, large amounts 100 to 200 grammes or more have proved harmless.

The smaller the amount of surface covered by iodoform, and the less natural cavities of the body are exposed to its action, or freshly-cut bones, the better is the chance of immunity. Iodoform should never be smeared on or rubbed in, either as powder or salve. No accompanying disinfectant, as carbolic acid or corrosive sublimate, should be used.

Prognosis. In youthful persons a quickening of the pulse, 130 to 140 beats in the minute, may last for a long time without any other disturbance following, but if in adults or elderly people free from fever, a permanent and considerable frequency and diminution in strength of the pulse occurs, danger is at hand. If the mental condition gets worse and coma comes on with collapse the prognosis is grave. Emaciation if progressive is dangerous, but where it remains stationary or slightly diminishes the prognosis is favorable.

Treatment. It has been theoretically proposed (Harnack) to give compounds of the alkalies with vegetable acids internally at the first appearance of the symptoms of poisoning, as acetate of potash, and so forth. The object being to furnish the system with abundance of alkali which may combine with any free iodine which may be present. For this purpose the potash are better than the soda compounds, as poisoning has followed the use of the latter.

This course was pursued by Behring in Case 64. If this treatment does not prove beneficial, transfusion of an alkaline common salt solution is suggested, as was successfully accomplished by Kocher, Case 59. Harnack further suggests that the iodoform be washed off the wound with an alkaline carbonate solution, and then with luke-warm water, and that lastly magnesia usta be powdered on.

Conclusions. From what has preceded, the following conclusions seem warrantable:

(1) Fresh wounds or unhealthy or tuberculous surfaces are the only ones fitted for the application of iodoform.

(2) Only a thin layer or small amount of iodoform is to be applied.

(3) When granulations appear healthy, iodoform should be omitted and some other non-poisonous substance substituted.

(4) At the first symptom of poisoning, or coincidently with the original use of it, compounds of the alkalies and vegetable acids are to be given by the mouth at frequent intervals, as acetate of potash. If severe symptoms supervene, transfusion with common salt solution is to be resorted to, and the wound is to be washed free from iodoform with pure water and an alkaline carbonate solution and afterward powdered magnesia is to be dusted on.

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ABUSE OF MEDICAL CHARITY. — A REMEDY APPLIED IN 3000 CASES OF OUT-DOOR PATIENTS: RESULTS.[1]

BY FREDERICK F. DOGGETT, A.B., M.D.,
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At the present time when "a little less than one-fourth"[2] of the inhabitants of Boston is receiving medical treatment free of charge, it is certainly of great moment to the physicians of Boston to learn to what extent their charity is being abused, and if possible to find some remedy to correct such abuse.

It is hardly necessary to say a word as to the mere existence of such abuse, as it would be almost impossible to find a physician, who has had even a limited experience with charity cases, who would deny it. With such a physician it is perhaps his weekly or even daily experience to treat gratuitously certain persons who live in comfortable homes, well furnished, are themselves well clad, not only able to procure all the necessities of life, but even many of the luxuries. Many persons in such circumstances, in considering their expenditures, seem to make no provision for sickness, but as a matter of course look upon medical treatment as a blessing as free to them as air or sunshine, and so appropriate what may be left over from the cost of necessities of life to an evening at the theatre or to some other gratification equally out of place under the circumstances.

To those who have not had experience with charity cases, does it seem probable that all the ninety thousand and more persons in Boston applying for free medical treatment are objects of medical charity? Luckily, we have a standard of numerical comparison whereby we can, reasoning from analogy, raise the question above probability. In New York City the experiment has lately been tried of investigating the circumstances of each doubtful case, *seriatim*, as they applied at the New York Dispensary. The number of cases investigated[3] was 845; of this number, 504 were deserving; 235 were not; 38 were doubtful, and 68 could not be found. Thus 59.6 per cent. were deserving.

Dr. A. Siebert[4] of the German Dispensary, reports that out of 434 cases investigated, 107 gave wrong addresses; 187 were fully able to pay; 42 were able to pay small fees; 75 were unable to pay, while 23 gave no answer. In another series,[5] investigated for the managers of this dispensary by the Charity Organization Society, from January to March, inclusive, 1884, out of 192 cases, 64 were able to pay, 65 not able, while 63 gave wrong addresses.

In another New York charitable institution, in a series[6] of 79 investigated, 24 were able to pay and 27 gave wrong addresses. And finally, in another series of 400 cases, one-third was unworthy and one-third had given wrong addresses. As a result of these investigations, it was found that something over 50 per cent. of the cases were unworthy of medical charity. In the light of these figures, is it not reasonable to suppose that at least a large minority of such cases are to be found in Boston? Further evidence on this point will be adduced from the writer's figures as given later in this paper, which would go to prove that at least 23 per cent. of all cases applying in Boston are unworthy of medical charity. Much of the same results have been obtained in similar investigations in Philadelphia.

And when we consider that in London and New York, more than one-fourth of the inhabitants are treated free of charge; in Philadelphia, one-fifth; while in Liverpool 298,260 persons out of a population of 579,724,[7] or more than one-half, are so treated, — one can realize the extent to which the abuse has gone.

It is not proposed in this article to consider the causes which have produced this state of affairs, wherein so large a proportion of the inhabitants of large cities have got into the fashion of seeking medical charity. Nor is it necessary to consider in this place the motives which induce medical men to give so much of their services. However widely writers on the subject have differed on these two questions, there seems to be much unanimity in the opinion that promiscuous medical charity is alike demoralizing to the recipient, and detrimental at least to the income of practitioners taken as a body.

Scarcely a month passes in which the *London Lancet* or *British Medical Journal* fails to contain some complaint of the absorption of private patients into Provident Associations or free hospitals and dispensaries. In an editorial in the *London Lancet*[8] on a paper by Mr. C. J. Radley on "The best plan for establishing Provident Dispensaries in due relation to hospitals," there will be found abundance of such complaint; also in another editorial[9] on a proposition to disfranchise persons receiving medical charity. New York and Philadelphia journals have of late mirrored much the same state of affairs in those cities, especially in the former. Dr. W. L. Carr[10] has written on the impoverishment of the young physician through abuse of medical charity. While "Caritas Vera"[11] complains that in going a not very long distance to visit a certain patient, he must pass by no less than four free dispensaries. He suggests that if patients were questioned more thoroughly by dispensary physicians there would be less abuse.

The abuse of medical charity having for some time been admitted, and the wide-spread evils therefrom noted, attempts have naturally been made to remedy the trouble. The two principal schemes which have been tried are the Provident Societies, principally in Europe, and the Charity Organization Society in America. In the London Provident Society — the earliest type of them all — the person seeking medical aid may be elevated from the position of a charity patient to the dignity of a pay patient, by paying the sum of sixpence per month; of ten-pence for husband and wife, and two-pence for children under fourteen years of age. The scheme does not seem to thrive on American soil, for some reason. In England, one would judge from editorials and communications in the British journals, that on the one hand the scheme diminished the receipts of the physician while adding to his labors; while many apparently respectable persons who would scorn to accept charity as such, have satisfied their scruples and avoided the physician's bill by joining a Provident Dispensary. In this way the abuse of medical charity has not been corrected but has taken a more respectable form, in which guise the abuse is more difficult to meet.

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[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 8, 1886, and recommended for publication by the Society.
[2] C. D. Kellogg, N. Y. Medical Record, Nov. 28, 1885, p. 616.
[3] Dr. T. F. Gaunt, N. Y. Medical Record, Nov. 28, 1885, p. 616.
[4] Loc. cit.
[5] N. Y. Med. Record, June 13, 1885, p. 670. Vide Edit., loc. cit. May 30, 1885, p. 598.
[6] Loc. cit. Nov. 28, 1885, p. 616.
[7] British Med. Jour., Sept. 5, 1885, p. 471 *et seq.*
[8] Jan. 31, 1885, p. 214.
[9] Loc. cit. June 9, 1885.
[10] N. Y. Med. Rec., March 7, 1885, p. 278.
[11] Idem, Feb. 7, 1885, p. 168.

In case of the Charity Organization Society, it is proposed that the various charities of the city, instead of working at cross purposes — as, for example, by assisting a family previously found unworthy of assistance by a neighboring charity — shall have a system of intercommunication, and shall assist only those cases which are found worthy after examination of their circumstances. Thus the register of the New York Charity Organization Society contains the names of 98,000 families who have applied for medical relief, together with their standard of worthiness or the opposite.

Of late many such alliances have been established in European cities as well as in no less than forty cities and towns in this country. It is hardly necessary to say that the investigation bears on general relief as well as medical. In the writer's opinion, this scheme is calculated to do great good. For instance, if all the charitable institutions in Boston should agree to treat no case that did not bring a card from the Associated Charities, say, endorsing the person's worthiness after investigation, how completely would the abuse of medical charity be stopped! But that ideal time has not yet arrived.

If it were possible for each dispensary and hospital to contain a register of the thousands of families in Boston unworthy of medical charity, it would apparently not be difficult, nor would it take too much of the physician's time, to decide which cases to reject. In the absence of such information, at present it is possible to learn through a card of the Associated Charities the charity status of any family, where it is possible to look it up. This might work reasonably well in cases of no urgency, as with most of those coming to the consulting rooms of hospitals and dispensaries. Of course, treatment would usually have to be deferred for twenty-four hours. But in regard to cases sick in bed such as the district physician attends, prompt treatment is demanded by the nature of the case, and time could not be allowed for investigation. In the light of these suggestions, it must be admitted that the scheme would be cumbrous as applied to the district physician's work.

During the early months of his district dispensary practice — October to December, 1882 — it became evident to the writer, judging from the surroundings of many of the patients — as from the rents paid, the furnishing of their houses, and the amount of their wages when discoverable — that many were able to pay their physician's bills.

The position of affairs cannot be better illustrated than by relating two or three of the more glaring cases.

He was called to treat a sick child in a family occupying a well-furnished suite of rooms. On inquiring as to the apparent prosperity of the family, the mother declared that they had seen better days, but that her husband was then sick in the hospital with an incurable disease, and that the rest of the family was living on money loaned on the furniture. Some time after, it was learned accidentally through another family living in the same block, that in reality the husband was well and attending to his busines; he being the junior partner in a liquor firm which owns two establishments, not far from the lower end of Broadway, South Boston.

In another case where the writer's suspicions were aroused, the mother declared that her husband earned but six dollars a week as a barber working on short time, and with several children they were very poor. The husband was afterwards discovered to be the proprietor of a barber's shop on Broadway, and there was business enough to compel him to hire two assistants. He was amply able to pay his physician's bill.

In still another case, after having treated a woman on several occasions it was accidentally learned that her husband owned the house in which lived another family besides their own; that he further owned two horses and carts and was doing a retail coal business.

It is perhaps hardly worth while mentioning the family who explained that the reason they could pay no physician's bill, for the time being, was, that they had to set apart a certain sum each month, to meet a bill on a comparatively expensive set of furniture they had lately purchased on the instalment plan.

And finally, may be noted the case of the lady — previously a private patient of the writer's — who clad in her third-best dress, probably for the occasion, unwittingly stepped into his presence for treatment at the woman's room at the Dispensary.

It is only fair to say, that aggravated cases like the above were only encountered while the writer was yet new to the district, and before he began to question as to the circumstances of the patients.

(To be continued.)

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RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M.D., AND MYLES STANDISH, M.D.

ANATOMY OF THE HUMAN IRIS.

Fuchs [1] has made a study of the iris with particular regard to its surfaces. He made sections of the specimens so studied to explain what was seen on the surface. He found brown irides the most favorable, and selected those having a medium pupillary opening. (3 to 4 mm.)

The anterior surface of the iris. A circle divides this surface of the iris into two zones of unequal width, the pupillary and the ciliary zones.

The pupillary zone has a breadth of about 1 mm., and is crossed by a number of ridges which extend from the circle to the pupil's edge. In the depressions between these ridges a fine brown network can be seen with a high power.

The ciliary zone which constitutes the greater portion of the iris, is partially if not entirely hidden behind the sclera in the living eye. This contains a plicate zone made up by a series of nearly concentric furrows, from one to seven in number, and a marginal zone, commencing at the outermost furrow of the plicate zone, and which is distinguished by a number of apertures in its surface giving it a sieve-like appearance. The anterior surface of the iris is covered with endothelium, immediately beneath which the iris-stroma is much richer in cells than elsewhere; this layer is the anterior limiting membrane. The fibres are extremely fine and run perpendicularly to the surface. The anterior limiting membrane is thickest in the flat portion of the ciliary zone and on the prominent ridges of the plicate portion. The cells of this layer contain pigment, and upon its amount depends the color of the iris. The crypts, the apertures spoken of above, lie mostly to the outer side of the small circle, but also somewhat on the inner side. The crypt is not a blind sack but a lymph space opening into the iris. The anterior limiting membrane bends over into the mouth of the crypt, and becoming thinner as it extends inwards is finally lost at some distance from the surface. The vascular layer of the iris occupies the space between the anterior and posterior limiting membranes. This space is made up of the vessels and their adventitia, exceedingly fine fibrillæ of connecting tissue, and some branching cells. It is an open and sponge-like tissue, the central portion about the larger vessels being especially open, having large spaces, freely connecting with each other. We have, therefore, in the iris, a system of great slit-shaped channels, in the midst of which the vessels lie, and these canals connect the meshes of the ligamentum pectinatum with the anterior chamber by means of the open mouths of the crypts.

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[1] Archiv für Ophthalmologie, Bd. xxxi, Abth, iii.

The posterior surface of the iris is covered with radiating folds, in addition to which there are deep concentric furrows parallel with the pupillary margin.

The pigment on the posterior surface is divided into two layers, the outermost layer is much the thicker and consists of many layers of cells, and is folded on itself, as described above, the inner layer is, however, perfectly flat, and consists of flat cells intimately adherent to the posterior limiting membrane, and these layers can move one upon the other. The posterior limiting membrane consists of fine radiating fibrillæ which have no neuclei, and so are certainly not muscle. This membrane is the only layer not thrown into folds by the dilitation of the pupil, and consequently must be the active agency in dilating the pupil. As the result of his investigations, Fuchs denies the existence of a dilator muscle in the iris of man.

When the pupil contracts, all of the tissues are stretched in a radial direction, the vessels are straightened, the circular furrows are made shallower, the small circle becomes more marked, the crypts in its neighborhood are drawn out into thin slits and nearly closed. On the posterior surface the radial folds become more prominent and the circular ones shallower. Sections show that the thickness of the iris lessened during contraction. When the pupil dilates the changes are the converse of those seen in contraction. The vessels become strongly convoluted, the circular furrows deep, the mouths of the crypts become more circular or, in extreme dilitation, become slits transversely to a radius of the iris. The thickening of the iris is chiefly in the pupillary zone. During the contraction of the pupil the apertures in the pupillary zone become smaller, and those of the periphery larger, and the opposite is true in dilitation. It is probably through these channels that the iris absorbs blood and pus from the anterior chamber. The movements of the iris probably aid in the propulsion of fluids in these canals.

This anatomical arrangement has probably some bearing on the action of mydriatics and myotics on intraocular pressure.

INNERVATION OF THE IRIS.

Kowalenski[2] has published an elaborate historical review of the investigations of the nerve centers controlling the dilitation of the pupils, followed by a long series of investigations of his own, from which he draws the following conclusions:

(1) The hypothesis of Schiff and Salkowski, as to the course of the nerve fibres dilating the pupils, from the intra-cranial center through the lateral portion of the cervical portion of the spinal cord, and through the cervical portion of the sympathetic nerve to the eye: also,

(2) The hypothesis of Budge of the existence of an autonomous centre in the spinal cord for fibres dilating the pupil, do not agree with the facts.

(3) The autonomous centre of the fibres dilating the pupil lies in the cranial cavity and can be excited by reflex irritation.

(4) Inter-central exciting fibres pass from this centre to the cellular origin of the dilators of the pupils in two directions, through the cerebrum and through the spinal cord.

(5) The fibres passing through the spinal cord seem to take their course through the lateral columns; each lateral column contains exciting fibres for both sides.

(6) The dilators of the pupils coming from the spinal cord do not all pass to the eye through the cervical portion of the sympathetic nerve, some taking another course. (vertebral nerve?)

(7) The lateral columns are the main channels for transmitting the irritation from the sciatic nerves to the cerebrel centre of the dilators of the pupils, each column containing fibres of both sciatic nerves in the cervical portion of the spinal cord. Each one is capable of transmitting reflex irritation to the dilators of the pupils of both sides.

(8) That the pneumogastric, hypoglossus, lingual, and intra-orbital nerves also dilate the pupil by reflex irritation, as well as the sensory nerves.

(9) The cerebral centre of the dilators of the pupils can also be excited by checking the supply of arterial blood to the brain (by compressing the carotids), and by suppressing respiration.

Schweiger[3] notes that after the complete denudation of the posterior circumference of the globe (resection of considerable sections of the ciliary and optic nerves), if the operation be performed in a case with normal iris the effect is mydriasis ad maximum, so that atrophia has no further influence. Eserine, however, will produce well-marked myosis, except in cases in which the drug could not have produced any effect before the operation, as, for instance, in glaucomatous mydriasis. From this reaction to the influence of eserine no inference can be drawn as to the regeneration of the motor-nerve fibres; besides, no contraction of the pupil can be produced by the entrance of light into the other eye.

ABSENCE OF PUPILLARY REFLEX.

Uhthoff[4] has published a very interesting tabulation of cases in which there was absence of pupillary reflex (Argyll Robertson pupil). He commences with a description of his method of examination. He prefers a dark room and concentrates the light from a gas jet upon the pupil by means of a convex lens. He warns observers against overlooking slight reactions in small pupils, and of the dangers of mistaking movements of the globe, and the reaction of the pupil to efforts of accommodation for the reaction to light. He objects strenuously to the method sometimes employed of causing the patient to close his lids for a few moments and then suddenly opening them. He first reviews the results of the examination of four thousand cases of mental disease by Mœli, Thomsen, Siemerling. In these four thousand cases, absence of pupillary reflex occurred in four hundred and ninety-two individuals, of which number four hundred and twenty-one were general paralytics; twenty-one had tabes; eleven, senile dementia; eleven, chronic alcoholism; nine, syphilis; six, focal lesions; three, head injuries, without other cerebral symptoms; and ten cases had either mental alienation or epilepsy. The fact that these four thousand cases were all cases suffering from mental disease accounts, of course, for the comparatively small number of tabetics. Old age, while very often producing small pupils, does not produce an absence of the pupillary reflex. The symptoms occurred in more than half the cases of general paralysis. Many of the cases were under observation for long periods of time. Uhthorff himself made three distinct sets of observations.

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[2] Kowalensky. Investigations on the Innervation of the Pupil. Kasan, 1885. Archives of Ophthalmology, Vol. xiv, No. 4.

[3] Archives of Ophthalmology, Vol. xiv, Nos. 2-3, p. 231.

[4] Berliner, Klin. Wochensch. 1886, Nos. 3-4.

First, he examined several hundred healthy persons and did not find the pupillary reflex absent in a single case.

Second, he examined a large number of cases in various hospitals, and only found the condition present in cases that would naturally come to a clinic for nervous diseases.

Thirdly, he examined 550 patients in Westphal's clinic for nervous diseases, and 12,000 cases attending Schœler's clinic of diseases of the eye. Among the 12,550 cases in Schœler's and Westphal's clinics, absence of pupillary reflex occurred 136 times, excluding cases of ophthalmoplegia interna.

Of these 136 cases: I. 92 had tabes. Included in these 92 cases credited to tabes, are six cases in which the diagnosis was not absolutely certain, 4 in which the light reaction was not absolutely wanting, 29 in which atrophy optici existed, 15 who had ocular paralysis, 5 who had paralysis of accommodation in one eye, and 12 in which there was marked difference in the size of the pupils.

II. Twelve had general paralysis, of this number 4 had atrophy optici.

III. Eleven had syphilis, including cases of cerebral syphilis.

IV. Eight had other cerebral diseases, injuries to the head 2, cerebral tumor 2, hydrocephalus 1, post-neuritic atrophy 1, hemiplegia 1, pachymeningitis 1.

V. Two had multiple neuritis.

VI. Two had railway spine.

VII. In two cases the phenomenon was congenital, but in both cases there was only a rudimentary development of the iris.

VIII. One case was congenitally imbecile, but this patient had also retinitis pigmentosa, with a very large amount of concentric diminution of the field of vision.

IX. One case had an aneurism of the innominate artery, the phenomenon in this case our author considers as probably due to pressure on the sympathetic nerve.

X. One case had a history of the abuse of tobacco.

XI. One case had a head injury but had also a history of the abuse of alcohol.

XII. One case had right-sided hemianæsthesia.

XIII. One case had hystero-epilepsy.

XIV. In 3 cases the cause was unknown.

There were 30 cases, in addition to those above enumerated in which there was loss of the power of accommodation, as well as of the pupillary reflex (ophthalmoplegia interna).

These cases are classified as follows:

(1) Syphilis 8 cases, 6 unilateral and 2 bilateral.
(2) Tabes 3 cases, 1 bilateral, 3 unilateral.
(3) General paralysis, 1 bilateral, 1 unilateral.
(4) Trauma 2 cases, both bilateral.
(5) Chill (exquisite Erkältung) 1 case, unilateral.
(6) Commencing tubercular meningitis (?) 1 case, bilateral.
(7) Cerebral tumor (?) 1 case.
(8) Cause unknown 12 cases, 7 bilateral, 5 unilateral.

Syphilis is much the most common cause of this affection, and the impairment of functions is almost always unilateral, in one of the above cases in which it was bilateral, the second eye was affected years after the first. When a history of the date of the infection could be obtained, it was, as a rule, seven or eight years before the appearance of the ophthalmic symptoms. The cases in which the cause was unknown, occurred chiefly in young people and was transient in its duration.

CATARACT IN GLASS-WORKERS.

In the course of two years, Meyhöfer[5] observed four cases of cataract in glass-workers under thirty years of age, healthy in all other respects. This led him to the examination of five hundred glass-workers, all of whom were engaged in glass-blowing or other work which kept them in the immediate neighborhood of the open furnaces. Fifty-nine presented cortical opacities of the lens, forty-two of these being under forty years of age. The left eye was much the most frequently affected, this side of the face being the one generally more turned toward the fire. In none of them could be discovered any disease of the fundus which could be regarded as cause, or as complication, of the cataract. The only general disease hitherto recognized as a cause of the early formation of cataract is diabetes. But this, according to the testimony of physicians practising among glass-workers, is not specially prevalent among them, and in the eight cases whose urine Meyhöfer was able to examine, he found no sugar. The author is of opinion that the cause of the cataract is the intense radiant heat from the open furnaces, and the consequent profuse sweating to which the men are subjected. The left side being especially exposed to the direct heat, explains the greater prevalence of cataract in the left eye.

INTRA-CAPSULAR IRRIGATION IN CATARACT EXTRACTION.

At the Ophthalmological Society of the United Kingdom, in October, 1885, McKeown[6] read a paper on this subject. His method consisted essentially in the substitution, in the operation of extraction, of washing out of the cortex for pressing, rubbing, and scooping out. He made a small, flap section of the cornea, and iridectomy. After lacerating the capsule freely and expelling the lens, if any cortex were left behind, he introduced a scoop-syringe well within the capsule and gently injected distilled water of the temperature of about 100° F., making gentle motion at the same time with the scoop, to facilitate removal. He had used the scoop-syringe, in all, thirty-nine times. In one case only was there irido-choroiditis with complete closure of pupil; in one, insidious iritis, beginning after discharge of the patient from the hospital; in a syphilitic subject, severe iritis, arrested by treatment. In no case suppuration of eye or cornea; in none escape of vitreous from use of the syringe. In a few cases, some iritic adhesions, causing no pain or diminution of vision. In twelve cases the cataracts were unripe, and in several the cortex very sticky. There was only one inflammation in the last thirty cases, and that in the syphilitic subject referred to. There were two cautions to observe: first, after iridectomy, to get the blood out of the anterior chamber as quickly as possible; secondly, to be careful to introduce the scoop within the capsule. The operations were all done without chloroform, and some of the patients were restless. The conclusions which he thought he might draw from his own experience were: (1) that the judicious injection of water within the capsule of the lens was innocuous; (2) that it was not liable to cause loss of vitreous; (3) that it was advantageous, both in ripe and unripe cataracts; (4) that it shortened the average duration of cataract operations; (5) that it was a most efficient means of cleaning the wound.

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[5] Klinische Monatsbl. für Augenheilkunde, February, 1886.
[6] Ophthalmic Review, November, 1885.

Wicherkiewicz[7] states he had, for years, the idea that unripe cataracts might be completely removed at one sitting by division of the anterior capsule and washing out. As narcosis seemed necessary for such an operation, however, and he always operated on cataracts without an anæsthetic, it was only after the introduction of cocaine that he employed the method. To obtain more constant and steady irrigation than by a syringe, he had made a glass globe with two spouts, the one short, to be closed by the finger of the operator till the proper moment, the other long, curved, tapering, and terminated by a silver canula with small opening at its tip. After opening the lens capsule and pressing out so much of the lens as comes readily, the canula is introduced, the finger removed from the larger spout, and the fluid allowed to flow into the eye until the lens substance is thoroughly removed, then the canula withdrawn while the stream is still flowing. The fluid used has been a one or two per cent. solution of boracic acid, boiled, and cooled to 30° C. Wicherkiewicz had operated in eighteen cases, but does not give the statistics, because the number is too small to draw safe conclusions from, but is convinced that the method is of advantage. He has employed it for unripe senile, traumatic, and zonular cataracts. In one case, carbolic-acid solution was introduced by mistake (strength not given), and although it washed out the lens substance, it caused considerable pain and inflammation, but the case eventually did well.

TRANSPLANTATION OF THE CORNEA.

Von Hippel[8] showed a patient at the Medical Society of Giessen, in whom a better result had been obtained than in any case hitherto reported. Governed by the supposition that the opacity which had supervened in all previous cases of corneal transplantation was possibly caused, in part, by the rapid development of vascularization from the edges of the wound, in part by the action of the aqueous humor on the corneal tissue, he operated in a manner designed to exclude the influence of these factors. The patient had a central, non-adherent leucoma of glaring white color, which did not extend through the whole thickness of the cornea, but left the membrane of Descemet free. To the outer and inner side of the leucoma there was diffuse opacity of the anterior layers of the cornea, in which, from either side, a fine vessel ran toward the centre. Fingers could be counted at two metres with excentric fixation. The leucoma was circumscribed with a trephine, and the corneal opacity removed, layer by layer, with forceps and knife, close down to Descemet's membrane; then, with the same trephine, a piece the whole thickness of the cornea was removed from a rabbit, and placed in the cavity left in the human eye. Under an iodoform bandage, union occurred without any reaction, without vascularization or swelling of the transplanted piece, and up to the time the patient was shown, four weeks after the operation, the graft had maintained its normal transparency. Vision, with central fixation, was then 20-200, and there was a great improvement in the appearance. A foot-note states that four months later, five months after the operation, vision was still unchanged.

IODOL IN DISEASE OF THE EYE.

Glässner[9] has employed in various diseases of the eye, iodol, a substance which has been proposed as a substitute for iodoform. It is said to lack the poisonous properties of iodoform, and possesses the further advantage that it is almost odorless. The preparation used came from Kalle & Co., in Biebrich, and had the form of a light brown powder. Glässner applied it both as a fine powder, and also with vaseline as a one-third per cent. salve. In ulcers of the cornea and hypopion-keratitis, powdered iodol acted as well as iodoform, although, at first, the evidences of irritation were somewhat greater. In phlyctenular and trachomatous panuses, application of a two per cent. salve rendered good service; it also caused rapid absorption of superficial corneal opacities. In a case of obstinate iritis serosa, with marked opacities on the posterior surface of the cornea, which had continued in the same condition nearly four weeks, application and rubbing in of iodol salve brought about clearing and improvement of sight in a few days. No beneficial effects were observed with phlyctenulæ of the conjunctiva, either from the powder or the salve. In the later stages of granulations, iodol salve seemed to hasten the healing, and blepharitis healed promptly under treatment by it.

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MAY 10th, 1886, the President, DR. F. W. DRAPER, in the Chair.

URETHAN IN CHOREA.

DR. ABBOT referred to the case of chorea which he had spoken of at the previous meeting, and said he had heard from the father of the child that it was rapidly recovering at the present time. Urethan had been used merely as a hypnotic, with the most satisfactory result. The general course of treatment in the case he had not learned.

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[7] Klinische Monatsbl. für Augenheilkunde, November, 1885.

[8] Berliner Klin. Wochenschrift, 1886, No. 20, p. 331.

[9] Centralbl. für pract. Augenheilk., January, 1886, p. 16.

VANILLA POISONING.

Dr. B. F. Davenport said that he wished to call the attention of the Society to the possibility of poisoning by the use of vanilla extract as a flavoring. Instances of this kind have been reported in the *Pharmaceutical Journal* of London, for 1874, and mention made of them by Dr. Abbot in the Boston Medical and Surgical Journal for November 8, 1883.

Within about six months, he had himself met with three cases of it. In the first case, a family of some six persons were taken suddenly sick with severe symptoms of gastro-entroritis, and that in relative degree, as they had severally partaken of some vanilla ice cream at the preceding meal. In the second case, at a Sunday School festival, where vanilla ice cream had been served, some thirty persons who had taken it were likewise affected, but no one was taken ill who had not partaken of this particular cream. In the third case, which occurred yesterday, all the members of three families, who had eaten of a certain baking of cream pies from a neighboring bakery, were all taken severely and suddenly ill with symptoms of gastro-intestinal irritation, those who had eaten more largely, apparently, even dangerously so, for they became so collapsed that the attending physician administered injections of brandy and ammonia, fearing that death was about to ensue.

In each of these three cases the vanilla was from a freshly-opened bottle of extract from reputable makers, and, so far as any chemical examination could show, nothing was amiss in the sample. The reason that vanilla occasionally produces such violent symptoms is at present merely a matter of conjecture, for nothing definite is known about it. Elaborate chemical investigations, however, have proven the absence of metallic poisons in most of the cases reported, and in no one case has any other known efficient cause been found to account for the symptoms presented.

The speaker had, however, some suspicion that the presence of some product of incipient decomposition in the articles which had been flavored with the vanilla, may have been the really active cause in producing the symptoms which have been presented by all the recorded cases.

Dr. E. G. Cutler read a paper on

IODOFORM POISONING.[1]

Dr. John Homans said that he had listened with much interest to Dr. Cutler's paper, and that it is one, like all his other writings, of great practical value. Having been puzzled lately to account for the appearance and persistence of nervous symptoms in a man with a compound fracture of the leg, he asked, as he had often done when in doubt in regard to diagnosis, counsel of Dr. Cutler. He described the symptoms, and the mental and physical condition of the patient, and Dr. Cutler at once asked if iodoform was used as a dressing. Being told that it was, he said that he thought it very probable that the iodoform might be the cause of the delirium, emaciation, and feebleness. He suggested that potash had better be given internally, and that if the loss of flesh and strength continued, that transfusion of a solution of potash had better be done. It should be said that iodoform has been very freely used at the hospital as a dressing during the last two years, and the box of yellow powder, with the camel's hair brush, and the hard rubber instrument for insufflation, are familiar sights in some of our wards. Indeed, dressing with iodoform has been the routine practice, and every fresh and old wound has been dusted with it.

The patient is a man forty years old, brought to the hospital on February 13th, 1886, with a compound fracture of the lower third of the left leg. On entrance, the bones were wired together and iodoform was dusted over the wound. During the next twelve days the leg was dressed seven times, iodoform being dusted on each time. At each dressing, a camel's hair brush was dipped in the iodoform once or twice, and then shaken over the wound. On February 24th the leg was wired again, as the first wire had broken. On February 28th the iodoform was omitted, and a drip of carbolic acid solution was substituted (1-100). At this time the leg and foot were much swollen, and collections of pus were found and opened. On March 9th the drip was given up, and the leg, on which there was a granulating surface about the size of the palm of the hand, was enveloped in a large flaxseed poultice.

By March 17th, the swelling had greatly diminished and the sloughs had separated. A dressing of dry, carbolized gauze, charpie, and myrrh, with iodoform dusted on the granulating surface, was now employed. During the next six weeks (or about six weeks) the leg was dressed in this way seven times. Eleven days after the renewal of the iodoform, that is, on March 28th, the patient began to be delirious, and to talk at random. This state of things increased until he became insane. On April 2d he removed his splints whenever he was not watched, and was completely insane and demented, but still, when he was censured for taking off or disarranging his splints and dressings, he would weep and hope that his actions were not considered intentional.

On April 3d all drugs and stimulants internally were discontinued. On April 4th he was more delirious, excited, and enraged, saw foreign bodies and animals, said his wife had been insulted, slept almost none at all, and was very restless.

April 5th. Wanted to be taken home, and wou'd ask if the carriage was ready. He was given bromide of potash, twenty grains every two hours, and this was continued through the daytime for two weeks. During this time the patient was more quiet and slept considerably, but when awake had subsultus, and there were sordes on the tongue and teeth. He was now very weak and emaciated, and at times passed his urine involuntarily. He was given large quantities of milk, eggs, and stimulants. He spoke incoherently, had muttering delirium, and was, in short, in the condition we call "typhoid." At this time his urine was examined at the Medical College, and had a specific gravity of 1036, a slight trace of albumen, oxalate-of-lime crystals, and a few hyaline casts; no sugar.

On April 24th he seemed somewhat improved, though he still tried to get out of bed, and was very obstinate at times, and at other times frightened and timid, though quieter and more intelligent, but he still talked about going to places which his attendants had never heard of.

On April 26th Dr. Cutler saw him. When the dressings were removed from the leg, a healthy, granulating, dry surface, about two inches long, was seen, and on this rested a yellow dust of iodoform. In the urine, Dr. Cutler got a reaction of iodine with starch, but the house-surgeon did not succeed in getting this subsequently in later specimens. Carb. of potash in ten-grain doses was given every two hours, and later, the acetate was substituted. During all this time of debility, emaciation, and delirium, the leg has done remarkably well, in spite of the fact that he broke the wire out of the bones. He is now (May 10th) clearer and brighter, and is rapidly gaining flesh and strength. He is saner than he was, but he [2] is still crazy, and no hour goes by that he does not make an insane remark or express an insane delusion.

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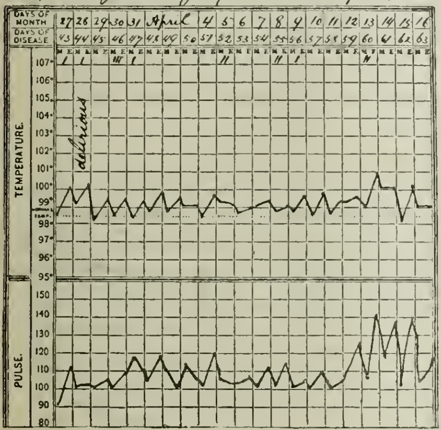
[1] See pp. 73 and 97 of this Journal.

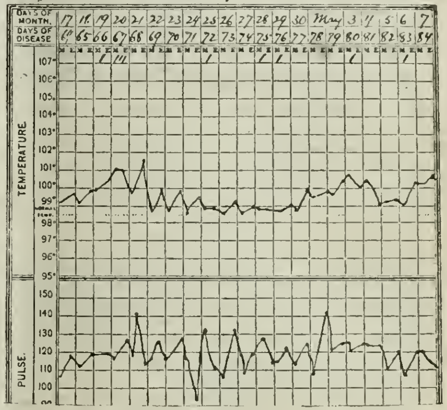
Here is a man with a severe injury, gradually improving locally, and gradually and slowly becoming more and more delirious; then insane, then stupid, emaciating, growing weaker, getting into a typhoid condition; and all this time his wounds are healing, and all the organs of his body, except his brain, working well. Iodoform has been used as a dressing, and its known poisonous effects resemble exactly those of my patient. The diagnosis is certain and positive, I think.

The following are the temperature charts of Dr. Homans's patient: —

Compound fracture of leg. March 27th 1886



Compound fracture of leg April 17th 1886.



Dr. Bradford mentioned a case which occurred in a woman with cancer, who was peculiarly susceptible to drugs, her urine having been made smoky by carbolic acid applied to her cancer before operation. A large part of the breast was removed, together with glands from the axilla. There was collapse at the time of operation, but she recovered. Her temperature did not go up to 101°, but, excepting for this low temperature, she had typhoidal symptoms. The pulse was 150 and soft, respiration rapid, and there was delirium. All this time the wound was doing well. The dressing was changed to corrosive sublimate and boracic acid gauze, and in a week she was clear in mind. This is the only well-marked case seen by Dr. Bradford in his service at the City Hospital, and at the Childrens' Hospital, but he may have overlooked mild cases. Four years ago Dr. Fifield reported a severe case.

Dr. Gay said that he had used iodoform very freely during the last two or three years, and had seen one case of poisoning. This was in a woman with cancer of the cervix, and whose dressing, iodoform on a cotton plug, was applied by her daughter. She had headache, loss of sleep, and nausea, but no delirium. Iodoform is a dressing that he never applies to large granulating surfaces, for which he at present prefers carbolic acid. The wound is covered with gauze, which is dusted with iodoform. Over this, if necessary, is placed oiled silk and gauze over that, the edges being dusted with iodoform. He believes that with this dressing there is no danger, and has used it, where from the debility of the patient, he would not dare to take risks. He mentioned a man who had been impaled in an accident, having a wound extending from the great trochanter to the spine of the pubes. This was packed every day or every other day with iodoform gauze. Here was a case which seemed a favorable one for poisoning, because of the extent of the surface exposed, but, in fact, no poisoning occurred. He remembered dusting iodoform on several large wounds before he knew how to use it, and he believes that, like carbolic acid, some few people are quite susceptible to it, but that in a large majority of cases it is capable of being made of great value.

Dr. H. W. Cushing, present by invitation, reported a case of necrosis of the femur for which the great trochanter was chiselled out at the Carney Hospital and the wound packed with iodoform-ribbon gauze, over which was placed a corrosive sublimate dressing. Everything went on well for three days when, although the wound continued to do extremely well, there were severe nausea, vomiting, with typhus symptoms, including delirium of a peculiar kind, the patient being coherent to the surgeon and the house-surgeon but not to others. The temperature rose to 102° to 103° on the third day, and remained there until the sixth, when it rapidly fell to 99° in the course of two days, the fall beginning at the time when carbolic acid was substituted for iodoform. Death occurred on the ninth day. On the other hand, he had made a wound six inches long, and a third to a half inch wide in the abdomen of a dog, and packed it out of sight in iodoform for four or five days, without getting the symptoms of this paper.

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[2] Since the case was reported, the man has entirely recovered and has gone home well.

Dr. **Greenough** said that he had used iodoform largely in the treatment of soft chancres during nine years, and had seen no ill results. He should be sorry to think that it was a dangerous drug, but he did not have so large surfaces to deal with as come into the care of general surgeons. It is very valuable for controlling suppuration and for promoting cicatrization. He had seen a man with an angry chancroid, three quarters of an inch in diameter, quite recently get well under its use in seven days. He did not think any other treatment would be so efficient. A great objection to its use is its smell. It is claimed that iodol, with nearly the same chemical organization, and without any smell, will do as well. He has used it but once.

Dr. **Abbot** said he could confirm what Dr. Greenough had stated about iodol by his own experience. He had used it in a case of chronic cervicitis, where the use of iodoform had been precluded by its nauseous odor, with a very satisfactory result. As an application for small superficial ulcers he had found it equally successful. The principal objection to it at the present time was its high cost.

Dr. **Langmaid** said he was unwilling that the consideration of Dr. Cutler's paper should close without reference being made to the anodyne effects of iodoform upon ulcerated surfaces. He would particularly instance its extensive use in laryngeal phthisis with ulceration. He was unaware of any report of poisoning from such use, although the greater part of the drug must have been ingested.

Dr. **Cutler** said that in these cases it was used in just the proper way, a thin layer being blown upon an ulcerated surface. His table shows two cases of poisoning by the internal use of the drug, and one in laryngeal insufflation.

Dr. Cutler did not wish to be understood as deprecating the use of iodoform, he was second to no one in his high regard for the drug in its legitimate sphere, which was an application to fresh wounds or unhealthy or diphtheritic surfaces. As was remarked by Dr. Greenough, it was one of the best promoters of healing and of healthy granulation formation which we possess, but beyond a certain point its action was liable to be harmful. As soon as the surface was healthy, or granulating, the time had come for leaving off the iodoform and using some other innocuous substance, for the reason that the action of iodoform, as shown in the table of cases referred to in the paper, was not under our complete control and was liable to make itself apparent at a remote period. If the views of the observers quoted in the paper as to the absorption and ultimate fate of iodoform in the system are correct, it is evident that there is a liability to poisoning in the continued use of iodoform in all cases where a considerable hæmorrhage or other exhaustive drain on the patient has occurred. According to the theories, only that part of the iodoform proves poisonous which fails to enter into combination (as iodine) after absorption. A certain amount of iodoform is eliminated by the kidneys and other secretions as such, this presumably has no poisonous action. In the case mentioned by Dr. Gay, the conditions were the least favorable for poisoning, the gauze dressing being the one of all others from which little or no symptoms are apt to arise. The iodoform adheres to the dressing; it cannot be applied in any great quantity, and it does not come in such close connection with the tissues as in other forms, so that absorbtion is less liable to occur. The symptoms of iodoform poisoning are very like those of poisoning by iodine; one observer (Behring) has tried to divide cases according to their symptoms into true iodoform and iodine cases: this seems at present to be premature, at least. The potash compounds have been found to be non-poisonous in the blood, the soda compounds, on the other hand, have been proved to be poisonous, and in the exhibition of iodide of potash the symptoms, as we know, are quite distinct from any we have seen in iodoform.

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AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

THROMBOSIS AND PERI-VASCULITIS OF THE RETINAL VESSELS,

by Dr. George C. Harlan, of Philadelphia.

Mrs. F. B., age thirty-three years, came under observation June 5, 1886. Her father and a younger sister had died of Bright's disease, the mother of paralysis. During the past two years, she had had considerable headache. She had a miscarriage in July, 1885, from which her recovery was delayed. She had a second miscarriage without special trouble in January, 1886. There was no trouble with the eyes until May 7, when she noticed dimness of vision in the left eye. This increased during the day and the following morning there was only light perception in this eye. She was examined two weeks later by a surgeon, who pronounced the condition one of embolism. There was no suspicion of specific disease. There was no uterine trouble and the heart sounds were normal. The urine had a specific gravity of 1009, contained some albumen, but no tube casts were found. Examination of the eyes showed no light perception in the left eye. The media were clear. There were hæmorrhages scattered through the retina. Some were striated, extending in long streaks along the vessels. There were three groups of white spots at the macula. With one exception all the vessels of the retina were converted into white bands. The exception was a small artery having an independent origin. The vessels were of nearly normal size. Five or six weeks later, the hæmorrhage had been absorbed, but there were no other changes. In the right eye there were several small hæmorrhages and two filmy white patches. These subsequently disappeared. In July, she had a slight attack of paralysis on the left side and examination of the urine showed some albumen and hyaline tube casts. The rapid onset and the occurrence of blindness within a few hours seemed to exclude the possibility of disease of the vessels. Embolism would not account for the condition. The speaker suggested that the partial blindness for the first few hours was due to hæmorrhage, and that the complete blindness coming on later, was due to thrombosis. Thrombosis of a whole series of vessels is however rare. Another possible explanation is that there had been for some time disease progressing in the outer walls of the vessels without giving rise to sufficient disturbance of vision to attract attention.

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[1] Continued from page 90.

By way of comparison a second case was described in which the affection seemed to be a peri-vasculitis. It was that of a negro woman who had been partially blind for a long time. The right eye was the seat of a dense cataract. In the left eye V=20-100. The lens was hazy and the disk pale. Extending upward there was a large artery converted into a chalky band. Two smaller arteries exhibited the same condition in places.

A NEW TEST-TYPE,

by Dr. Wm. S. Dennett, of New York.

The speaker called attention to the fact that although for twenty-five years the schools of the civilized world had been under the observation of oculists who all agree that great good would be done by periodical examinations of the eyes of scholars and although such examinations were very simple, the internal inertia of existing institutions had always prevented any continued action on the part of the schools. Among the laity there is absolutely no knowledge of what normal eyes should be expected to see. A card was presented which was designed for the use of educational institutions. It contained one set of letters and a statement underneath of the exact distance at which these letters should be seen. The desire was expressed that this or some similar card should be placed on the wall of every school-room in a conspicuous place so that it should become of necessity a familiar object and a standard of measurement that would be remembered through life.

THE POSSIBLE RETARDATION OF RETINITIS PIGMENTOSA IN THE YOUNG,

by H. Derby, M.D., of Boston.

This affection is, as a rule, considered incurable, leading gradually to complete blindness. In America, the disease is exceedingly infrequent, the author having seen it but twenty-seven times in thirteen thousand eye cases. In 1881, a boy, three years of age, was brought to him from Western Virginia. It was observed that toward night vision diminished. There was no history of blindness in the family. Five years later he came again, accompanied by his sister, seven years of age; both children were night blind and presented the evidences of retinitis pigmentosa. Under the use of the constant current, there was improvement. A similar case of improvement under the use of the constant current, under the care of Dr. Standish, was reported.

The object of the paper was to invite discussion as to the use or non-use of such eyes for educational purposes and as to the possibility of adopting measures for delaying the progress of the organic change.

A third case, that of G. W., aged fourteen, was described. He presented the typical appearances of retinitis pigmentosa. Non-use of the eyes and the application of the constant current was recommended. He was subsequently advised by others to use the eyes freely. In five years vision diminished from three-tenths to one-tenth. This rapid progress of the disease it was thought, might have been aided by the use to which the eyes had been subjected.

DISCUSSION.

Dr. William S. Little, of Philadelphia. In one case of retinitis pigmentosa occurring in a deaf mute, I have seen decided improvement in vision under the use of the faradaic current. The improvement continued for two years without change. He then went west and seven years after the applications, he was doing well, but he could not see quite as well at night as before.

In two cases coming to the Jefferson College clinic, the pigmentation had progressed so far that the vitreous also continued black. This I had never seen before.

Dr. L. Webster Fox, of Philadelphia. I have had the opportunity of treating a number of cases successfully. I have found that it was the negative pole that produced the good results. I also noted that if there were no enlargement of the field after three applications, improvement was not to be expected. In all the cases in which improvement took place, the bloodvessels seemed to increase in calibre and the night blindness correspondingly diminished.

Dr. George C. Harlan, of Philadelphia. I have recently seen two well-marked cases of this affection, one in a boy of seventeen years, and the other in his sister, a few years older. My faith in any form of treatment being slight, I advised that the eyes be used as long as sight remained. From the cases which I have seen, I think that there is likely to be a culmination of the disease about puberty.

Dr. George Strawbridge, of Philadelphia. I should like to add a word. I tried the use of electricity in this affection thoroughly, some ten years ago. I did not obtain benefit in a single instance. I place more reliance upon the occasional use of alteratives as bichloride of mercury and iodine of potassium, looking on these cases as probably of syphilitic origin.

Dr. Samuel Theobald, of Baltimore. I have had no experience with the use of electricity in retinitis pigmentosa, I have, however, seen temporary improvement from the continued use of phosphate of iron, quinia, and strychnia. One of these cases was seen when eight years of age, some ten years ago. He retains sufficient vision to enable him to perform his duties as a travelling salesman. There was no intemperance of the parents of this patient, but there was a history of a similar trouble in other members of the family.

Dr. S. D. Risley, of Philadelphia. It has seemed to me that with the hypodermic use of strychnia, I have secured improvement in the central sharpness of vision. I have frequently seen improvement follow the use of this drug, but as far as I know, it has never been permanent. As regards the age at which the affection may develop, I have seen it in two children of the same family, occur under five years of age.

I wish to mention another fact. A young man consulted me with retinitis pigmentosa, with marked contraction of the field, and asthenopia, principally due to hypermetropic astigmatism. He was treated with alterative remedies for two years, during which time the difficulty had not materially increased. To relieve the asthenopia I ordered a weak solution of eserine, sufficiently strong to contract the pupils without causing peri-orbital pain. Under its use vision decidedly improved. He has used this solution more or less constantly for the past two years, and finds that when he is without it he is distinctly more uncomfortable.

Dr. O. F. Wadsworth, of Boston. I wish to refer to one case which in connection with those reported, shows the variable course the disease may pursue, when left to itself. A young man twenty-four years of age, a divinity student, was seen in 1873, presenting typical retinitis pigmentosa, so far as the ophthalmoscopic appearances were concerned. He had well-marked night blindness. His field was only one and one-half inches in diameter at the distance of a foot. He was reading German and Hebrew without discomfort. He continued his work and I saw him eight years later. Vision was the same, but the visual field seemed to have decreased to a slight extent.

THE EQUIVALENCE OF CYLINDRICAL AND SPHERO-CYLINDRICAL LENSES,

by Dr. Edward Jackson, of Philadelphia.

The paper was intended to demonstrate the laws of such equivalence, showing that equal crossed cylindrical lenses are optically equivalent to a spherical lens of the same refractive power. Crossed cylinders of unequal refractive power may be regarded as crossed cylinders of equal refractive power combined with a third cylindrical lens, or as their equivalent, a spherical combined with a cylindrical lens. It was proven that any two cylindrical lenses with their axes placed obliquely, the one to the other, might be represented by crossed cylinders, that is, cylinders with their axes perpendicular to one another, or by their equivalent in the shape of a sphero-cylindrical lens. Hence that any number of cylindrical lenses with their axes placed in different directions are optically equivalent to a single sphero-cylindrical lens. To determine the sphero-cylindrical equivalent to any two cylindrical lenses, construct a parallelogram, two sides of which are proportional to the refractive power of the given lenses, the angle included by these sides being double the angle made by their axes. Then the diagonal which cuts this included angle, will be proportional to the cylindrical portion of the desired equivalent and to get the spherical portion it is only necessary to subtract one-half of this cylindrical equivalent from half the sum of the cylinders given.

DISCUSSION.

Dr. William S. Little, of Philadelphia. With reference to the practical side of this question I may say that in about one-half of my cases of mixed astigmatism, the patients have preferred crossed cylinders to their equivalent sphero-cylinder. In using a sphero-cylinder it is essential that it be accurately centred.

Dr. G. Hay, of Boston, read by title a paper on

THE COMBINATION OF CYLINDER LENSES.

The committee to whom was referred the consideration of the proposition with reference to the organization of a Congress of American Physicians and Surgeons, reported the following resolutions and recommended their adoption:

Resolved, that a committee of five be appointed by this Society and be authorized to confer with committees from other medical societies with regards to the organization of a convention or congress of such societies and report at the next meeting of this Society.

Resolved, that it is the sense of this Society that its welfare would be put in peril by any alliance or co-operation which would interfere with its autonomy or independent meeting.

These resolutions were adopted and the following committee subsequently appointed:

O. F. Wadsworth, Boston; C. S. Bull, New York; George C. Harlan, Philadelphia; Samuel Theobald, Baltimore, and B. E. Fryer, Kansas City.

Adjourned until three o'clock.

AFTERNOON SESSION.

The first paper of the afternoon session was a report of

TWO HUNDRED AND SIXTY-THREE CASES OF CATARACT EXTRACTION WITH PARTICULAR REFERENCE TO THE AFTERTREATMENT,

by George Strawbridge, M.D., of Philadelphia.

Two hundred and twenty-three of the above cases had never been reported. The operation was performed by the modified flap extraction in which the incision lies mid-way between the old Græfe incision and the corneal flap incision. It avoids the risks of both of these methods and gives a sufficiently large opening. An iridectomy in an upward direction was always performed. Formerly the lens was removed by pressure with the spoon directly on the cornea, but fearing injury to that tissue, during the past year, pressure with the finger on the closed eye-lid had been substituted. The results had been as follows: successful cases, 85.2 per cent., partial successes, 8.1 per cent., and failures, 6.7 per cent. Those cases were classed as failures in which fingers could not be counted at a distance of one or two feet. In twelve cases absolute loss of the eye occurred. These were lost by choroiditis with one exception, which was due to choroidal hæmorrhage.

After the operation the eye was thoroughly cleansed and for the past two years a solution of boracic acid (two per cent.) had been employed. The speaker's former plan had been after applying a bandage to put the patient to bed in a darkened room, keeping them in bed for four to six days. Two-thirds of the cases had been treated in this way. He had found this plan exceedingly debilitating in elderly individuals, and during the past eighteen months he had gradually given up this plan so that during the past six months, the patients were, practically speaking, kept in bed only twenty-four hours. The room is as light as any ordinary room, the first element in the treatment of old people is to make them comfortable. If at the end of twenty-four hours, everything is doing well the patient is allowed to move about the room. No unsatisfactory result had followed this plan.

The speaker had employed in some cases cocaine. In one case in which a four per cent. solution was used a violent purulent inflammation began within twenty-four hours and resulted in total loss of the eye. Subsequently he had employed it without unpleasant results. His plan is to use a two per cent. solution, drop in one drop, wait a minute and drop in a second drop and use only two drops. As much anæsthesia as is desirable is thus obtained. He had never employed any antiseptic except the two per cent. solution of boracic acid, and while this does no harm he thought that it did little good.

He attaches much importance to stimulation after the operation in elderly people, the use of whiskey is begun a few hours after the operation.

(To be continued.)

Medical and Surgical Journal.

THURSDAY, AUGUST 5, 1886.

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SCARLATINA AND MILK.

The English Local Government Board has issued an important pamphlet, now before us, containing papers, on certain observed relations between scarlatina in London and milk from a dairy farm at Hendon; on the anatomy and pathology of the disease observed among the cows of the Hendon Farm; on the signs and symptoms of a disease observed among the cows of the Hendon Farm. Of these papers the first two are reports made to the Board, at its request, respectively by Mr. W. H. Power, one of its most competent inspectors, and by Dr. E. Klein, of the Brower Institution, London; the third paper is a portion of a communication read at one of the meetings of the British Epidemiological Society by Dr. James Cameron, local medical officer of health at the town of Hendon. These papers are preceded by an introductory report by the medical officer of the Local Government Board, Dr. George Buchanan; and taken together they constitute one of the most valuable contributions made for some time to our knowledge of the relations between infectious diseases in man and in animals. It is not too much to expect that as a result of these investigations additional checks may be applied to the increase and distribution of so common and dangerous an epidemic disease as scarlet fever, or that possibly a method of inoculation against scarlet fever as effective as vaccination against small-pox is about to be placed in our hands.

In the development of modern sanitary science and preventive medicine, each year shows more clearly the intimate hygienic dependence of man upon his animate and inanimate surroundings. Methods, previously unsuspected though in frequent operation, for the distribution of the poisons of infective diseases are being demonstrated. Among such none have been more frequently or clearly incriminated than milk-supplies, and milk has been proved a most effective medium for the cultivation of these disease germs.

The English Local Government Board, through its accomplished health officers and inspectors, has been a pioneer in these investigations of the relation between local milk-supplies and epidemic outbreaks of typhoid fever, diphtheria and scarlet fever. In no less than fifteen instances one or other of these diseases has been shown upon sufficient evidence to have been distributed with the milk service of the families invaded. In the scarlatina outbreaks it was at first supposed that the milk had been infected by human agency, but a more exact study of successive epidemics caused a distrust of this explanation, and a suspicion that the milk was in some way infected by the cow.

In 1882, Mr. Power investigated and reported on a scarlet-fever epidemic distributed with a certain milk-service. In this instance two facts were established: "the one, that a cow, recently come into milk had been suffering from some ailment, seemingly from the time of her parturition, of which loss of hair in patches was the most conspicuous manifestation; the other, that there existed no discoverable means by which the milk, which had coincided with scarlatina in its distribution, could have received infective quality from the human subject." It was not possible, however, to establish a relation between ailment of any particular cow and the disease spread from the farm furnishing the milk. At this time Dr. Klein — at the instance of the Board — made some experimental observations as to the susceptibility of animals to human scarlatina which convinced him that a definite disease was producible in the cow by means of scarlatina-infection, producible most readily when the cow was in milk — and that this disease was communicable from one animal to another by inoculation.

As a result of these investigations in 1882 a presumption merely was established that the epidemic of scarlet fever established by a certain milk-supply was the consequence of a malady in certain cows, and here the matter rested.

In December, 1885, the medical officer of health of Marylebone, London, reported a sudden and extensive outbreak of scarlatina that appeared to be associated with the distribution of milk from a particular retailer who derived this supply from a dairy farm at Hendon, though the sanitary circumstances of the farm itself, and the health of the employés, proved upon inspection remarkably good. Mr. Power was detailed to make inquiry into the whole case, both in London and at Hendon. In due course the point was reached of excluding external scarlatina, of associating the importation of particular cows into the Hendon farm with presence of scarlatina in London districts, and of connecting by a series of parallel events, the milk furnished by those cows, and related cows, with the peculiarities of scarlatina prevalent among consumers of the Hendon farmers' milk. Subsequently it was learned that the suspected milk, which was ordered by the inspectors and the farmer to be thrown away, had been actually consumed by some poor families who begged it from the farm laborers; its consumption being followed after the usual interval by an outbreak of scarlatina. Still later it was proved that the infectiveness of the milk from a certain shed in the dairy farm coincided with the introduction of cows having diseased appearances — vesicles and ulcers — about the udders and teats, with a loss of hair from the tail and back particularly, in some instances, and that the infectiveness of the milk of cows in other sheds corresponded with the transfer of the diseased cows to the other sheds or the development of the same conditions by other cows.

The inquiry of Mr. Power rested at this stage, and afforded strong circumstantial evidence that a constitutional disease existed among the cows of the Hendon farm competent to produce scarlatina among human consumers of the cows' milk.

The special features and pathology of the disease were described and studied by Drs. Cameron and Klein. Dr. Klein's study of its pathology was made at the request of the Board, and he states the outcome of his investigations as follows: By inoculating the virus directly taken from the local disease (the ulcer on the teats) of the cow into the corium of the calf, the same local disease is produced, namely, a change in the skin, which commences as a congestion of the papillæ and corium, and with exudation of fluid and leucocytes. This leads, in the superficial parts of the epidermis, to the formation of cavities, which ultimately lead to the formation of an ulcer. But the virus, in the form of an artificial cultivation of the streptococcus derived from the above ulcer of the cow, when inoculated into the subcutaneous tissue, that is, when introduced almost directly into the vascular system, sets up a general disease, resembling, to a considerable degree, in its anatomical features, human scarlatina. The changes in the kidney completely coincide with those in acute scarlatinal nephritis in man.

As respects the part that cows' milk may play in the communication of the disease, it appears that the milk, when pure, does not contain the organism, but the milk, during the act of milking, is liable to become contaminated by the fingers of the milker bringing down into the milk particles from the ulceration on the teat, and for such an organism, the milk affords a peculiarly good medium in which to multiply.

The results of the *inoculation* into the human subject of a milk sub-culture, or of the *feeding* of calves with such milk-cultures as appear to have been fed to children, are links still wanting to complete the chain of evidence offered by Dr. Klein; but, as we indicated at the beginning of this brief summary of these interesting inquiries, a point seems to have been reached from which the attainment of practical advantages to humanity may reasonably be anticipated.

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BILIOUSNESS.

It is a pathological law that all organs are liable to excess, diminution, and perversion in their functions. The bile-producing function of the liver is especially prone to undergo augmentation, and the causes which give rise to such excess are frequently operative with some persons, and almost constantly with others. Such causes are generally alimentary, although other influences, such as excessive heat, malaria, and certain animal, vegetable, and mineral poisons may be promotive of inordinate biliary secretion; hereditary predisposition is a powerful determining factor, and there is a certain temperament associated with dark eyes, dark hair and skin, which probably, with no very good foundation, is supposed to belong especially to the "bilious" constitution.

Placed at the very gateway of life, with the special office of elaborating albuminoids and carbo-hydrates before they are fit to enter the circulation and subserve the wants of the economy, the liver has, so to speak, to "work over" all the products of digestion absorbed by the portal vein, and is physiologically influenced both by the quantity and the quality of these aliments. While the ingestion of vegetable matters and cereals caused diminution in the biliary secretion in animals, the subjects of experimentation (experiments of C. S. Schultz), the secretion was increased by albuminoids, and if fat in excess was added to the daily rations, not only was the biliary flow augmented, but coincidently, the cholesterine and other fatty matters of the bile were increased, and the bile had a greenish appearance.[1] Over feeding, moreover, augmented the flow of bile from the fistula. But this is not all; excess in food or drink in animals under experimentation, as also in Alexis St. Martin, and in Richet's patient with gastric fistula, caused gastro-duodenal catarrh with reflex irritation of the liver, an increased bile production being the result. Here the blood became contaminated with both bile and the crude products of digestion. Clinical experience has abundantly confirmed these experimental observations, and almost everybody has at some time personally suffered from the symptoms due to biliousness from excess of bile production.

If men are prone at all times to errors in diet, such errors are more likely to be committed at the present season, when, according to a popular impression, the dog star exerts its pernicious, depressing influence; when, too, a dietary which might be normal in cold weather would be unnecessary and harmful. Although the activity of all the chemico-vital phenomena is lessened, and the nutritive metamorphoses are slowed, while the diminished craving for food warns against full indulgence, it is, nevertheless, true that the warning is too seldom heeded, appetizers are sought for, albuminoids and carbo-hydrates in abundance are devoured, and the jaded digestive organs are teased to do work for which they have become unfitted.

It must be acknowledged, in this connection, that there has been much confusion as to what is denoted by this word *biliousness*, a word for which our Continental friends have hardly any good equivalent. A person is *bilious* when he is suffering either from excess or diminution of bile production, and the pathology and symptoms of both conditions are not so wide apart as one might at first suppose, for an over-stimulated liver eventually becomes exhausted and unable to form bile. This is the way in which Harley explains the connection between over-stimulation of the liver and suspended biliary secretion.

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[1] Bouchardat and Sandras.

"The first stage of hepatic capillary congestion leading to hyper-secretion of bile leads to a second stage of diminished biliary secretion by pressure of the engorged capillary vessels and bile ducts on the secreting hepatic cells. Hence the bile ceases to be secreted in its usual quantity, the biliary coloring matter and other bile elements remain behind in the circulation, and accumulating there, give rise to the chain of symptoms usually included in the generic name of a bilious attack; sallow complexion, headache, giddiness, disordered vision, sickness, and prostration, these, again, are the results of the toxic effects of the biliary substances on the nervous system. This form of biliousness may be looked upon as a slight or incipient stage of jaundice." [2]

What is commonly known as an acute bilious attack is more properly an acute indigestion, the *embarras gastrique* of the French. A person, we will suppose, has indulged in a surfeit; he has giddiness, frontal headache, and general prostration; there is a furred tongue and a bad taste in the mouth; there is nausea and vomiting, and perhaps diarrhœa. If there be bile in the vomitus and dejecta, it is because the liver has been secondarily disturbed in its functions. In fact, the excessive biliary secretion has been looked upon as salutary, as in fact, an effort to clear the clogged and embarrassed *primæ viæ*. The derangement is gastro-intestinal, rather than bilious. If the liver is involved in every severe irritation of the digestive tube, this is owing to the solidarity which characterizes the functions of all the chylopoietic organs.

If there be headache accompanying these attacks, owing probably to reflex excitation of certain sensory branches of the fifth nerve, it is also true that neurosis of the fifth (migraine) may reflexly excite bilious vomiting, and this accounts for the fact that migraine is often confounded with "biliousness."

The observations made by Dr. Beaumont more than fifty years ago on Alexis St. Martin, must still be cited (as they have recently been by Dr. Lauder Brunton)[3] in explanation of the phenomena of acute biliousness. After excesses in eating and drinking, Beaumont found St. Martin's stomach covered with livid spots and apthous patches; the gastric secretions were mixed with ropy mucus; the digestion was slower than usual, or suspended altogether. A little later the symptoms of biliousness were superadded. The usual appetite was gone, the tongue was covered with a thin yellowish coat. The countenance was sallow and on the interior of the stomach there were several deep-red patches. A muslin bag which had been introduced with some food in order to test the rapidity of digestion, when drawn out was covered with a coat of mucus and yellow bile. On the succeeding day the coats of the stomach were still unhealthy and of a deeper red than naturally, with patches of a still deeper color and the mucous covering abraded in places." This venous congestion indicated stasis in the radicals of the portal vein, and hepatic engorgement. Beaumont, who records several such instances in his book (pages 100, 118, 251–4, 270,) states the benefit which in one instance was derived from a purgative dose of calomel, "which removed all the foregoing symptoms and the diseased appearance of the inner coat of the stomach." On another occasion his patient was restricted from a full and confined to a low diet, and simple diluent drinks, with restoration *ad integrum* of the disordered viscera, and return of health and appetite.[4]

Although the bile acids themselves are sufficient toxic when in excess in the circulation (see experiments of Harley, Feltz and Ritter, Graham, Brown and others), and although it has been proved that these acids in jaundice have a specially depressant effect on the nervous centres, being indeed violent cerebral poisons — whence *melancholy* was anciently attributed, and not without some reason to *black bile*, as the derivation of the word shows — yet *biliousness*, in its common acceptation, is vague and indefinite compound of cholæmia lithæmia and stercoræmia; and as factors in the causation of the morbid syndrome we have mal-elaborated peptones and poisonous ptomaines.

The treatment of biliousness is prophylactic, alimentary and medicinal. Prophylaxis is concerned with avoidance of all the known causes, whether of a toxic, malarial or alimentary character. A plain diet, of bread, milk, oatmeal, vegetables and fruits with lean meat or fresh fish in moderation, and abstinence from alcoholic stimulants seems to be the ideal fare for the biliously predisposed. This kind of diet is especially applicable for hot weather when albuminoids are apt to clog the portal system, and pastries are an abomination, and when a broiled schrode, a little chicken or mutton broth with bread and stewed fruit will make a more healthful meal than the more sumptuous fare of a modern fashionable dining-saloon.

Exercise in the open air is of recognized utility in promoting oxidation and elimination, enhancing the digestive and assimilative processes, and lightening the burdens of the liver. Moreover, exercise (whether by rowing, horseback-riding, gardening, walking) hinders absorption of bile by the hepatic venous radicals, and promotes the passage of that fluid into the duodenum, through the increased compression exerted on the liver by the diaphragm and abdominal muscles; this is in accordance with a recognized physiological law.

The victim of an acute bilious attack will generally get righted in a few days by, first, abstinence from all food, then a diet of porridge and milk, or skimmed milk alone, and a very gradual return to solid food, which for several days should be restricted to toast, a little lean meat, or broiled fish, with some succulent vegetables or ripe fruit. As for medicines, saline aperients, such as sulphate of soda, Epsom or Rochelle salts in full doses in the morning, or the now fashionable tumblerful of Hunyadi Janos will generally suffice to clear the *primæ viæ;* the latter has especially a reputation for evacuating bile. The striking relief obtained by free bilious evacuations has often been remarked, and the veteran transgressor resorts to his blue pill or podophyllin with every recurrence of his malady. Of late euonymin has come much into use as a cholagogue.

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[2] Harley. Diseases of the Liver, Philadelphia, 1883, p. 192.

[3] Lauder Brunton, Disorders of Digestion, their Consequences and Treatment, London, 1886, p. 27.

[4] Beaumont, Physiology of Digestion, Burlington, Vt., 1846.

Harley recommends to persons who seem to have a more than usual tendency to biliousness traceable to sluggish biliary secretion, and where there seems also to be defective nerve action, small doses of nux vomica or strychnia after their meals. This may be combined with belladonna and aloes as in the aloin, strychnia and belladonna pill. The bilious person is generally constipated, hence such a pill has a special utility. Fothergill's pill of ipecac, capsicum, and pil. aloes et myrrh, has done good service in such cases. Nitro-muriatic acid and taraxacum have a reputation which is probably not altogether built on imaginary results. But bilious dyspeptics, while they should be attentive to the functions of eliminations (and doubtless the ancient predilection for purgatives has been justified by modern scientific research which finds in intestinal septicaemias and alkaloids of putrefaction, many of the evils formerly attributed to peccant humors and atro-biliary disorders), should aim especially to be good hygienists and learn to live right, but this is counsel which everybody gives and nobody takes.

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POISONING BY IODOFORM.

Consequent upon the rapid and wide-spread adoption of iodoform during the last few years in general surgical and gynæcological practice, a number of cases of serious and even fatal results have been reported. And it is altogether probable that the actual number and instances of poisonous action is much greater than statistics show, from failure of the attendants to ascribe to the true cause some of the outward symptoms of the post-operative condition.

The admirable paper on the subject which we have had the pleasure to lay before our readers in the last and the current numbers of the Journal, gives the particulars of some seventy-seven cases of iodoform poisoning and represents a pretty thorough canvass of the medical literature bearing on the subject.

The symptoms observed in persons engaged in manufacturing processes which involve contact with iodine compounds are not unlike those following the use of iodoform in susceptible subjects. Among them are the persistent taste and smell of the drug, impairing appetite and digestion, headache, sleeplessness and delirium, the latter being usually of a melancholy character, and in extreme cases passing into absolute apathy, with involuntary dejections, rapid feeble pulse and progressive marasmus. The pulse has often a rapidity out of proportion to the degree of elevation of its temperature, but a moderate febrile movement is not uncommon and after operative cases offers an apparent discrepancy to the aseptic condition of the wound.

The inappetence and the mental depression are among the first symptoms to strike the attention. The danger of these untoward effects seems to depend, apart from idiosyncrasy, on circumstances which hinder the perfect combination of such iodine as is set free in the organism, among those circumstances being blood changes, quantitative and qualitative, and an excessive amount of the drug used. A frequent renewal of the dressing and the maintenance of pressure are factors increasing the chances of iodoform absorption.

The detection of iodine in the urine of the patients suffering with these symptoms and having been exposed to the action of the drug, is absolute confirmatory evidence of the nature of the difficulty.

Fortunately the chemical test for iodine is characteristic and is readily applied. It is a significant fact that some of those operators who use iodoform solely as a disinfectant, although employing it very largely, have had less unfavorable effects following it than those who have combined its use with that of other antiseptics, carbolic acid, for instance. Hence Mosetig-Moorhof offers the plausible theory that the carbolic acid sets up renal irritation, from which the iodoform fails of being properly eliminated and therefore causes toxic symptoms.

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MEDICAL NOTES.

— On July 3d, the English Local Government Board issued an order providing that, between that date and November 1st next, "no rags from Italy shall be delivered overside, except for the purpose of export, nor landed in any port or place in England or Wales." This step has been taken in view of the existence of cholera in Italy.

— A gunshot wound of the heart is reported in the *Indian Medical Gazette*, where the patient lived forty-two hours after a bullet had pierced the seventh rib, left lung, left and right auricles, and right lung. Bryant (Circular No. 3, War Dep. Washington) cites a case in which the patient survived a wound of the right auricle for fifty hours.

NEW YORK.

— Sanitary Inspector Goldschmiedt has made a report to the Board of Health on the condition of the old Deborah (Jewish) Nursery, on East Broadway, where there are, at present, sixty children of a more advanced age than those belonging to the new Nursery, situated a few doors away. It will be remembered that some time since, an epidemic of typhus fever broke out in the latter institution, and that, in consequence, all the inmates were transferred for a time to North Brother Island, in the East River, in order that the buildings might be thoroughly cleansed and disinfected. Dr. Goldschmiedt reports that, in making an inspection of the old Nursery, he found the cellar foul, the plumbing and ventilation defective, and the garret stored with rags and filthy clothes; and he recommends that action be taken to compel the managers to put the premises in a satisfactory sanitary condition, especially as it has been ascertained that the outbreak of typhus in the new Nursery started from a case in this one.

— In consequence of the neglect of the authorities to provide the means for the maintenance of the usual summer corps of physicians for visiting the tenement-house population in their homes, the St. John's Guild has now organized a medical corps for this purpose, who, in addition to prescribing for the sick children met with which are unprovided with attendance, distribute tickets for the Guild's Floating Hospital excursions and the Seaside Nursery. The Sick Children's Mission of the Children's Aid Society also still maintains its tenement-house service, and now has a corps of fourteen visiting physicians. The Mission has had distributed among the poor throughout the city large numbers of printed cards, conveying the information that any family whose means will not admit the employment of a private physician, can obtain one free of charge, by applying at the office of the Superintendent, in East Broadway.

Miscellany.

ORDER TO CUSTOMS OFFICERS IN REGARD TO IMPORTATION OF OLD RAGS.

Acting-Secretary of the Treasury, Fairchild, issued July 27th, the following instruction to Customs Officers in regard to importation of old rags: "All old rags imported into the United States in vessels which have passed local quarantine at the port of importation will be admitted to entry in the same manner as other imported commodities, that is to say, without requiring special permits from health officers as to their landing. The fact that the vessel has passed quarantine will be considered as sufficient evidence that her entire cargo is free from infection." This will put the responsibility for the detention of imported rags upon the local Boards of Health, where it belongs.

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NINTH INTERNATIONAL MEDICAL CONGRESS.

Circular No. 2, concerning the Ninth International Medical Congress, to be held at Washington, has been recently received. The Congress, it is proposed, will assemble at Washington, Monday, September 5, 1887, at 12 o'clock, noon, and will consist of such members of the "Regular Medical Profession" as shall have registered and taken out their ticket of admission, and of such other scientific men as the Executive Committee of the Congress shall deem it desirable to admit. A list of the officers of the Congress is given.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 24, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whoop'g Cough.	Diph. and Croup.
New York	1,439,039	932	569	45.32	11.11	35.99	1.54	4.51
Philadelphia	971,363	435	232	24.61	5.52	17.48	1.15	1.15
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	211	104	37.60	17.39	31.96	.94	3.29
St. Louis	400,000	175	69	29.00	13 34	4.14	.92	3.22
Baltimore	417,220	187	112	33.92	12.76	26.50	1.59	1.06
Cincinnati	325,000	114	64	34.68	9.68	19.36	1.76	7.92
New Orleans,	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	108	53	23.00	12.98	18.80	1.84	.92
Pittsburgh	190,000	114	72	36 96	4.40	18.48	2.64	2.64
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	43	20	41.94	13.98	30.29	2.64	2.64
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	7	18.20	23.75	13.65	—	—
Charleston	60,145	53	28	26.32	11.28	16.92	1.88	—
Worcester	68,383	24	11	50.00	8.32	41.58	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	20	9	40.00	10.00	25.00	5.00	10.00
Fall River	56,863	34	23	42.16	8.82	36.22	—	—
Lynn	45,861	17	8	11.76	17.64	11.76	—	—
Lawrence	38,825	17	9	23.52	11.76	23.52	—	
Springfield	37,577	17	5	35.28	16.64	23.52	—	—
New Bedford	33,393	16	7	50.00	12.50	37.50	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	18	9	22.22	5.55	16.66	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	15	10	66.66	20.00	53.28	—	—
Taunton	23,674	11	6	45.45	—	45.45	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	10	4	—	20.00	—	—	—
Brockton	20,783	6	2	—	—	—	—	—
Newton	19,759	4	2	25.00	25.00	25.00	—	—
Malden	16,407	4	3	50.00	—	—	—	—
Fitchburg	15,375	5	2	20.00	20.00	20.00	—	50.00
Waltham	14,609	4	3	—	25.00	—	—	—
Newburyport	13,716	2	1	50.00	—	—	50.00	—
Northampton	12,896	4	1	25.00	25.00	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,626: under five years of age 1,449: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 933, consumption 281, lung diseases 111, diarrhœal diseases 690, diphtheria and croup 86, whooping-cough 39, typhoid fever 38, measles 27, scarlet fever 24, malarial fever 15, cerebro-spinal meningitis five, puerperal fever four, typhus fever two. From typhoid fever, Philadelphia 14, New York six, Boston, St. Louis, District of Columbia, Pittsburgh, and New Bedford, two each, Baltimore, Cincinnati, Providence, Charleston, Salem, Chelsea and Northampton one each. From measles, New York 14, Pittsburgh six, Baltimore five, Cincinnati and Nashville one each. From scarlet fever, Philadelphia and Pittsburgh six each, New York four, St. Louis three, Providence two, Boston, Cincinnati and Springfield one each. From malarial fever, St. Louis six, Charleston three, New York four, Baltimore two. From cerebro-spinal meningitis, New York two, Worcester, Fall River and Chelsea one each. From puerperal fever, St. Louis two, Boston and Worcester, one each. From erysipelas, St. Louis, Pittsburgh and Providence, one each. From typhus fever, Philadelphia and Springfield one each.

In the 19 cities and greater towns of Massachusetts, with a population of 930,061 (population of the State 1,941,465), the total death-rate for the week was 24.27 against 21.27 and 18.76 for the two preceding weeks.

The meteorological record for week ending July 24, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, July 24, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . . 18	29.880	72.5	80.6	65.3	84.0	54.0	90.0	76.0	W.	S.W.	W.	4	10	4	C.	O.	F.	—	—
Monday, . . 19	29.748	71.6	80.1	63.9	78.0	51.0	72.0	67.0	S.W.	W.	N.W.	6	16	9	C.	F.	F.	—	—
Tuesday, . . 20	29.712	68.4	76.5	61.4	68.0	59.0	77.0	68.0	W.	S.E.	N.W.	10	8	6	C.	F.	C.	—	—
Wednes., 21	29.791	66.6	70.7	61.2	70.0	62.0	81.0	71.0	N.W.	S.E.	S.W.	6	10	4	C.	O.	C.	—	—
Thursday, 22	29.836	71.9	83.5	60.0	77.0	47.0	47.0	57.0	W.	W.	N.E.	1	12	9	C.	F.	C.	—	—
Friday, . . . 23	30.035	65.8	72.0	59.2	61.0	71.0	84.0	72.0	N.	N.E.	N.E.	7	12	1	F.	F.	C.	—	—
Saturday, . 24	30.057	69.5	79.6	57.8	64.0	37.0	68.0	56.3	W.	N.W.	W.	8	14	8	C.	C.	C.	.00	.00
Mean, the Week.	30.008	69.5	77.6	61.3				66.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 24, 1886, TO JULY 30, 1886.

Brown, Joseph B., colonel and surgeon. Retired from active service, July 26, 1886. S. O. 171, A. G. O., July 26, 1886.

Gibson, J. R., major and surgeon. Ordered from Department East to Department Missouri, on expiration of leave of absence granted in S. O. 158, c. s., A. G. O.; S. O. 168, A. G. O., July 22, 1886.

Bentley, Edwin, major and surgeon. Ordered for duty as post-surgeon, Fort Davis, Texas. S. O. 92, Department of Texas, July 22, 1886.

Taylor, M. K., major and surgeon. Granted leave of absence for one month with permission to apply for one month's extension. S. O. 77, Department of Missouri, July 24, 1886.

Middleton, Passmore, major and surgeon. Ordered to Department East from Department Missouri. S. O. 168, A. G. O. July 22, 1886.

Girard, Joseph B., captain and assistant surgeon. Granted leave of absence for three months with permission to go beyond sea. S. O. 170, A. G. O., July 22, 1886.

Robinson, Samuel Q., captain and assistant surgeon. Ordered for duty as post-surgeon, Fort Brown, Texas. S. O. 92, Department of Texas, July 24, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JULY 31, 1886.

Lunsden, G. P., passed assistant surgeon. To duty, Marine Barracks, Washington, for month of August.

Cordeiro, F. J. B., assistant surgeon. Ordered to Receiving Ship, "Minnesota."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING JULY 24, 1886.

Carmichael, D. A., passed assistant surgeon. Granted leave of absence for thirty days, July 24, 1886.

Magruder, G. M., assistant surgeon. To proceed to Cairo, Ill., for temporary duty, July 22, 1886.

DEATH.

Died in Lawrence, Mass., July 28, 1886, Eugene Stephen Yates, D.D., M.M.S.S.

BOOKS AND PAMPHLETS RECEIVED.

Annual Announcement of Trinity Medical School, Toronto. Session 1886–7.

Intracranial Hæmorrhage in its Medico-Legal Aspects. By John B. Lewis, M.D. (Reprinted from Proceedings of the Connecticut Medical Society.)

Announcement of the Medico-Chirurgical College, of Philadelphia. Sessions of 1886–87.

Twenty-Sixth Annual Announcement of the Bellevue Hospital Medical College. 1886–87. With the List of Graduates for 1886.

On the Value of Brücke's Method for the Removal of Interfering Substances from Urine in Testing for Glucose. By Edgar Moore Green, Easton Pa. (Reprinted from American Chemical Journal, Vol. VIII, No. 2.

Proceedings of the Connecticut Medical Society, 1886. Ninety-Fifth Annual Convention, held at New Haven, May 26th and 27th. New Series. Vol. III, No. 3. Published by the Society. S. B. St. John, M.D , Secretary. Hartford, Conn: Press of The Case, Lockwood & Brainard Company. 1886.

Announcement for 1886–87 of the Medical and Dental Departments of the National University. Washington, D.C.: Pigott & Co. 1886.

Boston University School of Medicine. Fourteenth Annual Announcement and Catalogue. July, 1886.

Illustrated Catalogue and Price-List of Physical and Chemical, Electro-Medical, Optical and Scientific Instruments, School Apparatus, etc. New York: Curt W. Meyer. 1886.

A Contribution to the Study of Hay Fever (so-called). By Beverley Robinson, M.D., of New York. (From the Medical News, July 17, 1886.)

Western Pennsylvania Medical College, Pittsburgh, Pa. Announcement. Session of 1886–87.

Forty-Third Annual Report of the Managers of the State Lunatic Asylum at Utica, for the Year 1885. Transmitted to the Legislature, January 15, 1886. Albany: Weed, Parsons & Co. 1886.

Address.

MEDICINE IN THE UNITED STATES, AND ITS RELATIONS TO CO-OPERATIVE INVESTIGATION.

THE ANNUAL ADDRESS IN MEDICINE DELIVERED BEFORE THE BRITISH MEDICAL ASSOCIATION, WEDNESDAY, AUGUST 11, 1886.

BY JOHN S. BILLINGS, M.D., LL.D., EDIN., SURGEON, U. S. A.

Mr. President, and Gentlemen of the British Medical Association: You all know that the representative of the American medical profession first selected by your executive committee to deliver the address in medicine to-day, was the late Dr. Austin Flint, Sr., of New York, whose death last March is, therefore, a great and direct loss to you as well as to America. Every English physician knows Dr. Flint by reputation and through his writings; but only those few of you who were so fortunate as to know him personally, can fully appreciate the magnitude of the loss which the medical profession has sustained in his death.

This is not the time and place to attempt to pronounce a fitting eulogium upon him and his work, and I shall, therefore, only say that my deep personal sorrow for his removal is mingled with sympathy for the members of this Association, who have been thus deprived of the pleasure of hearing him state in person some of the results of his long and wide experience. The loss is not a total one, it is true, since he had, fortunately, completed his address on "The Medicine of the Future," which has been published, and has, no doubt, been read by all of you; but in this case the printed page is by no means a satisfactory substitute for the spoken word.

In accepting the request, with which I have been honored by your council, that I should attempt to take his vacant place on this occasion, it is with a full understanding of my inability to fill it that I stand before you.

The request came at a time when I was hard pressed by official duties, and had neither leisure nor opportunity to undertake any special research; hence, to avoid violating one of my favorite Scotch maxims, namely, "That which you do not know, tell that not to any one," it was necessary to select some subject to which I had already given consideration, and which at the same time would probably be of interest to English physicians.

Reflection on these restrictions soon brought the field of selection into narrow limits, almost into "a small intercept of space of one dimension," as a mathematician would say.

What is the significance of this invitation extended for the first time to a physician of another country, and that country the United States, to come to this annual gathering of the medical men of Great Britain and give the address in medicine?

Does it not mean recognition of the unity of medicine, of the utility of coöperation, of the fact that we have common interests, and that the time has come when it is desirable to hear from the outlying younger branch of the family with a view to mutual pleasure and profit in the future? So it seems to me; and I propose, therefore, to call your attention briefly to some points relating to the present condition and future prospects of medicine in the United States, and to the direction in which you may reasonably hope and expect from that country in the future the most useful coöperation in the improvement of medical science and art. I believe that these must be matters of interest to you, and that I can perhaps make clear certain peculiarities which do not seem to be as generally understood on this side of the Atlantic, as it is desirable that they should be, to insure sound judgment upon some of the results observed.

In the first place, permit me to call your attention to the fact that it is hardly possible to make any statements with regard to medicine in, or the medical profession of, the United States as a whole, which shall be definite and at the same time distinctive; that is, which will not apply almost equally well to medicine and the medical profession in other countries. This is due to the fact that there are great differences in the organization of the profession in different parts of America, so that what is true of one State would not be true of another; what is required as to fitness or qualification to practice in one place is not required in another; and the country covers so many parallels of latitude and meridians of longitude, making the conditions of life so diverse, and producing such differences in the prevailing diseases, that a man who is fairly qualified to practice in one section may be poorly fitted to treat the endemic diseases of another.

As in painting a picture, it is best to locate and define the shadows first, and deal with the lights afterward, let us begin by considering some of the things that American physicians complain about; in other words, some of their supposed grievances. One of these is that the profession is overcrowded; that there are too many doctors, both *in esse* and *in posse*, and that this is due to too low a standard of education, and to the want of legal restrictions as to the qualifications which shall give a man the right to practice. The feelings of some of our physicians on this subject are in full accord with those of the good old New England deacon who told the village scapegrace seeking admission, that "he thought the church was about full."

Now what is the number and distribution of medical men in America? Statistics gathered in 1883,[1] showed that in the United States and Canada there were 90,410 persons calling themselves physicians, being in the proportion of 1 to every 600 of population. In Canada alone, there were 3,487 physicians or 1 to 1,112 of population. If we take the figures of our last census, of 1880, the proportion of physicians reported, is 1 to 589 of population, or 17 per 10,000. In England and Wales, by the census of 1881, the proportion of physicians is only 5.8 per 10,000, but these figures are not properly comparable with those of the United States, because they do not include unregistered persons. If the same classes were included that are counted in the United States report, I presume that the proportion would be about 9 per 10,000, or a little more than half that in the United States.

In the United States the proportion to the population of those who call themselves physicians varies greatly in different localities; thus, in Colorado there are 29.3, in Indiana 25.2, in Oregon 24.3, and in Arkansas 23.5 per 10,000; while in New Mexico there were only 6.6, in South Carolina 9.2, and in North Carolina 9.7 per 10,000.[2]

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[1] Illinois State Board of Health Report, 1884.

[2] A map of the United States was here shown, on which the proportion of persons calling themselves physicians to the population in the several States was indicated by different shades of color.

It is not easy to give satisfactory reasons for these differences; we can only say that they do not depend to any great extent upon local legislation. The proportion of physicians is generally lowest in the Southern States lying east of the Mississippi, and highest in those regions where immigration has recently been active. If we compare, by localities, the proportion of physicians to the population with that of clergymen and lawyers, we find some curious differences. It seems that the lawyers in the United States number 12.7, while in England and Wales they are 6.6 per 10,000, but that on the other hand the clergymen are 14.6 in England and 12.8 in the United States per 10,000 of population. In many instances it seems that where the lawyers are most numerous the supply of clergymen is smallest. I believe that a fair proportion of physicians to population is about 1 per 1,000, which is not far from the actual proportion in England, while the true proportion of practicing physicians in the United States is about 1 in 750. We must admit, then, that there is at all events no scarcity of physicians in the United States, and, as we have over 80 medical schools at work, besides a fair proportion of medical immigrants, there is no immediate danger of any interruption to the supply.

Let us now consider the second head of the complaint, namely, that the standard of education is too low. There is ground for this, considered with reference to some localities, but not for others. I said a moment ago that a man might be fairly qualified for practice in one part of the country, and yet find himself at a loss in another. This needs a little explanation, which I can, perhaps, give most easily in connection with a map of the United States, which I here show you. This map, which was prepared for a very different purpose, indicates, by different shades of color, the relative proportion of deaths reported as due to malarial disease to the total number of deaths in different parts of the country, for the census year 1879–80. You will note how comparatively light the tint is in the north and north-east, and how dark the shades become in the south and in the valley of the Mississippi, thus indicating the great differences which exist as to the prevalence and deadly effects of the malarial poison in different sections of the country. It is in some of these low-bottom lands and swampy districts that we meet with cases of congestive chills and of malarial hæmaturia, cases in which the patient has been described as being "a mere appendage to a huge malarial entity, an incident of a miasmatic cataclysm." Furthermore, this strip of land bordering on the Gulf Coast is in the yellow-fever zone, and has, heretofore, been repeatedly desolated by this pestilence.

As compared with the North and East, much of this malarious region is a thinly-settled country, an almost purely agricultural country, and not a rich country. I need hardly tell you that the physician who has received his chief clinical instruction in the office of his preceptor in Vermont or New Hampshire, supplemented by distant glimpses of a few cases in hospital in Boston or New York, will find himself at a loss, at first, in dealing with the emergencies of daily practice in Arkansas and Mississippi. He will be subjected to influences which, at times, are dangerous to one who is not acclimated, and which tend to produce depression of spirits, want of energy, and bad health. He will not have free and constant access to scientific companionship, nor be stimulated by the influence of learned societies, and he cannot avail himself of the ordinary sources of amusement, education, and rest, such as art galleries, the drama, libraries, and museums, etc., which are found in the large cities. Moreover, the pecuniary reward which the practitioner, in many of these places, can reasonably hope for, is comparatively small.

Taking all these things into consideration, it is clear that if a man, after spending from six to eight years, and from one to two thousand pounds in acquiring such a general and professional education as it is now considered that a skilled physician should possess, then settles in such a region, with the prospect of an average income of from £150 to £200 per year, it is not from pecuniary motives alone. There are such men in such places — men who are not only highly educated and skilled practitioners, but who are also original investigators and thinkers. It was within the limits of this malarial shadow that the foundation of modern gynæcology was laid by Marion Sims, of abdominal surgery by McDowell, Battey, and Gross, of an important part of the physiology of the nervous system by Campbell. Nevertheless, the rule holds good that malaria and science are antagonistic; the exceptions prove the rule.

Nor can the inducements for highly-educated physicians to settle in thinly-settled localities be made stronger by any form of penal or restrictive legislation. Any attempt to fix a standard of requirements or qualifications for practice which shall be the same for such rural districts and for the large cities and manufacturing towns, must result in the adoption of what competent judges would consider so low a standard as to be ridiculous and useless. The demands are widely different, and corresponding differences exist in the sources of supply, that is, in the medical schools.

There is a class of medical schools in the United States whose object is to give the minimum amount of instruction which will enable a man to commence the practice of medicine without much danger of making such serious and glaring blunders as will be readily detected by the public. There are other schools whose aim and object is to make fairly well-trained practitioners, the general character of the instruction given in these being substantially the same as that given in your English hospital medical schools. The results of such a three years' graded course of instruction in medicine as these schools furnish, depend upon the character of the material upon which they work, that is to say, upon the general preliminary education possessed by the student at the time of his matriculation. This is evidently too often defective, and only a few schools have thus far ventured to establish any standard of preliminary examination which at all approaches in its demands that which is required in England.

The proverb that it does not pay to give a $5,000 education to a $5 boy is clearly of American origin, and sums up a great deal of experience.

You have nineteen portals of entrance to the profession, and have not found it easy to keep them all up to the standard. In America, we have over eighty gates, a number of turn-stiles, and a good deal of the ground is unenclosed common. Many of our physicians are more or less dissatisfied with this state of things and with the results thereof, and every year, in some States, efforts are made to secure legislation which it is supposed will protect the interests of the profession, though those who advocate such legislation are usually prudent enough to claim as their only motive a desire for the protection of the public.

Now, how does this free trade in medicine and the low standard of qualification, or no standard at all required by law, affect practitioners as individuals? To answer this we must divide the profession into several classes. In the first place, in all our cities, great and small, there is a large class of physicians who are as well educated and as thoroughly competent to practice their art, as can be found in the world. They have studied both at home and abroad, have had extensive clinical training, are always supplied with the latest and best medical literature and the most improved instruments, and many of them are connected with hospitals and medical schools. Among them are found the majority of our writers and teachers, and the successful men are the survivors of a struggle in which there bas been keen and incessant competition. These physicians, whose positions are fairly assured, and who, as a rule, have all the practice they desire, are not usually active leaders in movements to secure medical legislation, although they passively assent to such efforts, or, at least, do not oppose them; and their names may sometimes be found appended to memorials urging such legislation. They are clear-headed, shrewd, "practical" men, who know that their business interests are not specially injured by quacks and ignoramuses, rather the contrary, in fact, for they are called on to repair the damage done by the quack to people who have more money than brains; and they are not inclined to risk the fate of the Mexican donkey who died of "*congojas agenas*," that is, "of other people's troubles."

Then there is another large class of honest, hard-working practitioners who rely more on what they call experience and common-sense than on book-learning. Many of these have obtained assured positions of respectability and usefulness, and are comparatively indifferent to medical legislation, so far as their own interests are concerned. Others, however, who are not so successful, feel the competition of the local herb doctor or of the travelling quack more keenly, and have more decided views about the importance of diplomas. Among these are the young men who have not yet acquired local fame, and who are apt to become very indignant over the doings of some charlatan in the neighborhood, or of some druggist who prescribes over his counter. These last are usually quite clear in their minds that the State ought to interfere and prevent injury to the health of the people.

I have known two unsuccessful physicians who finally abandoned practice, and who gave as a reason of their failure — one that "he did not know enough," and the other, that "he had not the manners and tact which would inspire confidence in his patients"; but such frank-speaking men are rare.

Thus far, as a rule, the efforts which have been made to secure legislation upon medical matters in America have come from the profession itself, and have been chiefly urged and recommended by physicians. The general public, and even the educated public, has shown very little interest in the matter. It does not demand protection against ignorance, but entrusts the care of its health, and the lives of those who are nearest and dearest to it to almost any one who announces himself as prepared to take charge of them. The number of those who profess to practice medicine in the United States, and are not qualified to do so, is undoubtedly large, though by no means so large as one might suppose after listening to the impassioned eloquence which is duly aired every year upon the subject. There are some advertising charlatans and travelling quacks occasionally to be met with, but they are rare.

The most rigid tests of qualification, in our profession in the United States, are those required of candidates for admission into the medical departments of the army and navy. The standard established for these is about the same as that for the corresponding corps of the English army and navy; and of the candidates who apply, from seventy to eighty per cent. are rejected.

Certainly, we must admit that this percentage indicates an unsatisfactory state of things. But what evidence have we as to its results upon the health and life of the people? What shall we take as the measure of the difference of skill in physicians? The death-rate? If we compare the death-rate of the United States with those of other civilized countries, we find that it is as low as any with the exception of Sweden. Does a low death-rate mean better sanitary condition or more skill among the doctors? For the last twenty years the death-rate has been diminishing in England; the average amount of life for each person here has been increased, but I observe that the sanitarians claim this as proof of the value and importance of their efforts, and that nothing is said about its being in any way due to increase in medical skill or to improvements in medical science. Evidently this test is not a convincing one. Almost the only matter in which figures seem to demonstrate the importance of superior medical education and skill is in the statistics of deaths due to childbirth and of the results of surgical operations.

The proportion of deaths from childbirth to the number of births is decidedly greater in the rural districts than in large cities, and among the colored than among the white population. If this difference were found only in the United States statistics, it might be accounted for by the differences in the trustworthiness of the sources from which the data are derived; but we find similar differences in England, and we must admit that these are probably largely due to the fact that in cities labor cases receive more prompt and efficient professional care than they do in the country. I need hardly call your attention to the results of antiseptic surgery, or of modern abdominal surgery, as compared with those of twenty-five years ago. Here there can be no question as to the improvement. It is well to remember in this connection that whatever undue prolongation of disease or unnecessary mortality is due to want of skilled medical treatment occurs mainly among the wage-earners, the farmers, mechanics, salesmen, needlewomen, etc., and not among the rich, nor yet among the very poor.

Now, seeing that really efficacious legislation with regard to medical education or to the practice of medicine must, like all efficacious legislation, be substantially in accord with public opinion, since it is impossible to continue to punish for any length of time that which public opinion does not condemn; and as the great mass of the people of the United States have not as yet had such evidence as they can understand, and would thoroughly convince them that it is to their interest to suppress quackery, it follows that it is necessary to go slowly and to allow such evidence to accumulate.

To me it seems that the most important of the first steps to be taken in this direction is one which has already been taken in Great Britain— namely, the requirement that every death in the community shall be registered, and that in such registration satisfactory evidence shall be given as to the cause of death, sufficient at least to prove that such cause is what is known as a natural cause, that is, that it is not due to crime.

When it is admitted that one of the duties of government is to provide for such registration, both in the interests of life and to secure the rights of property, it follows, necessarily, that those persons whose certificates as to the cause of death are to be accepted as satisfactory evidence that there has been no foul play, must present evidence that they are properly qualified to make such certificates. The principle is precisely the same as that which induces a government to provide for the examination of the medical men whom it employs in its army and navy.

So far as the art of medicine is concerned, the demand has much, though by no means all, to do with regulating the quantity and quality of the supply; and there are few localities in the United States where the qualifications of the medical man are not fully up to the standard which the community is able to appreciate and is willing to pay for. In the natural order of things suffering and death are the remedies for ignorance, weakness, and vice, and the means of preventing the transmission of these characteristics to offspring. These remedies, though effectual are drastic, and we do our best to avoid them, but perhaps it is well that the penalties cannot be done away with altogether.

The rules regulating the practice of medicine in the United States are all State laws. If we were to judge only from what may be found in the statute books, assuming that all the laws contained therein are duly enforced, we should find that nearly two-thirds of the States have laws ostensibly regulating the practice of medicine within their borders. As a matter of fact, however, in over half the States which have laws on this subject no attempt is made to enforce them, and in almost all of them the possession of a diploma, no matter from what source derived, is all that is required.

Of the various methods which have been tried in different States to insure by law that physicians shall be properly qualified, I will call your attention to two which are of special interest.

The first is that of Alabama, the principle of which is to organize the whole medical profession of the State, and use it as the means of regulating the qualifications of practitioners and of caring for the public health. The Medical Society of the State of Alabama with its branches, the county medical societies, thus forms a part of the machinery of the Government; it appoints boards of medical examiners, selects State and county sanitary officials, supervises the registration of vital statistics, the administration of quarantine, etc.,—in short, it is the State Board of Health, and the county branches are the county boards of health.

In this State the possession of a diploma does not give the right to practice, it simply enables the owner to go before the examining board. The examinations before the County Board are partly in writing, and are subject to review by the State Board, which has in some instances publicly condemned the local examinations as not sufficient.

This system has now been in operation nine years, and has gradually been consolidated and improved by educating local boards, and getting all physicians interested in it, until it is now working fairly well. Much remains to be done, and it is too soon to predict results; at present the success of the system is largely due to the wisdom and energy of one man, who has given his whole time and labor to the work, and it remains to be seen whether the machine which he has built will work well without him.

The second system to which I will call your attention, is that of the State of Illinois, which was commenced in 1877, or about the same time as that of Alabama.

In Illinois any one who presents a diploma, or license to practice, from a legally chartered medical institution in good standing, is entitled to practice, and the State Board of Health is to decide as to what shall constitute "good standing." The Board of Health also examines all persons who do not possess satisfactory diplomas, and who nevertheless wish to practice in this State.

One of the greatest practical difficulties in the way of providing any system of State examinations in medicine in the United States, is that public opinion will not support any law which can be supposed to condemn or in any way to injure homœopathic and eclectic practitioners or their schools, and hence any proposed law relating to medicine, or to the organization of State boards of health, which does not recognize the existence of these sects will, in many States, at all events, meet with enough opposition to defeat it. In Illinois this difficulty was surmounted by the arrangement, that of the five physicians on the Board, one should be homœopathic and one eclectic. The Kansas law, passed last year, goes further in this direction, and provides that appointments must be so made that no school of medicine shall ever furnish a majority of the members of the Board. Much to the surprise of many, the Illinois plan has worked very well — there has been no quarrelling in the Board —and the homœopathic and eclectic members seem to have upheld quite as high a standard of qualification as their fellow members. The results of the work in Illinois have been very good. A large number of ignorant charlatans were forced to leave the State. The requirements of the Board as to what shall constitute a medical college in good standing, have been raised, and it has thus caused improvement in the medical schools, not only of Illinois, but of other States. Moreover, the neighboring States have been stimulated to action, not only by the force of example, but because they received the men who had been driven out of Illinois, and found the accession an unpleasant one.

As in the case of Alabama, it is too soon to judge definitely of the results; and in Illinois, also, the satisfactory working of the system is largely due to one man, the Secretary and executive officer of the Board, who has given his entire time to the work. I do not, by any means, wish you to suppose, however, that I consider this as being a serious objection to this or any other plan, for in the building up of any organization, or the carrying out of any system, much must always depend upon some one man.

The relations of the United States Government to medical education and to the practice of medicine are indirect only, the regulation of these matters by law being part pf the police power which, under the constitution, is reserved exclusively to the individual States. The United States employs physicians in its Indian Department, in the Pension Department, in the Marine Hospital Service, and in the medical departments of the army and navy, and it has power to regulate the practice of medicine in those territories which are not yet organized into States; and also in the District of Columbia; but thus far it has made no use of such power. The qualifications of physicians employed in the army and navy and in the Marine Hospital Service, are determined by examinations made by boards of medical officer sbelonging to those services. The possession of a diploma from a respectable medical college is a pre-requisite for such examination, but beyond this it does not count; that is to say, the examination is the same for the holders of all diplomas, and covers all branches of medicine. But while the relations of the general government to medical education are thus indirect, they have of late years become of very considerable practical importance, and are now exerting much influence upon medical investigations and literature. This is being effected by the museums and libraries which are now being formed under the auspices of the government at Washington, and also, to some extent, by certain special investigations undertaken by the government in the interest of preventive medicine. Of these various agencies one of the most important is the library which has been formed at Washington, under the auspices of the medical department of the army in connection with the Army Medical Museum; both of these institutions being a part of the results of the late civil war. The museum was at first formed to illustrate military medicine and surgery, giving the results primary and secondary, of injuries inflicted by modern weapons of warfare and of the diseases of armies in the field; in which direction the collection is unrivalled in extent and completeness. Gradually its scope has been enlarged to include illustrations of anatomy, development, and all branches of pathology and therapeutics, so that it is fast becoming a museum covering the whole field of medical science. In like manner, the library, which commenced in a collection of those books relating solely or especially to military medicine and surgery, which were required in the compilation of the "Medical and Surgical History of the War," has expanded into a great medical library, which is now one of the best practical working collections of the kind in the world. These collections, then, no longer appertain exclusively, or chiefly to the business of one department, but belong to the whole profession of the United States as a body; and the department which has charge of them is managing them from this point of view. The influence of the library in stimulating research, and upon the quality of medical literature, is already very perceptible, and is destined to increase with advancing years. I think I may also venture to claim that the utility of these collections, and especially of the library, is by no means confined to the medical profession of the United States, for the catalogues and indexes which are being issued in connection with them, are of service to medical writers and teachers all over the world.

As regards investigations into the causes of disease, undertaken at the expense of the general government, only a beginning has as yet been made; but it is sufficient to indicate future possibilities and probabilities. The main importance of the work of the National Board of Health, which was organized in 1879 under the stimulus of the great yellow fever epidemic of the previous year, was due to investigations upon the causes of yellow fever and diphtheria, the relations of soils and of water-supply to certain diseases, etc., investigations of the same general character as those which are being prosecuted under the auspices of the Local Government Board in this country, and of the Imperial Board of Health of Germany. It is true that owing to circumstances which I cannot here explain, the work of the National Board of Health has been stopped; but there is every probability that it will be resumed, with perhaps some change of organization, at no distant day, and I need not dwell upon the vast importance to medical science of organized and systematic work in this direction. Similar investigations have been undertaken by State boards of health, and especially by the State Board of Health of Massachusetts, and the fact that governmental health departments are tending to work in this direction is significant as to future coöperation from such sources.

In this connection should be mentioned the National Museum of Hygiene, which has been formed under the direction of the medical department of the United States Navy, which is now one of the most instructive collections of the kind in the world, and has also connected with it an excellent library and a well-equipped laboratory.

Comparative and experimental pathology is also receiving attention from the Government under the direction of the Department of Agriculture, which is doing some good work in the investigation of the diseases of our domestic animals. Our investigators are, fortunately, not hampered by antivivisection laws, and there is little danger that they ever will be, for though we have our due proportion of fanatics and seekers of notoriety who wish to emulate the British Antis-, their true motives are so well understood that they have little power to do mischief.

Of medical associations in the United States there are several classes. We have a few local societies, analogous to clubs in their organization, which own property in the form of buildings, libraries, etc., are somewhat conservative in their selection of members, and are only to be found in large cities. Of these, the College of Physicians of Philadelphia is the oldest, and has the largest and best library and museum —it will celebrate the hundredth anniversary of its existence next year. In New York the Academy of Medicine, and in Boston the Medical Library Association, are of the same character, and, in general, each large city has a similar society, although as yet they have not become fully anchored and established by the acquisition of property. The second class includes local societies devoted to specialities such as pathology, obstetrics, etc. These also are found only in large cities, and as yet are few in number. Four of them only have published transactions. Corresponding with these are national societies devoted to specialties such as gynæcology, ophthalmology, surgery, pathology and clinical medicine, etc. These societies meet annually, elect their own members, exercising care in the selection, and publish valuable transactions.

Another class is composed of the county medical societies, which strive to include all regular practitioners residing in their precincts. From these are sent delegates who form the State medical societies and the American Medical Association. The mode of organization varies somewhat in the different States, but the representative-principle prevails in all. Most of these societies publish transactions, and the American Medical Association now has its journal.

As to the condition of medical science and art in America, it partakes of the general progress, for the press now makes all discoveries the common property of the civilized world. The marked feature of the present epoch is the recent advance in knowledge as to the relations between microörganisms and certain diseases, and the strong stimulus which this has given to preventive medicine. Sanitation is becoming fashionable, and if we may believe some of its votaries, it is a very simple matter to prolong the average lifetime to the scriptural "three score years and ten." All that is necessary is that everything shall be clean, and every person virtuous.

Having learned to distinguish those diseases which can be prevented much more easily and certainly than they can be cured, we may turn them over to the sanitarian, who has his own battles to fight with ignorance and prejudice. If he succeeds, and so far as he succeeds, he will change, in certain respects, the work of the practitioner.

The lives which are saved from cholera and typhoid, from consumption and diphtheria, and from the acute specific diseases, will, at last, be weakened and destroyed in other ways. The work of the physician will not be lessened by preventive medicine, it will simply be required more for older persons, and for another class of diseases. As sanitarians must depend upon practitioners for much of the information which is essential for their work, it follows that if preventive medicine is to become a working power, it will bring the mass of the profession into closer relations with the State than its members have held heretofore. What these relations shall be is one of the most interesting, and, at the same time, one of the most difficult, of the many problems with which we, or our successors, must deal. I have referred to some experiments on this subject which are now being tried in America, where it is much easier to make such trials than it is in an older country hampered with vested interests.

Just at present, in this, as in a number of other things, our tendency is toward centralization, both in the several States and for the whole country, and it is not improbable that we may go far on this road in the future.

I come now to the consideration of the second part of my subject, namely, the direction or manner in which we have reason to hope that medicine will be developed in the United States, and the kind of coöperation which you may reasonably expect to receive from the medical profession of that country.

A marked feature of the present day, in medicine, as in other things, is the tendency to specialization in study and in practice. But this very development of specialties, of increasing minuteness in the division of labor, increases the necessity for coöperation, and in fact tends to create what we may call the specialty of coöperation. Formerly a rifle, or a watch, was made by a single workman. No two instruments were exactly alike, each piece had its own individuality, and was not interchangeable, and the cost of the whole was such as to put it beyond the reach of the multitude. Now, the work on these things is greatly subdivided, one man makes only one small wheel, or spring, or pinion, and another another, each doing his work according to a uniform pattern, rapidly, perfectly, and at comparatively small cost.

But, in addition to the workmen who make the individual parts, it is now necessary to have one person specially skilled in making drawings and preparing patterns, another to assemble the completed parts, and a third, to test the whole after it has been put together. As the centrifugal force increases, the centripetal power must also increase.

In one sense medicine, as we have it to day, is the result of coöperation, not of deliberate, centrally planned and direct coöperation, but of natural selection from results produced by many men, often working at cross purposes, and, therefore, wasting much energy, but nevertheless working, though blindly, to a common end. And it is safe to predict that in the future much of the best work will be done in the same way, by individual effort inspired by the love of science, by personal ambition, etc. But the results obtained in this way come slowly, and some things that we want can hardly be obtained by individual effort, even if we were willing to wait, hence we must look to organization for help.

This is an age of machinery, of exchanges, of corporations, for all these correspond to one and the same fundamental idea. Men make machines to do what the individual cannot do, and they make them not only of brass and iron, but of men, for such an obvious source of power to the man or men who can master the combination is not likely to be overlooked. One result of such organization is seen in our encyclopedic works on medicine, whether these be called dictionaries or handbooks; another in the great medical journals; another in associations which seek to wield political influence; another in the comparatively recent attempt at collective investigation of disease. With these may be classed also the attempts of Government departments to make scientific investigations, to collect libraries and museums, to do things which require long continuity of effort on a definite plan in order to produce the best results.

And it is by the combination of all these, with the efforts of individual workers, that substantial advance and improvement are to be effected.

In this broader view of coöperation, it is interesting to consider those fields of labor to which comparatively few physicians can devote themselves, because of want of time and opportunity, but whose proper working is, nevertheless, of the greatest importance to the practitioner.

One of these is experimental laboratory work, and in this direction, the prospect of valuable contributions from America is now exceedingly good. Some of the wisest of our most wealthy men have shown their appreciation of the responsibilities which riches entail on their possessors by seeking new channels through which to benefit their fellowmen. While the old and well-known methods of endowing hospitals and charitable institutions are not neglected, there is apparent an increasing tendency to endeavor to promote the advancement of knowledge, and especially of such knowledge as tends to the mitigation of suffering and the improvement of the race, to furnish means for the investigation of disease, to provide laboratories, and to endow medical schools, and thus place them beyond the reach of the temptations and difficulties which must always exist when such schools are dependent upon the fees of students, and are, therefore, practically commercial manufacturing establishments.

As illustrations of this tendency, I may mention the bequest of £1,400,000 by Johns Hopkins to endow, in the city of Baltimore, a university and a hospital, of which the medical department is to be a special feature, to be provided with the best laboratory and other facilities for original investigation, as well as for teaching; the gift of Mr. Carnegie to the Bellevue Hospital Medical School of New York, in the shape of a well-equipped pathological laboratory; the presentation by Mr. Vanderbilt, and members of his family, to the College of Physicians of New York, of £200,000, to provide for that school new buildings and clinics having the best means of teaching and research, and the endowment by an unknown donor, of a laboratory for the University Medical College of New York, with the sum of £20,000.

Last year, in his retiring address as President of the New York Academy of Medicine, Dr. Fordyce Barker referred to this tendency to regard wealth as a trust to be used for the benefit of humanity, and, after sketching the requirements of the Academy on a scale which would require an endowment of at least a million of dollars, predicted that such an endowment would be furnished by wealthy citizens of the city. I believe that he was right, and that his prediction will become history.

As the class of men who have wealth, leisure, and knowledge becomes greater, there comes an ever-increasing demand, not only for the best medical skill, for the most expert practitioner, but also for exhaustive research in every direction which promises to furnish new means for the prevention or relief of suffering, and for warding off, as long as possible, the inevitable end; and hence there is little reason to doubt that the examples I have named will be followed by others in the near future. With such opportunities, and under such conditions and influences, the stimulus to the young and ambitious worker is strong; we have abundance of material of this kind upon which the process of natural selection can operate, and there is little reason to doubt that the result will be substantial and valuable contributions to physiology, pathology, and therapeutics.

I have already referred to some of the work which has been undertaken by the United States Government for the benefit of medicine and of the medical profession in the formation of a library, and the providing of means of assistance in bibliographical research. There is another most important means of advancing medical and sanitary science which only a Government can furnish, and in which field of work England now stands preëminent — I refer to vital statistics. In this field, the United States Government has thus far done but little, yet enough to show the great interest and value of what we have a right to hope will be done in the future by combining the work of the several States. This is one of the fields in which international coöperation is most desirable; it alone can furnish data sufficiently complete and reliable for a scientific consideration of the relations of disease to geographical and race distinctions.

Geographical pathology is a very old branch of medicine, as old, at least, as Hippocrates, whose treatise on airs, waters, and places is justly famous. Permit me to remind you of its opening clauses: "Whoever wishes to investigate medicine properly should proceed to consider the seasons of the year, and what effects each of them produces, the winds, the qualities of the waters, the situation and exposure of the city, the character of the ground, and the mode of life of the inhabitants." Then, says the wise old Greek, "From these things he must proceed to investigate everything else."

There is a breadth of view in that last sentence which is particularly satisfactory. Since the days of Hippocrates, there has accumulated a vast amount of literature relating to the supposed connection between the topographical peculiarities of different cities and countries, and the diseases which prevail in them, but when the books and essays, which come under the heading of "Medical Topography," are examined, it will be found that the topographical part is much more complete than the medical — which last is mainly confined to the consideration of malarial diseases, and is vague and indefinite with regard to their relative prevalence.

Much the larger part of our really valuable information on this subject has been obtained within the last twenty-five years, as Professor Hirsch points out in the preface to the recent edition of his very valuable handbook of geographical and historical pathology, and while the contributions of the United States to this branch of medical science have been already important, I hope to be able to show you that they are probably destined to be of steadily-increasing importance in the future. Considered, as a body, the opportunities of the medical profession of the United States for the study of the manifold influences which can cause, modify, or prevent disease, are in some respects unequalled. As regards peculiarities of climate, soil, altitude, etc., the country is so large as to afford almost every variety of combination, so that nature may be said to be making a series of experiments, on a grand scale, upon the mass of humanity which is so rapidly increasing in the new world. Especially is this the case with regard to the problems of heredity as connected with the mysterious relations of certain forms of disease to race. America is at present the great mixing bowl into which are pouring streams of human life from origins the most diverse, from regions the most remote. Black and white, red and yellow, long skulls and short skulls, Celt, Teuton, and Slav, are being brought together under similar conditions of climate, food, and occupation, thus permitting of the comparison and study of the different effects, if such exist, which result from variations in parentage under conditions of exposure to the same causes of disease.

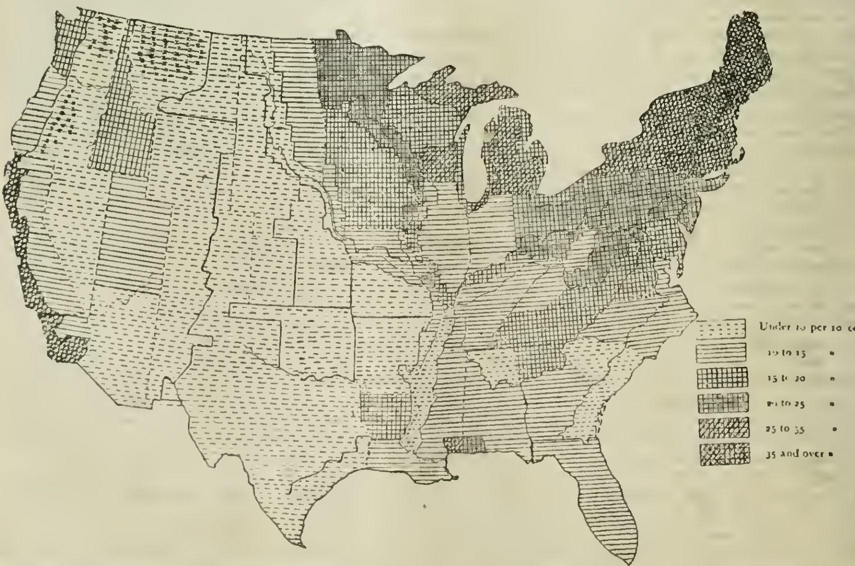
For a little time, a generation or two at least, the different streams remain pure, then there is more or less mingling, in some cases very little, in others very intimate, but always there is an opportunity of studying the races separately, as well as of investigating the results of their various mixtures.

To illustrate the possibilities in this direction, I will call your attention to some peculiarities in the distribution of deaths from certain causes in different parts of the United States, and for this purpose I shall make use of the data from our last census, taken in 1880. We have no general and uniform system of registration of births and deaths. The larger cities, and about half a dozen States, have such a system, but for much the larger portion of the country the only means which we have for determining differences in amount or causes of mortality in different localities is through the census, which is taken once in ten years. The data thus obtained with regard to deaths are imperfect, because when these are collected, only at the end of the year, about thirty per cent. of the deaths are unrecorded; and they are inaccurate, because the reports of the causes of death are not furnished by persons competent to give reliable information with regard to them. Nevertheless, these data are the best that we have, and although for a large part of the country they do not give us the actual number of deaths from any cause or set of causes, they do furnish some interesting information with regard to the relative prevalence and importance of certain causes, and suggest questions and lines for future investigation, although they do not furnish definite and scientific answers.

Take, for instance, this map of the United States upon which, by varying shades of color, is shown the proportion of deaths reported as due to cancer, as compared with the reported deaths from all causes. Cancer, using the term in its broadest sense, is a disease which seems to be gradually increasing in frequency among civilized nations, and, possibly, to have a tendency to increase with the advance of civilization.

In England and Wales the proportion of deaths from this cause seems to have nearly doubled within the last twenty-six years, and a similar rate of increase can be made out in certain parts of America. How far this increase is a real one, and how far it is due simply to improvement in diagnosis, is a question yet unanswered.

The mortality from cancer in the United States is proportionately greatest in the New England States, somewhat less so in New York and Pennsylvania, and it causes the least proportion of deaths in the Mississippi Valley and the South generally. The proportion of deaths from cancer in the United States is somewhat greater than it is in England; but it is not possible to make any accurate comparisons in this respect. Now why are the shades on this map so dark in the northeast and so light in the south? In the first place, cancer is a disease the mortality from which steadily increases with advanced age, as you may see from this diagram. Hence, cancer causes a higher proportion of mortality in those localities which have the greatest proportion of population living at advanced ages, and in the United States these localities are the New England States, as you will see by this map. One deduction from this which may perhaps not have occurred to all of you, is that a large proportion of deaths from cancer indicates, to a certain extent, that the locality in which it occurs is a healthy and long-settled one, since it has probably a relatively large proportion of inhabitants, and especially females of an advanced age. But another explanation of the peculiar shading of the cancer map is found in the relations of race to the tendency to death from this disease. The proportion of annual deaths from cancer per hundred thousand living population was, in round numbers, twenty-eight for the whites, and thirteen for the colored. That is to say, cancer is more than twice as prevalent among whites as it is among colored in the same localities, for these figures apply only to the South. On the other hand, cancer appears to cause a greater proportion of deaths in persons of Irish and German parentage, than it does among the rest of the white population, the indications being that between the ages of fifteen and sixty-five, the Germans are especially liable to cancer; more so than the Irish,



Map of the United States, showing the distribution of deaths from Cancer, as compared with total deaths from known causes. Census 1880.

and decidedly more so than the average white population. Now when we remember that the greater part of the colored population is in the South, and the greater part of the Irish and German population is in the North, we have another reason for the differences in mortality caused by this disease in the two sections.

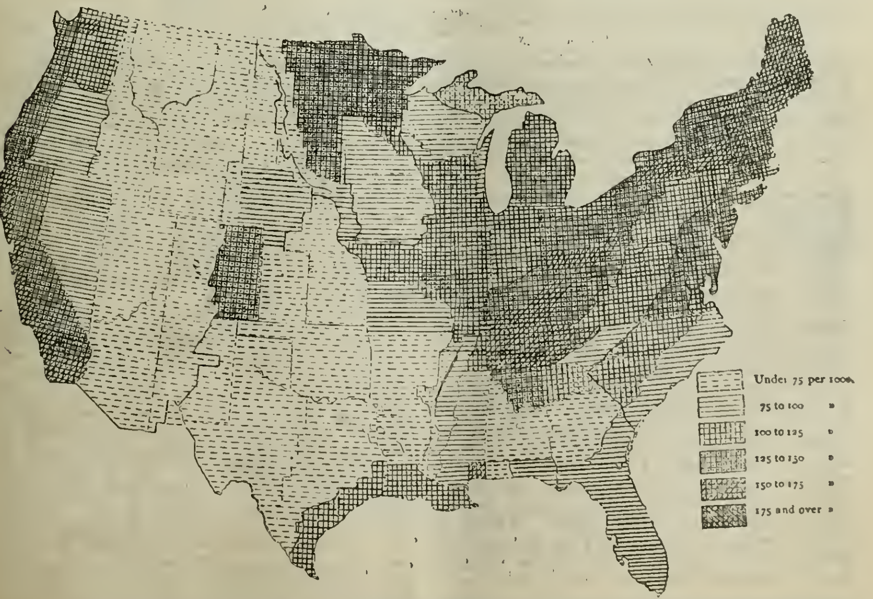
Again, take the maps, howing the distribution of the deaths from scarlet fever during the census year. You see that this also was most fatal in the North, and, here again the influence of race comes in, because in the negro race the mortality from this disease appears to be very low. This disease has always been much rarer in the South than in the North, and the contrast was much stronger in former years than it is at present: but this cannot be explained solely, or even to any great extent, by difference of temperature because scarlet fever has often been epidemic in the tropics, and, on the other hand, in many localities in temperate climates it is among the rarest of diseases.

Here is another map showing the distribution of deaths reported as due to diphtheria during the year. Diphtheria is a disease which has been unusually prevalent in the northern portion of the United States for several years. During the census year it caused 2,374 deaths out of every 100,000 deaths from all causes, while in England, for the year 1880, the deaths from diphtheria were 532 per 100,000 deaths from all causes, that is to say, the comparative mortality from this disease in England was less than one-fourth that of the United States for the same period. Diphtheria, again, is essentially a disease of the North but especially of the Northwest. It causes an excessive mortality in children of German parentage, sufficiently so to show that here again the influence of race comes into the problem, although, probably, only indirectly, that is to say, it is probable that it is the habits of a peculiar class of people which favors the propagation of the disease rather than any physical peculiarities in the structure of their bodies.

Two more illustrations of the geographical distribution of disease in the United States may be of interest in this connection. The first is that of consumption, the second of pneumonia

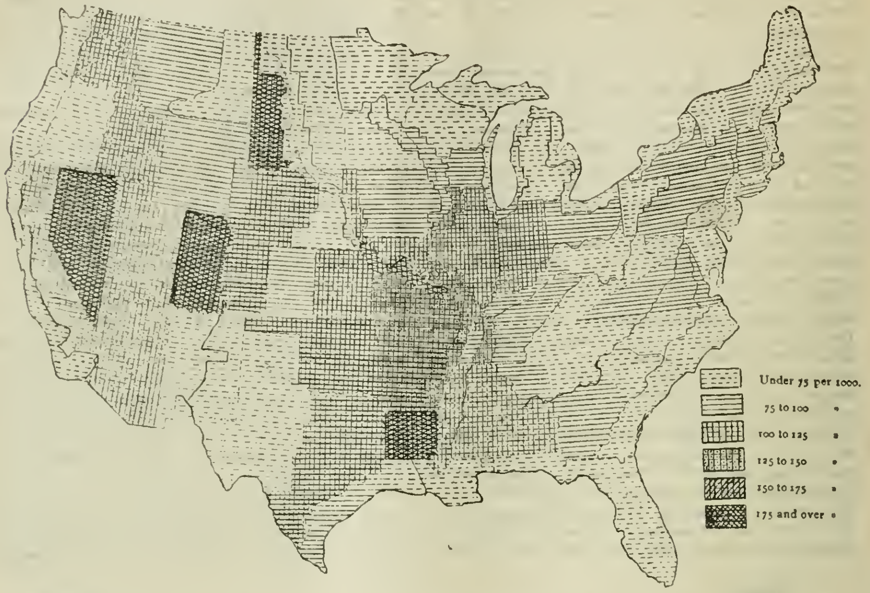
Consumption is a vague term, and, as used in the census, no doubt includes many cases which were not true tubercular phthisis. It is reported as causing twelve per cent. of all the deaths, or more than any other single cause. In England and Wales, in 1880, it caused a little over nine per cent. of all the deaths. Such wholesale ratios are, however, of little interest or value. There are very great differences in the liability to this disease in different parts of the United States, as the map makes sufficiently evident, and it is from a study of the causes of these differences in the data derived from large masses of people, combined with clinical histories and experimental laboratory work, that we have good reason to hope to obtain knowledge, not only of the causes of this disease, but of better methods of prevention and treatment than are now at our command. It causes a greater mortality among the Irish than in other white races, and, perhaps a greater mortality among the colored than among the white.

Next to consumption, pneumonia is reported as causing the greatest number of deaths in the United States during the census year, giving a ratio of 8.3 per cent. of all deaths, as against 4.8 per cent. in England



Map of the United States, showing the distribution of deaths from Consumption, as compared with total deaths from known causes. Census of 1880.

and Wales in 1880. Here, again, the local distribution of deaths is interesting, and the contrast between the map of consumption and that of pneumonia is very striking. Here, again, we find that race peculiarity is an important factor in the problem, the proportion of deaths from pneumonia among the colored being much greater than it is among the white.



Map of the United States, showing the distribution of deaths from Pneumonia as compared with total deaths from known causes. Census of 1880.

I have elsewhere commented more fully than it is possible to do here upon these peculiarities of the distribution of certain causes of deaths in the United States.[3] In fact, my only object in calling your attention to the subject is to indicate the direction in which we may hope for good work hereafter, which indication is the chief, if not the only valuable result of the work already done. In the brief comments which I have made upon these maps you will have noticed the stress which I have laid upon race peculiarities. These race problems are simply problems of heredity taken in mass, and there is no need to urge upon an assemblage of medical practitioners the importance of considering family peculiarities in diagnosis, prognosis, and therapeutics. That the questions involved are difficult and complicated is true, but we are already possessed of more knowledge with regard to them than is commonly supposed.

In a lecture on "Life" delivered a few months ago, Prof. Brookes, of the Johns Hopkins University, illustrated this as follows: "If I am placed, with my eyes bandaged, before a stone lying free on the surface and am told to kick it, and if I know at the same time the size, shape, and weight of the stone and the character of the surface, I can form a pretty accurate idea as to what the result upon the stone will be. While if the object to be kicked is a dog, and I am given precisely the same data, I cannot tell what will be the effect. But if I can see the dog, I can, in many cases, predict pretty accurately. If he is a bulldog, he will do one thing; if he is a Gordon setter, he will do another." And, in like manner, the old family doctor knows that when a particular disease appears in his neighborhood, he may expect to see it produce in one family convulsions, in another collapse, and, in a third, little or no danger or inconvenience."

This kind of knowledge is, however, at present mainly confined to individuals, it has not become a part of the world's knowledge: it is not defined; in other words, it is not scientific. To make it so, is the work of the future, and in this work I hope that we shall be able to help you.

I have spoken to little purpose if I have failed to show you that there is a great deal of human nature in American physicians, and that it is a kind of human nature with which you are tolerably familiar. It should be so, for we are of the same race, a race which, perhaps, as Emerson says, "sets a higher value on wealth, victory, and material superiority than other men, has less tranquility, is less easily contented." Our ancestors were restless, fighters, freebooters, and from these ancestors we have the common inheritance of energy; of what *we* call "firmness," and our opponents unreasonable, pig-headed, stubbornness; of liking to manage our own affairs, and, at the same time to exercise a little judicious supervision over those of our neighbors; of hatred of humbug, and lying; and, in spite of our discontent, of a firm belief that our wives and children, habits, houses, mode of business, and of treating disease are, on the whole, better than those of any other people under the sun.

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[3] See report on Mortality and Vital Statistics of the United States as returned at the tenth census, 2 vols., 4to, Washington, 1885–1886.

Privately, and between ourselves, we grumble and declare that the country and profession are going to the dogs — nay, we must do so, or we should not be of true English blood, but there is no need for me to tell you that these are only "growing pains," and not symptoms of progressive ataxy.

While we must consider the difficulties in the way of the improvement of the science and art of medicine, difficulties due to ignorance, to indolence, to conflict of interests, and to the eternal fitness of things, the existence of such difficulties is not a matter to be bemoaned and lamented over. These obstacles are the spice of life, the incentives to action, the source of some of the greatest pleasures which it is given to man to experience.

The child, spending a happy hour with its new puzzle, is a type of the scientific investigator. The naturalist who objected to the statement that this is a miserable world which it is well to be soon done with, on the ground that there are still many species of rhizopods which he had not examined and classified, is another type. On the ethical and sociological side, the matter is summed up in Ruskin's aphorism, that "Fools were made that wise men may take care of them."

It is surely not without cause that there has been given to us this restless spirit of inquisitiveness, this desire to compass the heavens and the earth, this raging infinite thirst for knowledge, it is the outcome of brain training and natural selection for thousands and tens of thousands of years.

We are in a period of the world's history characterized by material prosperity, by increase of populations, by tendencies to uniformity, to the making of individuals of small account. According to the Swiss philosopher, Alphonse de Candolle, this is to last a thousand years or so, after which the pendulum will swing the other way, and there will follow a long period of diminution and separation of peoples, and of decadence.

Against that decay of nations we know of but one remedy, and that is increase of knowledge and of wisdom. And this increase must be in *our* knowledge, in the world's wisdom, and not merely in that of John, or Fritz, or Claude.

As each man has special opportunities and duties, if he can only recognize them, so it is with guilds, with professions, and with nations.

I have tried to indicate to you some of these opportunities which are presenting themselves to my colleagues, your brothers, in the lands beyond the sea, and I hope that I shall not be considered rash, or vainglorious in saying that I believe they will so use those opportunities as to return compound interest for what they have received from the storehouse of our common inheritance. Force changes form and place, the stored energy of the soil of our plains and valleys has been coming here in the form of meat and grain, has appeared in muscle and brain, and in a hundred other shapes, but none has been destroyed; our loss has been your gain, and in our turn we have received full and fair exchange.

It is our part now to remember that there are not two springs in the year, there are not two periods of youth abounding in energy and desire, or of manhood's strength and self-poise, in the life of any man or of any nation, and for us, as for those who have been before us, the Kanuri proverb holds true, "*Kabu datsia, kargum bago*"— The days being finished, there is no more medicine.

Original Articles.

WOLPERT'S AIR-TESTER.

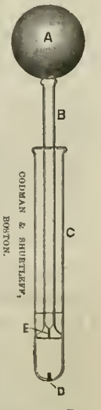
BY S. W. ABBOTT, M.D.,
Secretary, State Board of Health.

For the purpose of ascertaining the quality of the air of inhabited apartments, an instrument is very much needed, which shall combine in itself the following characteristics: convenient form and size, portability, and facility of application or use. Strict accuracy, while desirable, is not absolutely essential.

The thermometer has been in use for many years, and shows the temperature of an apartment at a glance, while the barometer shows the density of the air, the hygrometer its moisture, and the aneurometer the velocity of air-currents in ventilating shafts or ducts. All of these conditions, measured by such apparatus and properly modified, are essential to the comfort of persons occupying such apartments as school-rooms, work-shops, public institutions, lecture-rooms, railway-cars, mines, etc., etc.

On the other hand, when the actual health of the occupant is considered, there is no more important condition than the quality of the air itself in any given apartment, and yet, for the determination of such quality, a convenient, portable instrument is not often found. Those which have hitherto been employed, while possessing the merit of tolerable accuracy, are inconvenient, clumsy, and too expensive for ordinary use.

Recognizing the fact that thus far, no better test of the pollution of air by the products of respiration and combustion has been found than the per cent. of the carbonic acid which it contains (the normal amount in pure out-door air being from 3 to 5 parts per 10,000), the little instrument known as Wolpert's air-tester, described in a recent article by that author,[1] answers the above purpose fairly well when strict accuracy is not required. Some such instrument ought to be found, and used in every school-room, work-shop, or other apartment liable to vitiation of its air.



This little instrument consists of a simple rubber bulb (A), of a capacity of 28 cubic centimeters, a glass outlet-tube (B), with a constriction near its extremity (E). A glass test-tube 12 centimeters in length (C), and 12 millimeters in diameter, has a horizontal mark near the bottom, indicating the point to which it must be filled with perfectly clear lime-water, to contain 3 cubic centimeters. The bottom of the tube is whitened, and has a black mark stamped upon it (D). A small wooden stand, a brush or swab, a vial of vinegar for cleaning the tube, and a bottle of clear lime-water, completes the outfit.

In order to use the instrument, the lime-water (saturated solution) should be poured into the test-tube till it reaches the horizontal mark. Press down the bulb with the thumb, so as to expel the air within it as completely as possible, and allow it to fill with the air of the apartment, insert the small tube into the lime-water nearly to the bottom, and again expel the air with moderate rapidity, so that the bubbles may rise nearly to the top of the tube, but do not overflow, taking care to continue the pressure of the thumb till the small tube is removed from the lime-water. Repeat this process until the mark upon the bottom of the test-tube is obscured by the opacity produced by the reaction of the carbonic acid upon the lime-water, the observer looking downwards through the lime-water, from the top of the test-tube.

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[1] Einfache Prüfung der Luftreinheit in Wohnräumen, von Dr Wolpert, Prof. in Kaiserslautern. Centralblatt für Allgemeine Gesundheitspflege, Vol. II, p. 231.

With very foul air, it is necessary to examine the mark after filling and discharging the bulb a few times only; with good air, it must be filled twenty-five times and upwards.

The bulb represented in the cut is made a little larger than the required capacity, since a small amount of residual air usually remains in the bulb and cannot be expelled without great care.

After each observation, the test-tube must be washed out and wiped dry. If a white incrustation forms upon the tube, it may be easily removed with a little vinegar, after which the tube should be thoroughly washed with pure water and dried.

If the mark becomes obscured after filling the bulb ten or fifteen times only, the air of an apartment is unfit for continuous respiration.

In a sick-chamber, the air should be so pure that the turbidity of the lime-water will not render the mark invisible until thirty or forty fillings are made.

The instrument should be used by daylight, over a white ground, as a sheet of writing-paper, and care should be taken not to vitiate the result by the observer's own breath.

The following approximate table is taken from the article by Professor Wolpert, the first column representing the number of fillings of the bulb, and the second column the parts per 10,000 of carbonic acid in a given sample of air.

Number of Fillings.	Carbonic Acid per 10,000.	Number of Fillings.	Carbonic Acid per 10,000.	Number of Fillings.	Carbonic Acid per 10,000.
1	200.	21	9.5	41	4.9
2	100.	22	9.1	42	4.8
3	67.	23	8.7	43	4.6
4	50.	24	8.3	44	4.5
5	40.	25	8.	45	4.4
6	33.	26	7.7	46	4.3
7	29.	27	7.4	47	4.2
8	25.	28	7.1	48	4.1
9	22.	29	6.9	49	4.1
10	20.	30	6.6	50	4.
11	18.	31	6.4	51	3.9
12	16.	32	6.3	52	3.9
13	15.	33	6.1	53	3.8
14	14.	34	5.9	54	3.7
15	13.	35	5.7	55	3.7
16	12.5	36	5.5	56	3.6
17	12.	37	5.4	57	3.5
18	11.	38	5.3	58	3.5
19	10.5	39	5.1	59	3.4
20	10.	40	5.	60	3.3

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— A writer in the *American Practitioner and News* recommends the following treatment for freckles: The skin being washed and dried is put on the stretch with two fingers of the left hand, and a drop of carbolic acid is applied exactly over the patch. When it dries the operation is completed. The skin becomes white, and the slight sensation of burning disappears in a few minutes.

ABUSE OF MEDICAL CHARITY. — A REMEDY APPLIED IN 3000 CASES OF OUT-DOOR PATIENTS: RESULTS.[1]

BY FREDERICK F. DOGGETT, A.B., M.D.,
District Physician to the Boston Dispensary.

It is proposed to devote the remainder of this paper to the statement, working and results of a simple plan for preventing abuse of medical charity, adopted by the writer early in 1883, and continued since then in district dispensary practice.

The plan was briefly as follows:— in doubtful cases to ask — 1st, the number of persons in the family; 2d, the united wages or total source of income; 3d, as to the permanency of it, and as to any debts due from previous lack of work; 4th, as to the rent paid. Afterwards, as a supplement to this, to confirm the answers by statements of neighbors. Next, to note the unworthy families.

If, in the writer's judgment, on pressing the above questions, the family was unworthy, free treatment was refused except in urgent cases. A family of seven or eight persons, with an income of $30 to $40 per month, was always treated. Not so a family of three persons with an income of $60 to $70. All the circumstances were considered, such as the permanency of income, previous lack of work, or sickness. In cases of refusal to answer questions like the above, the case was judged unworthy. This state of affairs was not infrequent. It must be admitted that that is a lenient judgment which rests on the statements of the defendent, and that in a plan of this kind there is small chance of injustice in the distribution of medical charity — at least so far as the receiver is concerned.

The above questions, in the experience of the writer, could be asked and answered in less than a minute, which is not an unreasonable time to take when it is remembered that it was only at first that many such cases were met with; for apparently, when it was learned that they were likely to be subject to an investigation, such cases became scarce. In this way, the writer believes that there was in the end a saving of time and trouble. This is also borne out by referring to the table, No. 1, where we can see that in October, November and December, 1882, the number of cases from the pay-district was much in excess of those coming in the corresponding months of the next year.

The part of Boston in question is that part of South Boston, bounded by portions of Dorchester Avenue, Broadway, and Dorchester Street, and the water of Boston Harbor. (See map.) The shaded portion represents the part of this territory occupied by comparatively well-to-do people, such as mechanics, clerks, shopkeepers, etc. For the most part, these people pay their physician's bills, and are able to do so, with some manifest exceptions. Rents range from $10 per month and upwards. Many own the houses they live in.

The rest of the territory — the unshaded part — is bounded by portions of Second Street, B Street, Athens Street (including both sides), Dorchester Avenue, the water, and a part of Dorchester Street. It is occupied by people of small means, for the most part day laborers, with a few fishermen, junkmen, etc. Rents range from $4 a month to $10 or $12, and as this is the region of large families, there is more or less crowding. It is seldom that families will be found in this district able to pay a full physician's bill.

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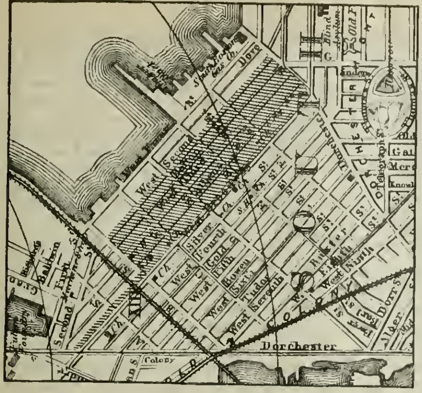
[1] Concluded from page 106.



For convenience, the former territory will be spoken of as the "pay-district;" the latter as the "charity-district." The time covered in the calculations of Table I, and Chart I, was from October 1, 1882, to October 1, 1885. The number of cases treated in these three years was 2,926; of this number, 2,224 resided in the charity-district; 702 in the pay-district.

In order that the working of the scheme may be shown with its results, the three-years' time has been divided into quarterly intervals. The number of cases treated in each quarter has been reckoned. Further, the cases coming from the pay-district and charity-district, respectively, as above described, have been estimated, and the per cent. in each to the total number. (See Table I.)

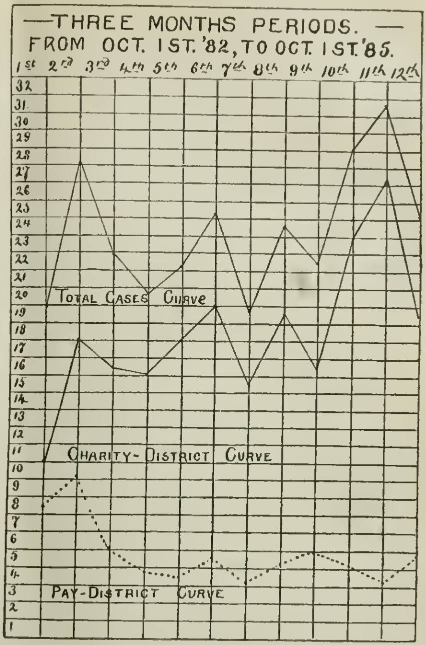
Table I.

Time of Experiment.		Total Cases.	Pay-Dist. Cases.	Ch'y Dist. Cases.	% P. D. Cases.	% C. D. Cases.
Oct.-Dec.,	1882	195	86	109	41.1	55.9
Jan.-Mar.,	1883	281	101	180	37.3	62.7
April-June,	1883	229	62	167	27.6	72.4
July-Sept.,	1883	208	47	161	22.6	77.4
Oct.-Dec.,	1883	224	43	181	19.2	80.8
Jan.-Mar.,	1884	258	55	203	21.8	78.2
April-June,	1884	196	42	154	18.9	81.1
July-Sept.,	1884	249	52	197	20.1	79.9
Oct.-Dec.,	1884	224	61	163	27.2	72.8
Jan.-Mar.,	1885	290	52	238	18.	82.
April-June,	1885	319	43	276	13.5	86.5
July-Sept.,	1885	253	58	195	23.	77.

The principal fact that Table I illustrates — namely, the rapid falling off in the number of cases from the pay-district after March 1, 1883, the beginning of active application of the scheme — can be shown still plainer in the chart form. (See Chart I.) The three-months' interval, beginning October 1, 1882, are represented by the spaces between the vertical lines, while the horizontal spaces represent units of tens of the number of cases coming during the respective intervals. The upper curve shows the tri-monthly variation in the total number of cases; the middle curve, the same variation in the number of cases from the charity-district; the lower dotted curve, the same for the cases from the pay-district.

Besides the falling off in the pay-district curve after March 1, 1883, it will be noticed that it continues at a low level thereafter, showing how few unworthy cases came after investigation began. On the other hand, the charity-district curve attains and keeps a higher elevation; the high point attained by this curve in the 10th and 11th quarters, is due to the fact that there was prevalent an epidemic of measles in the poorer part of the district during the winter and spring of 1884 and 1885. Otherwise, this curve would have been more uniform in character. The rise of all the curves during the first six months of the author's service may, perhaps, be due in part to the fact that he, at that time, came a new man into the district, and on that account was more likely to be imposed upon. It is further explained by the fact that it was, no doubt, influenced by the usual rise coming at the advance of winter, as witness also the rises at the winter periods of the 6th and 10th quarters.

Chart I.



To throw further light on the scheme and its results, a comparison has been made between the number of cases coming from the above-mentioned pay-district, during the six months ending December 1, 1882, and the corresponding six months in the following year — that is, after the scheme had been in use for several months. By the table (Table II) it will be seen that some twenty fewer cases in every hundred of total cases were in the habit of applying for medical charity (also including those cases refused treatment) during the interval from June to November, 1883, than in the same interval in 1882. While in the former interval, 164 persons, in some measure able to pay, got medical charity; in the later interval, under working of the plan, only 95 such persons got such aid. Yet, in the latter interval, instead of there being a smaller number of total cases treated, there was, in reality, an increase of 35 cases. Further, it is to be noted that

Table II.

Months Before Experiment	Total Cases.	Pay-Dist. Cases.	Ch'y Dist. Cases.	% P. D. Cases.	% C. D. Cases.
June, 1882	51	25	26	49.1	50.9
July, 1882	82	35	47	42.7	57.3
August, 1882	47	23	24	48.1	51.9
September, 1882	70	33	37	47.2	52.8
October, 1882	55	26	29	47.2	52.7
November, 1882	73	22	51	30.2	69.8
Months During Experiment.	Total, 378	Total, 164	Total, 214	Total, 43.4	Total, 56.6
June, 1883	62	14	48	22.6	77.4
July, 1883	66	14	52	21.2	78.8
August, 1883	71	17	54	24.	76.
September, 1883	67	16	51	23.9	76.1
October, 1883	85	20	65	23.6	76.4
November, 1883	62	14	48	22.6	77.4
	Total, 413	Total, 95	Total, 318	Total, 22.9	Total, 77.1

in the first interval there were 214 cases in a great degree deserving of medical help, while in the latter, this number had increased to 318. As the writer understands it, the great object of medical charity is best attained when such persons as in general make up the first mentioned class can be to some extent excluded, while the physician's time and attention can be given the better, by such exclusion, to the really deserving class. One of the reasons why 104 more cases were treated in the latter interval, comprising the poorer patients, was, that they probably observed that more of the physician's time and attention was being given to them than formerly. However, it was no doubt further due to the fact that times got harder in 1883, and there was less work; this reason, of course, would apply equally to the pay-district, and yet fewer cases came from this district than in 1882.

Chart II.

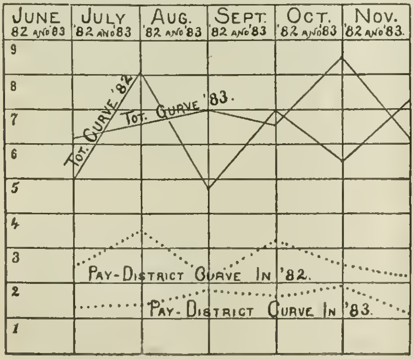
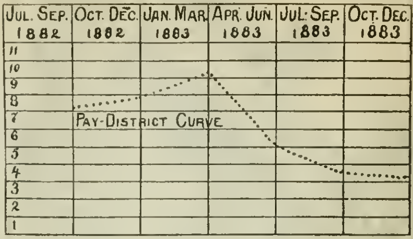


Chart II is supplementary to Table II. In it the horizontal spaces represent units of ten cases, while the vertical columns represent the periods of time. It well illustrates the low pay-district curve in 1883 as compared with that of 1882 — before inquiries were made. It further shows that contemporaneously with this lowering the total number of cases had increased, as can be seen by comparing the total curve for 1883 with that of 1882.

Chart III.



To show in the simplest manner the working of the plan, Chart III has been constructed: six, three monthly intervals, are formed by the time between July, 1882, and December, 1883 — a period of eighteen months. The number of cases treated, residing in the pay-district, in the respective quarters, as marked at the tops of the columns in the chart, were: 81, 86, 101, 62, 47, 43. The horizontal spaces in the columns represent blocks of tens in the number of cases treated. Here, at a glance, one sees the decided effect of the working of the plan when applied in the spring of 1883.

The argument has often been advanced that any attempt to reform abuse of medical charity would lead to scarcity of clinical material for instruction. The writer's figures refute this in a marked manner; for while this scheme was in action, the number of cases coming to the Dispensary increased from 381 in the six-months interval in 1882, to 413 in the like interval in 1883. The number of cases increased in the whole district from 510 in a six-months interval in 1882 and 1883, to 618 in a like interval in 1885. Dr. S. Hall,[2] of New York, says that the Northern Dispensary of that city, at present, treats only two-thirds of the number that it did ten years ago, when indiscriminate charity was given, yet it does more real good in the cause of charity; and that the good done by a dispensary should be measured, not by the number of patients treated, but by their quality as regards their worthiness to receive medical charity.

After completing this paper — the most of which was written some months ago — a thoughtful paper of Dr. Hasket Derby[3] came under the notice of the writer. He seems to have hit upon much the same plan as above detailed, although no results are given as to the working of it, which would be much more difficult in such a field, namely, in an in-patient service made up of patients living over a wide territory. The plan is to combine the duties of an amateur detective with those of the physician, in suitable cases. Dr. Derby says: "passing over other plans, the solution of the whole matter seems to me so simple that I mention it with diffidence. It is but to accept the principle that the out-patient department is for the benefit of those whose lack of means would prevent their obtaining relief elsewhere, and to leave the application of this principle to the physician in attendance." He further points out that "police work" of this description, though distasteful, is not as onerous as would at first sight appear, as in regard to most of the cases, there is little or no doubt. He further continues:

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[2] New York Medical Record, November 28, 1885, p. 616.
[3] Boston Medical and Surgical Journal, November 12, 1885.

"and when anything in the dress, manner, or statement of the individual causes hesitancy to be felt, a few questions, put with tact and kindness, will readily resolve the matter; or if any doubt should still be felt, the applicant for aid should certainly receive its benefit. It is not pretended that the medical examiner will be infallible, but we claim that fewer mistakes will be made by him than by any other to whom this task may be delegated."

In taking leave of the subject, I wish here to record my opinion, that by practice of the above-detailed plan, abuse of medical charity in the dispensary district of which the writer has charge has been almost completely stopped. Let the above-mentioned experience and figures bear me out. How far the scheme is applicable to similar practice in other sections is for others to judge.

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A NOT WELL-RECOGNIZED SOURCE OF DOMESTIC POISONING, WITH CASES.[1]

BY CHARLES HARRINGTON, M.D., OF BOSTON.

The attention of the medical profession has frequently been called to the poisonous effects produced by stockings, gloves, and other articles of wearing apparel, in the dyeing of which, compounds of arsenic, antimony, and tin have been employed. But so far as I am aware — and I have made numerous inquiries, besides consulting considerable medical literature — little, if anything, has been said or written as to the possibility of poisonous effects from such articles dyed with the aid of compounds of chromium.

The use of chromium mordants has been, until quite recently, comparatively limited, owing to an ignorance of satisfactory methods of application. At the present time, however, they are very generally used, and one of them — the bichromate of potassium — is regarded as by far the most useful mordant for woollen goods. All of them yield excellent results both as to color and fastness, but the bichromate is the most valuable, and capable of the widest application. The employment of any other compound containing an equivalent amount of chromium is said to yield to the woollen fibre the mordanting body (the chromic oxide) not so completely, and to produce colors which are not equal in intensity. The only chromium salt which approaches the bichromate in effectiveness for woollen dyeing is chrome alum, but its use requires the addition of large amounts of bitartrate of potassium, and in any case, it is not equal to the same amount of the bichromate. Besides yielding the most excellent results, the bichromate possesses the additional qualification of being most easily applied.

The range of colors produced by the aid of the chrome mordants with the various dyestuffs is very wide, and includes many shades of brown, brownish-red, claret reds, olives, yellows, old golds, purples, blues, black, buffs, and grays.

It is a well-known fact, that the workmen employed in the manufacturing and handling of bichromate of potassium are almost without exception subject to the so-called "chrome disease," in which severe ulceration of the skin and mucous membranes, and perforation of the nasal septum are the most marked and common symptoms, produced by the irritating and corrosive action of the dust to which they are exposed; and it seems not unreasonable to suppose that under favorable circumstances, equally severe symptoms might be brought about by the wearing of apparel in whose fibre compounds of chromium have been precipitated. And further, it may be assumed that the accidental introduction of dust from the same cloth into the stomach might well be followed by the characteristic symptoms produced by the ingestion of chromates.

I have been informed by a scientific man engaged in the dyeing industry, that such hypotheses are unreasonable, because the chromium is precipitated in the fibre in an insoluble form, but the same objection may be applied with equal force to the cases of poisoning which have frequently been reported as due to the use of arsenic, antimony, and tin mordants, and to the ingestion of chromate of lead.

Although I have as yet been unable to find any reported cases traced to this cause, I can have no doubt that such cases are common, though their cause may not be recognized, for within a comparatively short time several have come under my own observation, in which the cause seems to be beyond dispute.

These cases I will briefly describe.

Case I. The patient, a stout, healthy-looking woman of perhaps forty-five years of age, by occupation a cap-maker, purchased between fifty and seventy-five yards of dark blue cloth for the manufacture of military caps, such as are worn by the boys of the public schools. The cloth was of much more lustrous appearance and considerably cheaper than that which she had ordinarily used. After thoroughly sponging the whole lot, she began cutting out the caps, which occupation required several days. Within a very short time she began to suffer from an intolerable itching of the hands, face, neck, and scalp. At the same time, she began to be troubled with intense thirst, which no amount of drinking could allay. There was much soreness of the eyes, nose, and mouth, burning in the throat, and feeling of discomfort in the stomach. Owing to the heat in the workroom, she dressed as loosely and lightly as possible, so that her body became more exposed to the dust from the cloth than it otherwise would have been. The itching became general, and so intense that she was obliged to remove her entire clothing every day and bathe her body with cream-of-tartar water, which gave only slight and temporary relief. The itching of the scalp caused such constant scratching that she was ashamed to ride in the horse-cars or be seen on the street except after dark, since she was obliged to carry her bonnet in one hand while she scratched with the other. In a very short time after the beginning of the symptoms, there was considerable ulceration of the neck, breast, thighs, and hands. The ears were much swollen, and became, as she expressed it, "running sores." On the hands, the soreness was most marked about the nails. On the completion of the cutting-out process, she began sewing the pieces together to make the caps, and the soreness of the fingers was much increased by the frequent pricking of the needle. There was now very intense pain in the fingers, which, one by one, were disabled and very much swollen. The ulcerations about the nails were much aggravated, and there was sloughing. In a short time she lost three nails from one hand and two from the other. The intense pain, itching, and thirst prevented sleep, and at last she was obliged to give up work. Up to this time she had had no idea as to the cause of the trouble, nor had she received medical attention. At last, however, being thoroughly alarmed, she consulted a physician, who concluded that she was suffering from the effects of poison, and advised her to have the cloth examined for arsenic. The cloth was submitted to me for examination and proved to contain no arsenic, but it did contain a large amount of *chromium.*

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[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 8, 1886, and recommended for publication by the Society.

Work on the cloth was at once discontinued, and in a short time the main prominent symptoms diminished in intensity and disappeared. Her general health is not yet fully restored, although nearly two years have elapsed since the use of the cloth. The symptoms in this case were undoubtedly due to dust from the cloth, which not only was deposited on the skin, but inhaled through the nose and mouth. At the time when the itching of the scalp was at its height, the woman's two children, who lived at home and had nothing to do with the work, began to be troubled with itching and burning in the same place. On inquiry, it was learned that the mother and children used the same hair-brush, and thus the dust had been transferred from her head to theirs.

Some weeks ago, she had occasion to again handle the unmade caps. Each piece was dusted and packed away, the operation requiring considerable time. On the following day, her hands were very sore, the nails being particularly affected, and since that time one of the latter has come away.

Case II. A clergyman of about sixty years of age, of active disposition and of good general health, purchased a pair of brown mixed woollen gloves, which he wore for three or four days, during which time he took several long walks. His hands have a tendency to perspire freely, though whether they did or not on these occasions he is unable to recall. He noticed a slight redness and irritation of both hands and wrists, but not suspecting the cause, he continued wearing the gloves. Three or four days later the irritation increased. It extended from the middle joints of the fingers to a line on the arms corresponding to the somewhat long wrists of the gloves, and it was this limitation which called his attention to the gloves as a possible cause of the trouble, and they were laid aside. To use his own description, "at first it was in the form of pimples, but afterward many of them ran together and became blotches."

The pain and irritation continued a month or more, during which time considerable ulceration occurred. At the end of another month, the ulcers, which were quite large and deep, had nearly healed. About this time he submitted the gloves to me for examination. They proved to contain no arsenic or antimony, but a large amount of *chromium.*

Cases III and IV.— Two boys, aged respectively five and a half and four years, children of a physician, complained, on the evening of March 28th of this year, of not feeling well, and referred the feeling to the stomach. After the administration of a small dose of aromatic syrup of rhubarb to each, they were put to bed.

At five on the following morning the elder awoke complaining of pain in the ear, of nausea, and pain in the stomach. He soon began to vomit a yellowish watery fluid, which, unfortunately, was thrown away. There was considerable prostration, quick pulse, profuse cold perspiration. He vomited in all about a half dozen times. The gastric pain was very severe all day, and was accompanied by headache. In the afternoon he seemed very heavy and stupid; the headache was now at its worst. The temperature and pulse were high; the cheeks flushed. He complained of pain in the lips, gums, tongue and throat. The lips were swollen; there was intense thirst, which water could not allay.

Meanwhile the younger boy, who had been dressed as usual, began to complain of nausea, and was undressed and put to bed. He soon had all the symptoms of the other, but in no such marked degree. The mouth and gums were very sore.

Up to the time of the first symptoms both boys had been in good health, had not eaten anything out of the ordinary, and had not been exposed to any unusual conditions. In searching for a cause of the trouble there was but one point called to mind wherein their habits and surroundings differed from those of a week and more before, and that was in their clothing. For four days previous to the first symptoms they had been wearing new suits of brown woollen cloth. Their mother, having had a previous experience with arsenic and antimony in stockings, suggested the possibility of poisoning from these substances, and the cloth was submitted to me for analysis. Before testing for the substances mentioned, I looked for compounds of chromium, which when taken internally, produce symptoms similar to those described. The result of the examination showed that *chromium* was present in great abundance.

But in spite of this fact and of the similarity in the symptoms, the diagnosis of chromium poisoning could be ranked only as a possibility. The symptoms in both children were general, whereas one would naturally expect some local action on the skin if due to dust from the cloth. Examination of both boys showed total absence of even slight reddening. It seemed hardly possible that the dust, which, by the way, was given off freely on shaking the cloth, could have produced such severe general and local symptoms. Careful inquiry as to the means by which the dust could have been introduced into their systems developed the fact that one child constantly sucked his fingers, and that the other was in the habit of biting his nails. The diagnosis seemed then more probable, but perhaps not susceptible of verification.

On consultation it was deemed advisable to administer a cathartic in order to remove any possible poison from the intestinal tract, and about 11 P.M., each child was given a dose of castor oil. White of egg beaten up in milk had been given to each some time before the administration of the oil.

The urine was very scanty and contained a slight trace of albumen.

During the early part of the night the elder boy got some sleep, but was constantly tossing and moaning. At four in the morning he had a severe attack of convulsions, with delirium. The younger had twitching of the muscles, but not so severely as the other, and there was no delirium.

The temperature of the elder was 102.6°; pulse 130, weak. The face was very red, and there was profuse perspiration. The temperature of the younger was 101°; pulse 120.

After some time the elder fell into a stupor, from which he could only with great difficulty be aroused. The mouth was swollen, painful and dry. Earache in both was very severe. Both had dejections following the administration of the oil, and these were saved for examination.

The stupor, high temperature, pain in the mouth and intense thirst of the elder persisted all the next day. His temperature at night was 103.4°; pulse 140. He passed a rather better night, but continued to be dull and stupid in the morning. He complained still of pain in the mouth and tongue; temperature 101.4°. On the following day there was perceptible improvement, though still dull and heavy. There was a return of pain in the ear, and the membrane was punctured. There was occasional pain in the head and abdomen. The urine increased to a normal amount and was free from albumen. Meanwhile the symptoms of the younger had disappeared and he was up and dressed as usual.

From this point onward the elder improved slowly with occasional relapses. Nine days after the the appearance of the first symptoms, he had several bright bloody stools, which were preceded and followed for several days by stools containing much slime. Four weeks later, he had improved very slowly, and was thin, pale and generally out of condition. The dejection first following the administration of the castor oil was subjected to chemical analysis, which resulted in the detection of traces of chromium, thus establishing the diagnosis of poisoning. The bloody stools which occurred on the ninth day would seem to indicate sloughing due to the local action of the poison.

The history of the two last cases present a very remarkable similarity in symptoms to those of two children who were fatally poisoned by very small amounts of lead chromate, reported in Eulenberg's "Vierteljahrsschrift für gerichtliche Medicin," and quoted in all the recent works on toxicology.

Whether in these few cases the compounds formed by the mordant and the dye-stuffs are in themselves the active poison, or are decomposed by the secretions of the body with liberation of simpler chrome compounds, cannot yet be definitely answered.

Reports of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

CATARACT EXTRACTION WITHOUT IRIDECTOMY.

by Dr. H. Knapp, of New York.

Of the new operative measures which he had seen in Europe there were two above all others which he thought worthy of being tried, one was extraction without iridectomy and the other, advancement of Tenon's capsule. Of the fourteen cataract extractions which he had made since his return the last six had been without iridectomy. Three of these had made ideal recoveries, no reaction, clear, central, movable pupil, neither an anterior nor a posterior synechia. The other three had more or less posterior synechia, leaving the pupil ragged and somewhat obstructed, yet the adhesions were simple, not spreading a pseudomembrane over the area of the pupil. Vision was fair and could be rendered excellent by a simple needling if remaining insufficient.

He followed Panus in the performance of the operation, large section along the upper margin of the cornea, free laceration of the capsule, expulsion of the cataract and its remnants, reduction of the iris with a probe if it did not occur spontaneously. Before the operation the eye is fully cocainized, the lids and conjunctival sac washed and sterilized. The instruments and hands are treated in the same way. After the expulsion of the lens, a small quantity of an antiseptic is injected into the anterior chamber along the whole section and eserine instilled into the conjunctival sac. The speaker believed that the chief advantage of this operation lies in the possibility of keeping the wound perfectly free from foreign substances, including portions of the lens, capsule and iris. How often anterior and posterior synechiæ occurred, what the final visual results were, and how frequently after-operations would be required, were questions which could only be answered by extended statistics.

REPORT OF FIFTY CASES OF CATARACT EXTRACTION,

by Dr. David Webster, of New York.

In seventeen cases the operation was done under ether, in twenty-seven under cocaine, and in six no anæsthetic was employed. The results were successes, 41 cases or 81 per cent.; partial successes, 6 cases or 12 per cent.; failures 3, or 6 per cent.

Aseptic precautions were used in all the operations. The best vision obtained in any case was $\frac{20}{\text{xv}}$. Dr. Webster advocated the extraction of both lenses at the same sitting in judiciously selected cases.

Dr. Webster also related the history of a case in which he had relieved the pain in a glaucoma absolutum by lacerating the infra-trochlear nerve (Badal's operation).

DEATH OF A PATIENT ON THE FIFTH DAY AFTER THE EXTRACTION OF A HARD CATARACT,

by Dr. Henry D. Noyes, of New York.

On Sunday morning, the operation, which was perfectly satisfactory, was performed, and the patient suddenly died the following Friday morning. After the operation a bandage was applied and the patient put to bed. The dressing was not disturbed until the third day. Everything seemed to be doing well and the patient made no complaint. On Friday morning she suddenly complained of a feeling of prostration, and within half an hour she died. The only lesions found at the autopsy were dilatation of the heart and insufficiency of the valves of the left side. The death seems to have been due to heart failure. The contents of the orbit were removed *en masse*. A certain amount of force was used and as a consequence the corneal wound was partially ruptured. The eye-ball was hardened and ten sections have been made and they demonstrate the kind of union which we have at the end of the fifth day. Inspection of the eye before death showed that the union was smooth and apparently perfect. What is particularly interesting about these specimens is that the union appears to have taken place exclusively through the medium of the epithelial layer.

DISCUSSION.

Dr. David Webster, of New York. In regard to the use of cocaine, the more I have employed it, the more do I see the necessity of using as little as possible in cataract extraction. Some of my cases that have done badly I think were due to the use of too much cocaine. In my later operations I have done about as Dr. Strawbridge has recommended.

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[1] Continued from page 114.

Dr. B. Joy Jeffries, of Boston. In cataract extractions I have found it of decided advantage to instill cocaine into both eyes. One drop a minute or two before the operation is sufficient. It renders the eye quiet and the patient can keep it open.

Dr. C. R. Agnew, of New York. Probably the best plan to follow in the use of cocaine is to instill a drop of a four per cent. solution and hold the lids open to allow it to become diffused. Then wait three or four minutes. The eye may then be touched with an instrument to ascertain whether or not the sensitiveness has been sufficiently obtunded. One or two drops are usually sufficient and employed in this way the possibilities of evil effects are reduced to a minimum.

It has never been our custom in New York to incarcerate patients in the dark after a capital operation on the eyes.

Dr. W. F. Mittendorf, of New York. I have had two cases of serious complication after cataract which I attributed to the use of cocaine. In one the eye was lost and in the other it came near being lost. The cocaine solutions were fresh, but they were strong and used freely. I have thought that one reason bad results are obtained, is because the eye is left exposed to the air for several minutes after the introduction of cocaine solution. Recent observations show that the injurious action of cocaine is especially upon the epithelial layer and in shutting off the supply of lymph fluid. The epithelium suffers very rapidly from lack of moisture, especially if the eye is kept open. It has been recommended to close the eye immediately after the introduction of cocaine. I use a weaker solution than a two per cent., making it fresh every day by the addition of one or two grains of cocaine to half an ounce of water. Since I have used the weak solution and have closed the eye after its instillation, I have had no serious accident.

Dr. William Thompson, of Philadelphia. In regard to the efficiency of a weak solution of cocaine, I may say that the first time I used cocaine, I directed the apothecary to make a two per cent. solution. Instead he made a solution of two grains to the ounce. I did three operations with it with perfect success and did not find out until afterwards that a mistake had been made. Since then I have not considered it necessary to use strong solution.

Dr. Emil Greening, of New York. Last summer I went to Dr. Wecker's clinic to see him perform cataract extraction without iridectomy. I learned that he employed this method only in the winter time. The reason for this is, that during the hot weather of summer the patients were very restless and that as a result prolapse of the iris frequently occurred. I decided to try the operation when I returned and on May, 1886, I performed my first operation. Half an hour before the operation I instilled a few drops of a solution of eserine (half a grain to the ounce). A few minutes before the operation, the eye was cocanized with a four per cent. solution. There was no difficulty in removing the lens. After the operation eserine was again instilled and the eye bandaged. Forty-eight hours later, I removed the bandage. The patient made pressure on the eye-ball, the anterior chamber was emptied and the iris prolapsed. I was compelled to remove the iris. There were no further accidents. A few days later, I operated on a second case with perfect success. In regard to the action of cocaine, I may give an extreme example. It was a case of an acute exacerbation in chronic glaucoma. The eye was very painful and very hard. I directed that a six per cent. solution of cocaine should be instilled. A few minutes later on opening the lids and introducing the speculum a bladder arose between its blades. Examination showed that this was the epithelium of the cornea which had become raised. The operation of the sclerotomy which was about being performed was postponed, but it eventually became necessary to remove the eye-ball.

Dr. H. D. Noyes, of New York. I have performed extraction without iridectomy in six cases. I have used cocaine, and the cleansing of the anterior chamber and the removal of lens matter, has been accomplished partly by manipulation and partly by irrigation. For washing out the conjunctival sac and removing matter from the anterior chamber I use a rubber bulb holding two or three ounces and terminating in a short nozzle. It is not necessary to introduce a nozzle between the lips of the wound. The iris may be satisfactorily replaced by a stream of water. I have also used eserine not as a preliminary but as a dressing, using an ointment containing two grains of eserine to the drachm of vaseline. A small portion of this is placed in the conjunctival sac and spread on a piece of linen covering the eye. In three of the six cases there was perfect union with a central circular pupil and accurate vision. In one case intra-occular hæmorrhage came on twelve hours after operation, but this might happen under any method. In two cases prolapse of the iris was found on the seventh day when the eye was carefully examined for the first time. The prolapsed iris was excised and in one case the result was entirely satisfactory. In the second case no satisfactory vision was obtained.

The impression on my mind from this small series of cases is, that while the operation deserves attention the cases must be carefully selected. If the patient had but the one eye, I think that I should operate on it with a preceding iridectomy and not without. My belief is that a satisfactory result can be more certainly secured with iridectomy. As to the visual result, while theoretically it should be better it is not always so.

Dr. Samuel Theobald, of Baltimore. In a case in which cocaine was used where there was stricture of the nasal ducts, I invariably observed that after the instillation of cocaine, the cornea which had been clean and bright became dull, presenting the appearance as though it had been roughly handled. I have noticed a similar result in another case.

Dr. B. E. Fryer, of Kansas City. In about ten cases I have used cocaine in this way: inserting one drop every half hour until four or five drops have been used. In this way the iris becomes completely anæsthetized, and where we wish to perform iridectomy this is important.

Dr. B. Alexander Randall, of Philadelphia. There is one point not distinctly referred to in the discussion and that is whether or not inflammation of the iris is more frequent after this operation than where iridectomy is done. In the thirty or more cases which I saw at the clinic of Panas, two years ago, there was not a single case of iritis. There were, however, several cases of prolapse. Panas claimed that there was less inflammation than after the ordinary operation. It is proper to say with reference to iridectomy that with a small iridectomy the pupil may be as movable and as central as in the operation described.

SOME MEDICO-LEGAL CASES,

by B. Joy Jeffries, of Boston.

The author first read the law of Massachusetts in regard to the examination of railroad employés and others for color-blindness, and stated that it was practically a dead-letter and could not be enforced. In order to make it efficient some standard must be adopted. Many instances in which the law had been evaded were given. Many cases were cited, particularly of railroad engineers and steamboat pilots, where lives of passengers had been endangered by this defect.

Dr. Charles A. Oliver, of Philadelphia, exhibited and read a description of a new series of loose wools for the scientific detection of sub-normal color perception (color-blindness).

They comprise ninety-seven bundles of Berlin worsteds, composed of five large principal test-skeins, twenty small pure match skeins, and seventy-two small confusion skeins. To each small skein there is attached a metallic handle bearing the exact equivalence of the color's composition, tint and shade stamped upon it in a way that can be only understood by the surgeon. The colors are all of equal relative intensity. The wools are all of one manufacture and have been dyed with vegetable materials.

The following advantages are claimed for the series: That there are five tests, that the wools are loose and all of the colors of the same relative intensity, that each skein has its value expressed so that they can be employed by any intelligent layman, that accurate noting of color changes can be made for future comparison, and proper verbal and written expression can be given, that by reason of the wool all being made of the same grade of manufacture and all the colorings obtained from vegetable dyes, no results can be gotten from the supplemental use of touch, and finally, that a black surface is employed and no definite order of testing need be pursued.

Dr. William B. Dennett, of New York, exhibited a set of Holmgren's worsteds, which had been made into spheres, to each of which a number was attached. It was thought that considerable elegance and some advantage would result from using Holmgren's or Thompson's test in this manner.

Adjourned until evening.

FIRST DAY. — EVENING SESSION.

Dr. Samuel B. St. John presented a communication from Dr. Bolton, of Trinity College, to the effect that he had discovered that his grandfather, Dr. North, had founded in New London, Conn., in the Spring of 1817, the first Eye Infirmary established in the United States.

The first paper read was on the

EFFECT OF THE ELECTRIC LIGHT UPON THE EYE,

by Dr. J. A. Andrews, of New York.

The injurious effects of various forms of light upon the eye were first considered and numerous instances cited showing the harmful effect of exposure of the eyes to bright sunlight, bright lamplight, and to the reflection of the sunlight from snow. Cases were given in which a short exposure to the arc-light was followed by swelling of the lids and conjunctivæ. These symptoms yielded to sedative applications. The effects of lightning have been classed with those due to bright light, but they are different. The effects of lightning are probably due to the physico-chemical action of the electric current causing coagulation of the albumen in the crystaline lens. The opacity of the lens occurring among glass-blowers seems to be chiefly due to the intense heat to which the eyes are exposed. The speaker had found lenticular cataract in four per cent. of glass-blowers, under forty years of age, and in twenty per cent. of those over forty years of age whom he had examined.

In considering the relative effect of different forms of illumination, that obtained from gas, from kerosene, and from the electric light were studied. The electric light gives the maximum of light with the minimum of heat. So far, the only cases of injury to the eye from the electric light, have resulted from exposure in close proximity to the intense light of the arc-light. In most of these cases the existence of previous eye trouble was not excluded. The effect in these cases can be best explained as occurring through the sympathetic nervous system rather than as a result of mechanical or chemical influences. It is not established that exposure to bright light can produce a diffused iritis. No case of injury to the eye from the incandescent light has been reported and out of eleven hundred workers with the electric incandescent light examined by the author, there was not one complaint. Those suffering with errors of refraction, claimed that the sight was improved. The light used was from twelve to sixteen candle and provided with a shade to protect the eyes. The incandescent light possesses advantages which are wanting in other forms of artificial light, the principal of which are its steadiness and the fact that its use does not contaminate the atmosphere.

DISCUSSION.

Dr. C. R. Agnew, of New York. We have introduced the incandescent electric light into Columbia College reading-room. All who have made use of it have expressed great satisfaction with it.

Dr. W. F. Mittendorf, of New York. Dr. Andrew's paper confirms the results of my observations. The popular feeling has been against the electric light as injurious, but my experience proves the contrary. The light is so perfect that the work need not be approached so close to the eyes, and the efforts of accommodation are less. On account of its steadiness less work is thrown upon the pupil than with the flickering light of the gas-burner.

The next paper was on

A METHOD OF OVERCOMING DIPLOPIA WHEN PRISMS ARE NOT FULLY EFFECTIVE,

by William S. Little, M.D., of Philadelphia.

Double vision, especially in the lower field, is a source of danger in walking. This is the case, even where prisms are worn, as the patient by not holding the head forwards may look under the spectacle and thus see double. A case of an elderly person with modified paresis of the superior oblique was described. This had led to two severe falls. A prism of six degrees, properly placed, united the double images below the horizontal plane. Above this plane the objects are single. Myopia also existed in each eye and required the combination of a sphero-cylinder with a prism for the right eye to correct the myopia and diplopia. In order to prevent looking under the glass and seeing double in the lower field, the speaker had resorted to the following procedure. The sphero-cylinder correcting the myopia of the right eye has been ground opaque for one-sixteenth of an inch above the horizontal plane, so as to obliterate sight in the lower field of vision in this eye. Then there had been attached to the lower portion of the frame, the wire net-work used in protecting glasses. This is carefully adjusted to fit close to the face, the perforations in the gauze having been stopped by painting. Vision is thus cut off below and under the spectacle. In this way, vision for the the affected eye is only through the upper part of the myopic correction and the necessity for a prism is done away with. The other eye has its myopic correction and is the one in which vision in all parts of the field is clear. The right eye is only used in the upper part of the field where no diplopia exists. This is better than entirely closing the affected eye by a ground glass and is found more effective than with the prism, as danger of falling by seeing double is prevented. The same method may be applied to a diplopia in any position in the visual field.

The spectacles as made by Borsch and Rommel were exhibited.

TWO EPIDEMICS OF MOLLUSCUM CONTAGIOSUM,

by Dr. W. F. Mittendorf, of New York.

The contagiousness of this affection has been a matter of much dispute. The two epidemics which had come under his notice had occurred in asylums for children. In the spring of 1885, a little girl having one or two small "warts" on the eyelid was admitted to one of these institutions. In a few weeks other children exhibited similar growths on the eyelids, in some cases spreading to the lips and to the nose. Within three months after the admission of the first case, twenty-seven children were more or less disfigured by this affection.

In the second institution as many as forty children were affected at one time, Some of these children were sent to board with a farmer. One of twenty thus sent out, had molluscum. In a short time the affection spread to over half of the children. It also attacked the child of the farmer and his wife. In a number of cases the tumors involved other portions of the face, but they were most marked on the lids.

As soon as attention was called to the condition, energetic treatment did away with it. Excision with scissors and touching the base with nitrate of silver proved most satisfactory. Simple pressing out of the matter is more painful than excision. Unless the latter is employed the disease is apt to return.

(To be continued.)

— A correspondent of the *British Medical Journal*, who has had considerable experience with hydrophobia, writes that his cases lasted, from seizure to death, three to five days. They were constantly under observation. He found that fluid, when darkened, could be taken in forced gulps, but not from a glass vessel; it could be taken from a cup where the contents were unnoticed until raised. Blindfolding only caused general resistance. Porter was found to give considerable temporary relief.

ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

JULY 21st, 22d, 23d, LONG BRANCH, N. J.

FIRST DAY.—MORNING SESSION.

Dr. Burt G. Wilder, of Ithaca, N. Y., in the chair, on retiring, addressed the meeting as follows:

In view of the fact that he had delivered a somewhat extended address upon a general subject last year, he would confine his remarks to the brief discussion of what he believed to be a new fact, namely, the accurate collocation of a suture and fissure in the human fœtus. In three alcoholic fœtuses in the Cornell University, estimated to be from three to seven months advanced, the lambdoidal suture directly overlies a short but deep fissure which has seldom been noticed, and has been hitherto uninterrupted and may be called the lambdoidal fissure.

A photograph and drawing of one case were submitted: the fissure was very distinct and deep, but had no ental corelative in the cases examined. The doctor remarked that Bischoff and Huxley had regarded the fissure itself as temporary in man, though persistent in apes. Prof. Wilder believed the fissure to persist in man also: but to loose its relation with the suture in the last two months of fœtal life. He mentioned the probability that the coronal suture is similarly related with a pre-central fissure, and closed his remarks with an enumeration of several questions that arise in connection with the subject and with the suggestion as to making use of fœtal brains by careful exposure, preservation, photographing, etc.

Professor Wilder then introduced to the Association, Dr. Charles K. Mills, of Philadelphia, the President of 1886.

Dr. Mills, on taking the chair, made a few introductory remarks on the work of the society and the proposed Congress of American Physicians and Surgeons.

He then presented specimens and described with his usual lucid remarks, the brains of a monomaniac, a murderer, an idiot, a negro, and a Chinaman, drawing attention to the importance of the study of the cerebral convolutions.

The doctor congratulated the Association upon the large amount of published work which had been done by its members since the last annual meeting, instancing the fifth volume of Pepper's American System of Practical Medicine, out of the twenty-four contributions of which, more than one-half were from members of the American Neurological Association. He urged the importance of individual effort towards increasing the membership of the Association, so that it would be in fact as well as in name — the great national representative of those members of the medical profession who are interested in neurology and pschycology, and the branches of science which are specially correlated to those subjects.

He discussed at some length and with approval, the project for the formation of a Congress of American Physicians and Surgeons, he also stated that difficulties might arise in connection with the initiaticn and inauguration of the Congress. He spoke of danger apprehended by some, that the Congress like another national medical body might drift insensibly into the arena of medical politics, but believed if wisdom prevailed during its development, that such might be avoided. He thought it would be better for the meetings of the Congress to be biennial, thus allowing the Association as special organization, to have entirely separate and independent meetings on alternate years. He also believed it desirable to have the meetings of the Congress held at a fixed location and thought Washington the most desirable, but that should be decided upon by a committee of conference. He would suggest also that no one should ever be re-elected to the position of President of the Congress; and also that the sessions of the Congress should be held in the mornings in order to allow the various sections to attend to their own special work as in the sections of the American and the British Medical Associations. The doctor also believed it right that the authors of scientific contributions should be allowed the privilege of publishing them in any of the medical periodicals.

The doctor then produced the brain of Burke, a delusional monomaniac, that of Taylor, an alleged delusional lunatic, executed in Philadelphia, also of a feeble-minded youth from the Pennsylvania Training Institution for Feeble-Minded Children, as well as the brain of a negro and a Chinaman. The brain of the Chinaman was first exhibited at the Philadelphia Neurological Society, by Dr. A. J. Parker. Dr. Mills stated that it is the first Chinese brain that has ever been described as far as he knew. In discussing the appearances presented by those specimens he gave what he regarded the peculiarity of human brains of low type and also the differences between simian and human brains. He demonstrated that in the white adult brains presented and also in others of which descriptive notes were read, that there were easily recognized differences between these, and those of individuals of better grade. In all the assimitry was distinctly typical, both of lobes and gyral fissural arrangement, which he believed to exist in a marked degree between the two hemispheres. In general terms the white brains were found to approach more nearly in type the brains of the negro, ape, and to the fœtal brain than is ever the case in an ordinary adult white brain even, in individuals of moderate intelligence and intellectual power. He discussed the question whether these specimens, some of them from men who had committed crimes of violence, who had taken the lives of their fellows, sustained the conclusions of Benedict and others, that the brains of criminals are absolutely distinctive; that we have a criminal type of brain which can even be separated from the type which can be found in other forms of insanity. Such a generalization he regarded as too narrow.

In the brains presented, there were certain points of affinity noted, and points of difference from known conditions of higher human types; these so great as to allow him to put them into a class together as representatives of brains of low types. He regarded the attempt however, to construct a theory as to the anatomical basis of crime, as in some respects unphilosophical; criminals and transgressors of the law being of the most diverse character. The doctor criticized some of Benedict's conclusions although he paid a tribute to his observations and regarded them as stimulating research to a wonderful degree. He thought it strange so little research had been made in the Chinaman's brain heretofore, and that although we have a large negro population but little had been done towards the mapping out of the negro brain. He remarked that no Indian brain had ever been described in detail, and thought some of our army surgeons on frontier posts, who had such great facilities for such investigations should undertake this interesting work. Dr. Mills also stated that he looked in vain for a description of the condition presented by the cerebral surface of an intellectual woman.

DISCUSSIONS UPON SPECIMENS PRESENTED BY THE PRESIDENT.

Dr. Wilder remarked that the subject was worthy the importance which the President had assigned to it, and he was afraid there was a large number of physicians and surgeons who were not as familiar with the brain as they ought to be, and he considered it the highest compliment the President could pay to the Association in speaking in the straightforward manner he had assumed in his paper in relation to the anatomy of the brain. He would like to have examined the brain of the Chinaman more thoroughly, in order to confirm some of Dr. Mill s statements, remarking that, in the negro brain, he had called attention to the exposure of the insular in it; but Dr. Wilder remarked that he had one where it was still more exposed, and in the specimen he spoke of, the brain was hardened in the skull, so that there was no chance of undue pressure; he noticed that the Chinaman's insular was abnormally covered, but he thought it would not do to credit the Chinaman with it, as he noticed the brain had been flattened upon one side, and the first temporal convolution had been pushed over the insular. He also agreed with the President in his remarks upon Benedict's generalization. He thought, however, they merited careful scrutiny. With regard to the confluence of the Rolandic fissure and the Sylvian, he remarked he should hesitate to say anything, but in some twenty or thirty brains that he had, he had never seen the confluence with the central and the Sylvian. The Doctor thought that it would be a difficult matter to find an average brain, and he suspected it was the same with a large number of others; he thought the brains that were studied were more or less peculiar, giving, as an instance: some year or more ago he secured some six human brains for his students to dissect, but upon examination, each of them had some peculiarities, and he concluded they were too valuable for ordinary dissecting. He then asked the President if, supposing he had not known this to be a Chinese brain before him, whether he would have known it, or rather, whether he would have felt disposed to note its peculiarities; if there was anything that would lead him to think it belonged to a different race from our own.

Dr. L. C. Gray, of Brooklyn, remarked that he did not think there was any disagreement among our neurologists as to the one-sided manner in which Benedict's researches were conducted. He thought it was unfair of Dr. Wilder to criticise upon any one point in a paper which contained so many peculiarities until after a careful examination of the specimen. He thought that until some one has determined the limitation of the various convolutions in the human brain, it would be difficult to set the line. There were two points, he said, which had attracted his special attention; the Doctor stated that he had two negroes' brains, and there was some uncovering of the fissure of Sylvius; but he had never seen the fusion of the fissure of Rolando with the fissure of Sylvius.

Dr. Derkum remarked that some months ago he had exhibited a brain from an epileptic female: the island of Riel was covered on both sides, but on one side the fissure of Rolando was confluent. He also remarked that Dr. Parker had described several fissures which had occurred in a negro brain on the mesial surface, which were afterward ascribed to mechanical causes.

Mr. Joseph Jastrow, of Johns Hopkins University, by invitation of the President, stated that he had taken twelve or fifteen brains before him for class demonstration, and, after taking plaster impressions, had photographed them, and those where the convolutions came out more fully might be those of the normal brain. He thought with a better knowledge of the brain these smaller changes would teach us to understand the subject.

Dr. Birdsall thought Benedict's theories were rather strained, but may have stimulated further research. He also opposed the view that one particular type of brain must form that of a criminal. He thought the study of the cranium in different races would be of advantage, but that the study was still in its infancy as to relation between these peculiarities and their functions.

Dr. Sachs, of New York, remarked he was naturally interested in the general anatomical bearings of the fissures; he thought we ought to distinguish between the primary and secondary developments of the fissures. He remarked that it would have been important to know the conformation of the skull from which the brain of the Chinaman was removed; this, he thought, might prove an important factor.

Dr. Wilder remarked he thought the discussion had been made in regard to the fissures which are considered as primary; he did not think much would be gained by speaking of the secondary fissure.

The President, in reply, said he agreed with Dr. Wilder that it would be better to harden brains in the skull. But in reference to the specimens he had shown, some of them were obtained under great difficulties, and he was glad enough to get the brains as they were. The fissure of Rolando, in one of the cases, was crossed by a convolution, instead of being confluent. It is true, as Dr. Wilder has said, many brains are peculiar, but perhaps it might be due to the reason that most brains we secure are from those of low organization.

In regard to the Chinaman's brain, he would not have known it belonged to a different race, but there was a peculiarity of appearance, but he could not understand what it was. Dr. Parker himself noticed the unusual shortness of the orbital surface. In regard to Benedict, he did not think we should be too severe in our criticisms, but he (Benedict) had a bad manner of generalizing, as he himself thought that criminals did present brains of a peculiar development and conformation; but he believed Benedict's statements to be that with different grades of criminals different types of brain were found; this, the President considered, was unscientific. In regard to Mr. Jastrow's remarks, he thought such experiments were very interesting in regard to studying the higher and lower types, but was not so certain of attaining a standard of the normal brain. The Doctor considered that Dr. Wilder had answered Dr. Sachs's remarks, and that he himself based his remarks upon the primary fissures principally.

(To be continued.)

Recent Literature.

Traité Elémentaire d'Anatomie Médicale du Système Nerveux. Par Ch. Féré. Paris: A. Delahaye et Lecrosnier. 1886.

Dr. Féré states in the preface that this is intended for a work on the applied anatomy of the nervous system, somewhat in imitation of Tillaux's anatomy with surgical applications. He has wisely touched but slightly on minute anatomy or at least on points of structure that demand high powers of the microscope for their elucidation. The author is to be congratulated on the clearness of his descriptions, and on the discretion with which has avoided much discussion of disputed points. He describes first the membranes and, to our surprise, adopts the view that the arachnoid is a serous membrane. He holds with Cruveilhier that the foramen of Magendie has no real existence, being simply a rent in the membrane. After the description of the brain, the arteries are considered at some length. The relations of the brain to the head receive due attention, and the author goes at length into the important question, in these days of cerebral surgery, of finding the bregma, or junction of the coronal and sagittal sutures, in the living. It is needless to say that the interesting subject of localizations is a prominent one. Pathological observations are frequently alluded to. We are struck repeatedly by the caution of the author and think that there is little in the book that cannot be received as demonstrated, at least till new discoveries revolutionize, as they well may, our ideas of the physiology of the brain.

After the central nervous system comes the peripheral and that of the sympathetic. In this, the descriptive anatomy is so much out of proportion to the applications that we are inclined to wonder why it was written at all, or why it was not, at least, much condensed. One of the most valuable features of this part consists of diagrams showing the electro-motor points on the surface. There are more than two hundred illustrations in the text, which are for the most part, borrowed. They are well-chosen though often poorly executed. T. D.

Aids to Obstetrics. (*Students' Aids Series*). By Samuel Nall, B.A., M.B. 16mo. pp. 142. Paper and cloth. New York and London: G. P. Putnam's Sons. 1885.

This, like the other numbers of the Students' Aids Series, will doubtless be of assistance in preparing for examinations. It is based on the works of Playfair, Leishman, and Lusk, and is in the main a safe guide. There are, however, several matters of opinion to which we should take exception, for example, the explanation given of the internal rotation of the head.

The great objection to these aids is, that the average student, if he thinks he can "pass" by their use, will neglect the larger works: we do not, therefore, believe in these short cuts to knowledge, and think they should be labelled, like certain country roads, "Dangerous Passing," letting the wayfarer take his own risks. And although these by-ways may generally lead safely to the journey's end so far as obtaining a diploma, we advise students to choose the broader, safer, albeit longer, highways to knowledge.

Medical and Surgical Journal.

THURSDAY, AUGUST 12, 1886.

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MEDICINE IN THE UNITED STATES AND CO-OPERATIVE INVESTIGATION.

The Address in Medicine before the British Medical Association at its annual meeting, held this year in Brighton, was delivered yesterday, by Dr. John S. Billings, of the United States Army, and is given to the readers of the Journal to-day. It will be remembered that the late Dr. Austin Flint, of New York, was originally invited to deliver this address, and after his death what he had prepared was published by his son, the manuscript having been found among Dr. Flint's papers — an example of prompt preparation to meet engagements which many younger men would do well to imitate.

Dr. Flint had selected "Medicine of the Future" as the subject for his address, an editorial notice of which may be found in the Journal for June 17th. Dr. Billing's address is on "Medicine in the United States and its Relations to Coöperative Investigation," and is well worth the space which its length demands from our columns.

The first part of the address, dealing with the present condition and future prospects of medicine in the United States, will naturally have less novelty and less interest for those who think they already know enough about the subject; but even these will find the summing up of the relations of the General Government and the individual States to medicine and to its practitioners a concise and felicitous one for reference. Pretty much the whole of the law and the prophets in regard to legislative regulation of medical practice is really condensed in the following sentences:

> "To me it seems that the most important of the first steps to be taken in this direction is one which has already been taken in Great Britain — namely, the requirement that every death in the community shall be registered, and that in such registration satisfactory evidence shall be given as to the cause of death, sufficient at least to prove that such cause is what is known as a natural cause, that is, that it is not due to crime. When it is admitted that one of the duties of government is to provide for such registration, both in the interests of life and to secure the rights of property, it follows, necessarily, that those persons whose certificates as to the cause of death are to be accepted as satisfactory evidence that there has been no foul play, must present evidence that they are properly qualified to make such certificates. The principle is precisely the same as that which induces a government to provide for the examination of the medical men whom it employs in its army and navy.
>
> "So far as the art of medicine is concerned, the demand has much, though by no means all, to do with regulating the quantity and quality of the supply; and there are few localities in the United States where the qualifications of the medical man is not fully up to the standard which the community is able to appreciate and is willing to pay for. In the natural order of things suffering and death are the remedies for ignorance, weakness, and vice, and the means of preventing the transmission of these characteristics to offspring. These remedies, though effectual are drastic, and we do our best to avoid them, but perhaps it is well that the penalties cannot be done away with altogether.
>
> "The laws regulating the practice of medicine in the United States are all State laws. If we were to judge only from what may be found in the statute books, assuming that all the laws contained therein are duly enforced, we should find that nearly two-thirds of the States have laws ostensibly regulating the practice of medicine within their borders. As a matter of fact, however, in over half the States which have laws on this subject no attempt is made to enforce them, and in almost all of them the possession of a diploma, no matter from what source derived, is all that is required."

Dr. Billings, however, recognizes the gradual tendency here, as elsewhere, which the remarkable development of sanitary science, of preventive medicine, of State medicine, has to bring the great body of practitioners into closer relationship with the State — a tendency which, sooner or later, directly or indirectly, will force the State to exercise some control over the practice of medicine.

This leads up naturally to the second part of the address, the relations of medicine in this widely-extended country to coöperative investigation; for preventive medicine is at once a result and an incentive of coöperative investigation, and Boards of Health are, in the discharge of their most important functions, really bureaus of coöperative investigation. Dr. Billings deals with coöperative investigation in a broad and liberal sense, and is evidently not one of those who is unable to see any promise of good to come in the future, because present efforts at coöperation do not realize expectations at the mercy of a narrower field of vision. The coöperation of individuals, urged on by various motives, has given us, through various vicissitudes of progress, medicine as we have it at the present day, but the laboratories for experimental research of the present and the future, the Boards of Health, the Government bureaus, the great medical and scientific organizations, may reasonably be expected to hasten and extend the results of coöperative investigation in a way and to a degree that the blind impulse of isolated individualism would never have indicated. By references to his report on mortality and vital statistics of the United States, as returned at the tenth census, which exhibit some of the peculiarities in the distribution of deaths from certain causes — such as cancer, scarlet fever, diphtheria, pneumonia, consumption — Dr. Billings suggests the contributions to the common fund of medical knowledge which may be demanded from, and furnished by the United States in the future.

Through the Government bureaus at Washington and the State Boards of Health, "Medical Topography" is already on the road towards a gratifying state of advancement in this country. And nowhere, as this address justly points out, are such combinations of conditions to be found for studying race problems of disease, which are simply problems of heredity taken in mass: nowhere are natural experiments upon such a grand scale to be observed as regards the effects of various peculiarities of climate, soil, altitude, food, and occupation in connection with variations in parentage under conditions of exposure to the same causes of disease.

We, Americans, need not hesitate to acknowledge ourselves as the heirs of the ages, to confess that we have received freely, for with the recognition of our debt comes the assurance that we can repay it handsomely. Dr. Billings rightly interprets the invitation to an American to give the Address in Medicine before the British Medical Association as an indication that we are thought not only willing, but able to pay some part of our debt to the common fund of knowledge.

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LEPROSY IN THE HAWAIIAN ISLANDS.

Dr. Edward Arning, of Honolulu, contributes to the Board of Health of Hawaii a valuable report upon leprosy, a subject which in recent years has assumed great importance as affecting that island empire.

The report embraces five topics:

1. Clinical.
2. Pathologic and anatomical.
3. Special bacterial research.
4. Therapeutic.
5. Hygienic.

The clinical work embraces an inquiry into the historical features of the disease, and its symptomatology as found in the Islands. An interesting point of clinical importance is the existence of many cases of *abortive leprosy*, of which Dr. Arning has made careful observation and expresses the hope that these symptoms of arrested disease may be hailed as a proof of a decrease in the virulence of the disease in general.

Under the topic of pathologic-anatomical work, Dr. Arning had conducted seventeen post-mortems of lepers, the result of which would tend to modify opinions as to the disease being confined mainly to external parts. He found grave changes in the larger viscera, especially in the lungs, liver, spleen, and bowels, due to genuine leprous infiltration.

The question of etiology appears to have been carefully studied, embracing a search for the *bacillus lepræ* in the air, water and food, and the attempt to cultivate it in artificial soils of great variety and at different temperatures.

Various living animals were also inoculated, but without results after several months' trial. These negative results have induced Dr. Arning to state the following conclusions:

(1) The bacillus lepræ is a parasite limited to the human race.

(2) It must be transmitted either directly from individual to individual, or

(3) Run through an intermediate stage, which may be present in soil, water or food, into which it only passes from the diseased tissue of a leper.

(4) Accepting either theory, the direct or indirect transmission, we must look upon every individual leper, whether in the incipient or advanced stage, as a dangerous focus of the malady.

(5) The leprous germ requires a certain disposition of the human soil for its propagation. Such a disposition may exist concurrently with apparent good health.

Dr. Arning's experiments upon a condemned convict (whose sentence was commuted for the purpose of submitting him to experiment) are detailed so far as observations have been made. Bacilli were inserted in the arm, September 30th, and were still present in large numbers in the following March. After that time they diminished in number, but were still found in November, fourteen months after insertion.

Of the therapeutics of leprosy, which are classified by the writer as *specific* and *symptomatic*, he acknowledges the uselessness of the former class, so far as experience has thus far tested them. For the symptomatic treatment, considerable benefit, so far as the investigation of local manifestations is concerned, is derived from the use of sulphur, pyrogallic acid, corrosive sublimate and electricity.

Ulcerations of the mouth, throat and nose require the use of antiseptics, astringents, and medicated sprays, all of which alleviate the distressing symptoms for a time.

Hygienic measures. Under this important topic the writer briefly treats of the question of segregation and of the relations of leprosy to vaccination, including the medical examination of school-children. He strongly urges the use of bovine virus as a rule, with careful instructions for its employment in all cases. In support of this advice Dr. Arning vaccinated several lepers, and found the bacillus lepræ in the lymph and also in the crust.

The effect of immigration is also considered, especially from China, the Azores, and Japan, of which the writer says: "It is deplorable, though perhaps inevitable, that these islands, with their terrible abundance of leprosy, should be repopulated by the very nationalities who seem to have not yet overcome the disposition to the disease as much as other races."

Another important question is the *disposal of the dead* bodies of lepers. Leprous tissue was set aside under conditions of temperature and moisture, conducive to slow and thorough putrefaction. An examination of the remains of this tissue made eight months afterward, showed it to consist nearly entirely of "swarms of the bacillus lepræ," closely packed. This experiment prompted an examination of a portion of a body which had been buried three months at the leper settlement at Molokai, and in this instance leprous germs were found present in great numbers. As a bar to the possible spread of the disease from this cause, cremation and the use of quick-lime are suggested.

In this connection the subject assumes considerable importance as affecting the welfare of our own population; with constant immigration to our western shores of people from the leprous districts of China, Japan and the Sandwich Islands, and to our Eastern ports from Norway, and with existing foci of the disease at San Francisco among the Chinese, in Minnesota among the Norwegians, at the little settlement at Tracadie in New Brunswick, and at a few southern ports, there is reason for the adoption of stringent measures for the prevention of its further introduction and spread.

The progress of the disease in the individual, from the beginning of its incubative stage is slow, but its progress among races or nations is often comparatively rapid. The first recognized case in Hawaii was not noticed till 1853, but in the third of a century which has elapsed, it now threatens the existence of that island people.

With the possibility of a similar spread at any point in the United States, a country having the greatest possible variety of climate, soils, food and other conditions, and also a similar variety of races in its population, it is incumbent upon the government to adopt measures which shall prevent the further introduction of the disease, and secure its limitation to localities where it now exists.

A timely paper by Dr. J. C. White,[1] entitled "The Question of Contagion in Leprosy," urged such a course, including the enactment of strict laws for its prevention, the adoption of quarantine regulations and inspection of all suspected persons from ports where leprosy exists

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MEDICAL NOTES.

— Professor Graskey of Würzburg has been called to Munich to be the successor of the late lamented Professor Van Gudden.

— The sixth International Congress of Hygiene and Demography, will meet at Vienna in September, 1887, instead of 1886, as originally proposed. Among other subjects the precautions, international or others, to be taken against the propagation of contagious diseases by rags; and the international regulations to be adopted against the adulteration of food products, will occupy prominent places in the discussions. Those who are interested are requested to suggest other subjects, addressing Prof. de Gruber, Brunn, near Vienna.

— Dr. Moxon, so long and prominently connected with Guy's Hospital, died suddenly on the 21st ult. After a hard day's work, including an oral examination at the College of Physicians, prior to returning to his house at Highgate, he went to his consulting rooms in Finsbury Circus, where he was engaged for some time in correspondence. As he failed to return home at his usual hour before midnight, messengers were dispatched to Finsbury about two o'clock on Thursday morning, and Dr. Moxon was found to have been dead for some time, lying in his consulting room. The cause of death is at present unknown, but it is supposed to have been due either to apoplexy or to heart disease.

— Instances of extreme old age are reported from Russia. The *Novosti*, a Russian journal, announces the death, in the almshouse of St. Petersburg, of a man aged one hundred and twenty-two years, who had been an inmate since 1818. His mental faculties were preserved up to the time of his death, and his general health was excellent to the age of one hundred and eighteen, when he commenced to fail. There is in the same institution a soldier's widow, whose age, as shown by documentary evidence, is at least one hundred and ten years. In our own country, at New Holland, O., Mrs. Arnold has just celebrated the one hundred and ninth anniversary of her birth; and her two sisters are still living, aged respectively one hundred and six and one hundred and twelve.

— An English contemporary cites a striking instance of the vexatious quarantine restrictions, which prevail in some countries, as afforded by a correspondence, recently presented to Parliament by the Foreign Office, relating to the brigantine *Maggie*, of London, which was called upon, on its arrival at Fayal, to undergo a quarantine of five days, but allowed to discharge her cargo in a lazaretto, the Portuguese authorities having declared Great Britain "suspected" of cholera. Having proceeded to Terceira, the officials there, regardless of the quarantine she had already undergone at Fayal, refused to allow her pratique, and the vessel was relegated to Lisbon. The Foreign Office, recognizing the importance of the case, and supporting the owners' claim for one hundred pounds for the loss sustained, opened communications with the Portuguese Government, through Mr. Petre, Her Majesty's Minister at Lisbon; but no reply was vouchsafed for eighteen months, when the Portuguese Government expressed their opinion that the stringent measures adopted did not constitute any violation of the law, and refused to admit the claim.

NEW YORK.

— The corner-stone of a new infirmary for the Five Points House of Industry was recently laid with appropriate exercises. The building, which will be ready for occupancy in October, is to be four stories nigh, and will have a frontage of twenty-five feet and a depth of eighty feet; with accommodations for about eighty patients. The erection of this infirmary was rendered necessary by an act of the Legislature, passed at the last session, requiring children suffering from infectious eye-disease to be isolated.

— Dr. E. F. Brush, Health Officer of the town of East Chester, in West Chester County, who has lately been engaged in investigating a number of cases of pleuro-pneumonia which have occurred among the cattle of that town, has made a report to the Board of Health, in which he expresses the conviction that the disease originated among the stock of the Mount Vernon branch of the New York Infantile Asylum, which is situated in the same country. The cows there became diseased, so that their milk was unwholesome, and (what seems a most extraordinary procedure on the part of those in charge of the institution), the animals were then sold off at auction. By order of the Health Officer, nearly all the diseased cattle were subsequently killed. The matter is to be reported by the Board of Health to the Grand Jury of the county at its next session.

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[1] Amer. Journ. Med. Sciences, October, 1882.

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Miscellany.

DEATH FROM CHLOROFORM.

Lady Flora Wilmot died at Swansea, England, after taking chloroform in a dentist's chair, for the extraction of a tooth. The anæsthetic was administered by a physician. The patient had taken chloroform twice before without any bad effects. In all, but two drachms were used. All attempts to restore the patient by the use of nitrite of amyl and artificial respiration were of no avail. The physician remarked immediately after the extraction of the tooth, "I hate giving chloroform for you dentists, because you will have your patients sitting up." Both the dentist and the physician were exonerated by the jury which was called to hold an inquest. *Science* comments on this case as follows: "The evidences of the danger in the administration of chloroform are so overwhelming, except in a few cases, that no one is justified, at the present day, in using it in so simple an operation as the extraction of a tooth; and a jury would be doing its full duty in holding responsible for the death of the patient any physician or dentist who administered it in such a case, with a fatal result."

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TOILERS AMONG THE DEAD.

At a recent meeting of the Academy of Medicine, M. Brouardel made known some curious and interesting facts concerning the dead body of a girl, aged twenty-two, which was discovered in a cellar under a heap of straw. The body had lain there about a year, and was in a perfect state of mummification. One of the limbs was shown at the meeting; it was thoroughly dessicated; the tissues were hardened, and gave a sound when struck. MM. Brouardel and Audouard attribute this mummification to the dryness of the soil on which the dead body had been placed; but the most important factors were five different species of acarina which deposited the *débris* of the envelopes of their eggs and carapace among the dust that covered the dried tissues of the body. M. Mégnin has proved that, by studying the generations of acarina which have been at work on a dead body, the date of death can be ascertained. This entomologist, by examining the *débris* of acarina in a child's corpse, ascertained that death occurred two years previously; and a judicial inquiry confirmed this statement. M. Brouardel described the order of succession of the different species of acarina which worked on the dead body of the young girl, also the work of destruction accomplished by each separate species: the gentles (larvæ of flies), *dermestes*, *sarcophagus*, *laticrus*, and *lucina cadaverina*. One species absorbs the fluids, another consumes the fatty acids. When a species has finished its work, it dies on the dead body, or is devoured by a succeeding species. Each generation in summer-time lives from six weeks to two months. In a recent case of murder M. Mégnin established with precision the exact date of the burial of the human remains discovered in the garden. Among the remains, a particular kind of ant was observed, which is never found in soil recently disturbed; also the *débris* of acarina, known as *Œsophagus echinococcus*, which also furnished a chronologidal indication; portions of a bulb of a lily furnished further proof. Two years must have elapsed in order that the bulb should undergo the alterations it presented. M. Brouardel dwelt on the value of these entomological data in reference to medical jurisprudence. — *British Medical Journal.*

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INCUBATION OF TYPHOID FEVER.

A correspondent writes as follows to the *Lancet* regarding a series of cases in which the minimal period of incubation of typhoid fever was known. Two children left their home in the country to come to a London boarding-school on January 11th. On January 27th the younger of the two sickened with typhoid fever. It was then discovered that at the village where they lived there was quite an epidemic of typhoid, and that the water-supply of the house had become contaminated. The school-master at once wished to know at what date it could be definitely said that the elder boy had not contracted the disease. Wishing to be quite safe in my prognosis, I replied that, although it was impossible to say exactly, if he remained quite well at the end of three weeks and a half, dating from January 11th, he would probably escape. The younger boy was moved from school to a house near, and the master kept a most careful watch over the elder one until the three weeks and a half had expired, at which date he seemed in perfect health. My disappointment was great to find that on February 7th, or twenty-seven days from January 11th, he did not feel quite the thing, and his evening temperature was 100°. Up to this date he had taken his food heartily and was in capital spirits. He later on had troublesome constipation, and died of intestinal hæmorrhage. No other boy in school contracted the disease.

The following is a list of the inmates of this country house who have caught the fever. Where known, I have stated the latest possible date on which the patient could have contracted the disease; of course it may have been contracted much earlier. 1. Younger boy came up to boarding-school on January 11th; recovered; incubation sixteen days. 2. Elder boy came up with No. 1 on January 11th; died of hæmorrhage; incubation twenty-seven days. 3. A sister left home on January 21st to stay with friends; recovered; incubation nine days. 4. A brother left home on January 14th to stay with friends; recovered; incubation sixteen days. 5. The nurse of No. 4; recovered. 6. Cook who lived at the country house and stayed there throughout; recovered. 7. A servant, who come up from country house, and being taken ill was sent to a cottage hospital near, where she was said to be suffering from scarlet fever and sent on to fever hospital, but on inquiry I found it was a simple case of typhoid; recovered.

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Correspondence.

TOXIC EFFECT FROM PERMANGANATE OF POTASSIUM.

Mr. Editor,— I have noticed lately one or two references in your Journal to the use of the permanganate of potassium internally in amenorrhœa and would like to give my own experience and that of my partner.

In the case of a girl of nineteen with advanced phthisis and amenorrhœa of ten months standing, I administered the permanganate in two-grain capsules t. i. d. for two days, which was followed on the evening of the second day by a moderate flow lasting for two or three days. After this the girl's general health improved slightly and the flow appeared the following month just as previous to the commencement of the lung trouble. Subsequently, however, she failed rapidly and died in about two months. My partner, Dr. Brock, on hearing of the success in this case and also that a young married lady had taken five and six grains at a dose, and had had one or two miscarriages while following this treatment under another physician, prescribed two-grain capsules of the permanganate for a young lady, unmarried, twenty-two years of age and somewhat debilitated, who had been suffering from amenorrhœa for four or five months. After the first dose she complained of severe burning pain from the throat to the pit of the stomach, was nauseated, pulse rapid and rather weak. This was supposed to be due to some irritating article of diet and the patient drank a quantity of milk which eased the pain somewhat. The next morning when she took the second capsule there was a repetition of the symptoms of the previous evening, only more severe. The patient was intensely nauseated and vomited. complained of intolerable burning in the stomach and throat, was almost pulseless, completely prostrated and did not fully recover for two or three days.

Subsequently, in the case of another young lady, unmarried, and about the same age and condition of health, who had suffered from suppression of the menses for two months, he prescribed one-grain capsules with the same result, pain like a flaming fire in the stomach and throat and generally symptoms of shock and collapse.

Since then neither of us has prescribed permanganate of potassium internally. Wood, Stillé, and all the authors I have consulted, fail to make any mention of toxic symptoms from the internal administration of the drug.

Are the symptoms due to the rapid decomposition into potassium and the binoxide of manganese?

Before the drug is too freely prescribed in full doses its toxic action should be more carefully investigated and better understood. Yours truly

W. D. Bidwell, A.M., M.D., (Harv.)

Leavenworth, Kansas.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 31, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	887	482	39.38	10.56	28.71	.66	4.84
Philadelphia	971,363	389	195	25.22	8.58	7.59	2.34	3.12
Brooklyn	690,000	374	208	36.18	12.34	29.97	—	1.42
Chicago	630,000	324	190	37.51	8.68	22.32	3.72	6.53
Boston	390,406	213	102	35.25	14.57	28.20	3.29	2.85
St. Louis	400,000	168	84	—	—	—	—	—
Baltimore	417,220	202	91	29.89	11.76	20.58	2.94	1.96
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans,	238,000	132	38	17.48	12.92	13.64	.76	3.04
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	103	—	23.28	27.16	16.49	3.88	—
Pittsburgh	190,000	97	58	42 23	3.09	21.63	5.15	2.06
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	49	23	38.76	18.36	36 72	—	2.04
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	33	18	33.33	15.15	24.24	—	3.03
Charleston	60,145	64	30	15.60	9.36	6.24	4.68	—
Worcester	68,383	31	22	48.45	9.69	38.76	6.46	—
Lowell	64,051	40	23	52.50	15.00	50.00	2.50	—
Cambridge	59,660	20	11	35.01	15.00	35.00	—	—
Fall River	56,863	38	26	44.71	10.52	36.82	5.26	—
Lynn	45,861	19	12	17.34	21.04	47.34	—	
Lawrence	38,825	17	11	41.16	—	41.16	—	—
Springfield	37,577	21	11	42.84	9.52	23.80	4.76	9.52
New Bedford	33,393	14	5	28.56	14.28	28.56	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	20	12	35.00	25.00	30.00	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	5	55.55	22.22	55.55	—	—
Taunton	23,674	8	6	—	12.50	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	3	—	12.50	—	—	—
Brockton	20,783	6	1	16.66	—	16.66	—	—
Newton	19,759	9	3	—	—	—	—	—
Malden	16,407	11	3	18.18	18.18	9.09	—	9.09
Fitchburg	15,375	4	2	—	—	—	—	—
Waltham	14,609	5	3	20.00	20.00	20.00	—	—
Newburyport	13,716	4	2	—	25.00	—	—	—
Northampton	12,896	7	3	57.12	28.56	42.84	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 3,226: under five years of age 1,683: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,115, diarrhœal diseases 822, consumption 371, lung diseases 160, diphtheria and croup 100, typhoid fever 61, whooping-cough 39, scarlet fever 29, measles 32, malarial fever 16, cerebro-spinal meningitis 12, erysipelas two, puerperal fever two. From whooping-cough, New York 17, Brooklyn six, Chicago four, Philadelphia and Pittsburgh three each, Baltimore two, Boston, St. Louis, District of Columbia, and Charleston, one each. From measles, New York 14, Chicago six, Pittsburgh four, Brooklyn, Boston, Charleston two each, Nashville and Salem one each. From scarlet fever, New York 10, Pittsburgh five, Chicago and St. Louis four each, Philadelphia two, Brooklyn, Baltimore, District of Columbia and Fall River one each. From malarial fever, Brooklyn seven, Baltimore four, New York and Philadelphia two each, Nashville one. From cerebro-spinal meningitis, New York four, Chicago and Springfield two each. Baltimore, St. Louis, Worcester and Northampton one each. From puerperal fever, Baltimore and Pittsburgh one each.

In the 21 cities and greater towns of Massachusetts, with a population of 1,066,908 (population of the State 1,941,465), the total death-rate for the week was 26.39 against 21.27 and 21.27 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending July 17th the death-rate was 19.7. Deaths reported 3,426: infants under one year of age 1 107: acute diseases of the respiratory organs (London) 167, diarrhœa 411, measles 93, whooping-cough 50, scarlet fever 41, fever 39, diphtheria 17.

The death-rates ranged from 12.1 in Brighton to 24.8 in Manchester: Birkenhead 14.8; Birmingham 16.2; Bradford 20.5: Hull 13.9; Leeds 14.9; Leicester 19.1;; Liverpool 18.9; London 21.1; Nottingham 18.7; Sheffield 17.8; Sunderland 16.8.

In Edinburgh 18.2; Glasgow 21.8; Dublin 19.7.

The meteorological record for week ending July 31, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, July 31, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . 25	29.982	69.1	79.0	60.4	76.0	59.0	87.0	74.0	W.	W.	S.W.	3	12	10	O.	O.	C.	—	—
Monday, . . 26	29.846	72.8	76.9	64.8	83.0	77.0	90.0	83.3	W.	S.W.	S.W.	18	4	6	O.	O.	O.	—	—
Tuesday, . . 27	29.713	71.5	76.7	70.6	90.0	91.0	81.0	87.3	S.W.	S.W.	W.	8	10	1	O.	R.	C.	—	—
Wednes., 28	29.802	70.9	77.7	62.1	80.0	64.0	73.0	72.3	N.W.	S.E.	S.W.	6	10	12	C.	C.	C.	—	—
Thursday, 29	29.832	77.0	89.3	66.5	78.0	45.0	83.0	68.7	W.	W.	W.	6	15	14	C.	H.	H.	—	—
Friday, . . . 30	29.840	77.8	85.7	69.3	84.0	62.0	88.0	78.0	W.	W.	E.	12	8	2	F.	F.	C.	—	—
Saturday, . 31	29.927	69.8	75.7	67.0	75.0	76.0	84.0	78.3	N.E.	E.	S.W.	7	8	12	O.	F.	C.	19	.56
Mean, the Week.	29.877	72.7	80.1	65.8				77.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 31, 1886, TO AUGUST 6, 1886.

Middleton, Passmore, major and surgeon. Granted leave of absence until September 10, 1886. S. O. 100, Division of the Atlantic, August 3, 1886

White, R. H, captain and assistant surgeon. Ordered from Angel Island, Cal., to San Diego Barracks, Cal., relieving Capt. Leonard Y. Loring, assistant surgeon. S. O. 64, Department of California, July 28, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 7, 1886.

Rush, Charles D., passed assistant surgeon. Detached from the Receiving Ship, "Franklin," and ordered to the United States Steamship "Pinta."

Willson, W. G., passed assistant surgeon. Detached from the United States Steamship, "Pinta," ordered home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING JULY 31, 1886

Long, W. H., surgeon. Granted leave of absence for fifteen days, July 30, 1886.

Sawtelle, H. W., surgeon. To proceed to Portland, Ore., and Port Townsend, W. T., as inspector, July 29, 1886.

Devan, S. C., passed assistant surgeon. Granted leave of absence for ten days, July 26, 1886.

Fattic, J. B., assistant surgeon. Granted leave of absence for twenty-nine days, July 26, 1886.

SOCIETY NOTICE.

American Dermatological Association. The tenth annual meeting of the American Dermatological Association will take place at Greenwich, Conn., on August 25th, 26th and 27th, 1886, and the following papers will be presented:

Address by the President, Dr. Edward Wigglesworth: 1. "Report of a Case of Lymphadenoma (Mycosis Fongoïde) and Autopsy," Dr. G. H. Fox. 2. "Note Relative to the Bullous Eruption occurring after Ingestion of Iodine Compounds," Dr. J. N. Hyde. 3. "Erythanthema Syphiliticum," Dr. E. B. Bronson. 4. "Rötheln," Dr. I. E. Atkinson. 5. "Precocious Gummata," Dr. R. W. Taylor. 6. "Clinical Notes on Scabies," Dr. F. B. Greenough. 7. "Clinical Observations regarding the Value of Resorcin, Icthyol, and Lanolin in Cutaneous Diseases," Dr. H. W. Stelwagon. 8. "Trophoneurosis of the Skin," Dr. G. H. Tilden. 9 "Native Plants Injurious to the Skin," Dr. G. C. White. 10. "Cartilaginous Tumors of the Skin," Dr. A. R. Robinson. 11. "A Few Additional Notes on Psorasis," Dr. F. B. Greenough. 12. "Report of a Case of Exfoliative Dermatitis," Dr. W. A. Hardaway. 13. "A Clinical Study of Scleroderma," Dr. J. E. Graham. 14. "A Case of Carcinoma Cutis," Dr. L. N. Denslow. 15. "Keratosis Follicularis" Dr. P. A. Morrow. 16. "Surgical and Obstetrical Scarlatina," Dr. I. E. Atkinson. 17. "Notes on Drugs," Dr. H. G. Piffard. 18. "Two Cases of Dermatitis Herpetiformis," Dr. A Van Harlingen. 19. "Remarks and Queries on and as to Relative Frequency of Moles and their Pathological Changes on the Head and Face," Dr. S. Sherwell. 20. "An Unusual Form of Tuberculosis of the Skin," Dr. G. H. Tilden.

Edward Wigglesworth, M.D., *President.*
(per G. H. T.)

G. H. Tilden, M.D., *Secretary.*

DEATH.

Dr. Calvin Seavey, of Bangor, Me., died suddenly on August 1st, aged seventy-seven. He was graduated from the Medical School of Maine in 1837.

BOOKS AND PAMPHLETS RECEIVED.

The Refraction and Accommodation of the Eye and Their Anomalies. By E. Landolt, M.D., Paris. Translated under the author's supervision, by C. M. Culver, M.A., M.D. With 147 illustrations. Philadelphia: J. B. Lippincott & Co. 1886.

Intubation of the Larynx for Diphtheritic Croup. By E. Fletcher Ingals, A.M., M.D., Professor of Laryncology, Rush Medical College; Professor of Diseases of the Throat and Chest, Woman's Medical College, Chicago. Presented to the Chicago Medical Society, June 21, 1886, (Reprinted from the Journal of the American Medical Association, July 10, 1880.) Chicago: Printed at the Office of the American Medical Association. 1886.

Original Articles.

THE MANAGEMENT OF CASES OF RIGIDITY OF THE OS UTERI IN LABOR.[1]

BY WILLIAM E. BOARDMAN, M.D., OF BOSTON.

A correct appreciation of the condition implied by the term *rigid os uteri*, is a necessary preliminary to its proper management. Many practitioners, indeed some obstetric writers, failing to distinguish between cause and effect, have confounded different conditions of tedious labor where dilatation occurs with abnormal slowness. The os may be soft, yielding, *dilatable*, and yet it may dilate very slowly, or its dilatation may stop entirely, for a longer or a shorter period, from a variety of causes, but it is a misapplication of the term to say of these cases that rigidity of the os or cervix is present and obstructs labor. For instance, quoting from Bedford,[2] "it will occasionally happen that the os uteri does not respond to the efforts of the uterus, the contractions recur at intervals, but they have not sufficient force; the patient becomes wearied with the abortive efforts of nature; her strength gives way, and the nervous system is much disturbed. Here, then, is a condition of things which must not be misapprehended — do not mistake it for rigidity of the os." A similar caution might be enjoined with reference to many other complications of the first stage of labor, among which I may mention obliquity of the uterus, faulty positions and presentations of the fœtus, abnormalities of the fœtus and of the pelvis, hydramnios, constriction of the cervix from compression between the fœtal head and pelvic brim, constriction and hypertrophy of the anterior lip. In these cases, to be sure, rigidity may also occur as a coincident or secondary complication, but, in themselves, they are not usually a cause of this condition; they may, and commonly do occasion delay in dilatation, but they do so merely because they complicate the normal process of labor, but, as soon as the specific complication is overcome by the efforts of nature or by appropriate treatment, dilatation may go on without interruption. In other words, the imperfect dilatation, as a rule, is merely the negative result of these abnormal conditions to which we have referred.

True rigidity, on the contrary, should imply an *undilatable* condition of the os — and this is to be understood in a relative, and not an absolute sense — where dilatation does not ensue, or occurs with abnormal slowness, or is arrested, on account of certain accidental conditions arising at the time of labor — of congenital defects of formation, or acquired physiological or pathological deviations in the structure of the cervix. In these cases, only, the undilatable os is truly rigid, and becomes an efficient cause of delay to labor, and this obstruction may persist, under certain circumstances, so long as to endanger the mother or child, or both together.

The scope of my paper obliges me to omit the consideration of those cases where the dystocia is due to radical defects of development, to complete atresia, and to pathological changes incident to malignant and fibroid disease of the cervix, which often require special methods of treatment, perhaps peculiar to each individual case, and to restrict myself to the discussion of the more common ones to which reference has been made, including spasmodic stenosis, the most usual form in primiparæ, and rigidity from simple pathological changes which appertain to cicatricial, hyperplastic, or hypertrophic induration, and, as a rule, are met with only in multiparous women.

Actual labor, I need not remind you, is commonly divided into three stages, with the first of which only, the period of dilatation, have we to do at present. Strictly speaking, this comprises the entire period occupied in the expansion and retraction of the cervix, and the full dilation of the os uteri. For clinical convenience, however, it is customary to await until the cervix is "taken up," as it is termed now-a-days, before it is considered that labor is imminent. So that, other factors being normal, our attention, at first, is largely directed to the os in estimating the probable character and duration of the labor.

In what may be called normal labors, the length of this first stage varies considerably, according to different circumstances which it is unnecessary for me to enumerate at this time, and it is generally conceded that, so long as the os continues to dilate, however slowly, the membranes are intact, and no extraordinary accidents or emergencies threaten or occur, we are not called upon to abbreviate it in any manner, except indirectly in the way of husbanding the maternal strength by the various methods which are in common use for promoting rest and refreshment, furnishing adequate nourishment, and providing for the due performance of the various ordinary functions of the body.

In such labors this stage may continue for days, and yet with proper attention to these points, neither the mother nor her child may be exposed to any serious injury; the labor may become "tedious," but not "laborious," which latter term properly implies danger in a greater or less degree.

Not infrequently, while all the other factors of normal labor in the first stage occur, delay ensues, which, upon examination, is found to be due alone to the condition of the os itself; it is unyielding and rigid — sometimes thick, hard, and muscular to the feel, at others thin, wiry, like cartilage or parchment, or swollen and œdematous. Even in these cases, except, perhaps, in some few instances of notable cicatricial degeneration, so long as the membranes are unbroken, and the os is pressed upon by the fluid sac during the continuance of the pains, which are intermittent in character, interference is rarely demanded, for the cushion or fluid can do no harm to the cervix, and the fœtus cannot be subjected to undue pressure at any part, for everywhere it is protected from insult by the fluid with which it is invested.

Sometimes, however, it will be observed that, during the pains, the head impinges directly upon the lowest segment of the cervix, so that no bag of waters is formed, and, if the os is rigid, the irritation to which it is subjected by the immediate pressure of the fœtal part, will tend to augment the rigidity, especially in a primipara. If such a condition of things be found, speedy relief may often be afforded by pressing up the presenting part and allowing a quantity of fluid to collect in front of it.

In either of these cases, whenever we meet with an unyielding os under the pressure of the fluid sac, and other factors are normal, it is the rule that the pains tend to become abnormal in character, irregular, short and cramplike, or continuously severe; the patient soon exhibits symptoms of nervousness, perhaps anxiety and irritability, and, if not properly treated, her general and uterine strength will be wasted, to her detriment, probably, in the later stages. Anodynes administered to such patients usually will forestall or control these unfavorable symptoms, and a sleep, more or less prolonged, will be followed by a renewal of strength and courage, and, generally, by a more dilatable condition of the os.

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[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 8, 1886, and recommended for publication by the Society.

[2] Principles and Practice of Obstetrics, 5th Ed, p. 362.

In many cases, however, where the os early shows a disposition to rigidity, an accident occurs which most surely leads to an increase of the dystocia — namely, the premature rupture of the membranes. In other cases, this accident obviously is the prime cause of the rigidity, and, in either instance, we are quite sure to have to do with a laborious labor, which will be the source of much suffering, and even danger, to the mother, and of peril to the child, and, too, of annoyance and anxiety to the physician. Fortunately, with judicious care, and under ordinary methods of treatment, most of these patients ultimately do well, and the mother is safely delivered of a living child.

Probably reasoning from this fact the cardinal rule has been transmitted to successive generations, to abstain from manual or instrumental interference in these cases, and to content ourselves and endeavor to satisfy our patients simply with, what often are merely palliative measures, nauseants, emetics, depletion, general and local anodynes, and to await the favorable issue of this stage or the occurrence of dangerous symptoms in the mother or the death of the fœtus. Until comparatively recent years every kind of interference was deprecated, so long as the fœtal life persisted, and, indeed, craniotomy on the living child has been advised and practised by some in the interest of the mother, and this fact led to the scathing criticism by Lovati, of Pavia, who said, "in England they do not hesitate to kill the child, not only in order to save the mother from the danger of the Cæsarean section, but even to spare her the suffering of the simple application of the forceps." Some obstetricians, writing a century and more ago, advocated, while others of later date have sanctioned or timidly subscribed to, the practice of making longitudinal incisions or scarifications of the cervix in cases of rigidity, where threatening symptoms ensue which do not yield to the common methods of treatment. Indeed in more recent and even modern times, such eminent authorities as Velpeau, Kilian, Martin, Scanzoni, Simpson, Murphy and others have given their assent to this dangerous procedure. Concerning this operation Ramsbotham[3] wisely observed, "I should consider it as one of those exceptional modes of treatment which surgeons are sometimes driven to undertake, in consequence of encountering some extraordinary difficulty, not provided for by the legitimate and established rules governing surgical science." Carl Braun[4] states that the field for this operation is extremely limited, and the necessity cannot occur more frequently than once in fifteen thousand labors. The discussion of this method of practice Lusk,[5] very properly in my opinion, dismisses in a very cursory manner with the following words:— "I have purposely avoided making mention of incisions through the vaginal portion of the cervix, as, in a large experience in difficult labors, I have never so far seen the occasion for their employment," though in his chapter on the forceps he introduces this paragraph[6]:— "In cases where it is necessary to expedite delivery, the resistance of the incompletely dilated os may be overcome by a number of incisions about one-fourth of an inch in depth, made with a blunt-pointed bistoury passed between the cervix and the child's head," adding, "it is very rare, however, that this otherwise trivial operation is really called for."

Contenting myself with this brief reference to the ordinary and extraordinary traditional modes of treatment in these cases, permit me to state, in a few words, the prevailing methods, at least I believe among the most competent practitioners in this country, which, perhaps, are described by no writer more intelligently and tersely than by Lusk, while they are more extensively catalogued by Atkinson.[7]

Premising that the abnormal factor we have to deal with is the rigid os, a stenosis from spasmodic rigidity or due to what I have termed simple pathological changes in the structure of the lower segment of the cervix, in which cases, too, the spasmodic action becomes a prominent feature, the first endeavor is to annul the sense of pain and to restore the disorder of the nervous system, so as to induce relaxation of the spasm, and to foster the maternal strength. This end is sought in different ways, largely by the administration of opiates, but more generally by the use of anæsthetics or of chloral, alone or in succession. In some instances, with multiparous women, where the rigidity appears not to be extreme, external frictions of the uterus and oxytocics are admissible, and among the latter quinine, perhaps, is the safest and best. Ergot, on the other hand, is rightly considered a dangerous agent at this stage for many reasons, nor is Kristeller's method of expression applicable, except in rare cases, until a later period. Electricity has been warmly recommended again of late. Judiciously applied it is said to relieve spasmodic action, to promote dilatation and to increase the regularity and efficiency of the pains. Vaginal and rectal injections of simple hot water or medicated solutions are frequently employed, and apparently with benefit in some cases. Hip baths, also, are serviceable, but generally inconvenient. The local application of belladonna in the form of ointment, I think, is now rarely employed. Not unlikely cocaine will prove to be an important adjunct to our measures for the relief of these cases. Amyl nitrite and atropia, also, have lately been recommended, as efficient agents for relaxing a spasmodic condition of the os. Venesection is rarely employed in these days, and the same may be said of nauseants and emetics, though formerly, of course, much reliance was placed upon all of these. When the os is sufficiently dilated to admit the introduction of the forceps, it is the practice of some eminent obstetricians, notably of Dr. Johnston, of Dublin, to employ this instrument at an early period, and Dr. I. E. Taylor has devised a long, narrow bladed pair of forceps for this purpose, which is said to be capable of introduction through a cervix measuring hardly one and a half inches in diameter. Artificial dilatation of the os has been advised or suggested by many distinguished obstetricians, from the time of Smellie, if not before, while it has been condemned in unmeasured terms by contemporaneous authorities. Thus

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[3] Obstet. Medicine and Surgery, 5th Ed., 1867, p. 244.

[4] Lehrbuch der Geburtshülfe, 1857, p. 768.

[5] The Science and Art of Midwifery, 3d Ed., 1886, p. 454.

[6] Op. cit. p. 369.

[7] Therapeutics of Gynæcology and Obstetrics, 1880, p. 239.

Churchill[8] said of it, "I do not deny that dilatation may thus be effected; but I believe it to be hazardous in skilful hands, positively dangerous in unpracticed ones, and unnecessary in all cases;" and Bedford[9] remarked, "the abominable practice, commended by some of the older writers, of introducing the hand into the vagina for the purpose of distending it (the os uteri), is not for an instant to be tolerated. These rude manipulations can never receive the sanction of the scientific accoucheur." Sir James Simpson[10] however, Dr. James Braithwaite in 1879[11] and a few others of later date, have revived, sanctioned and advised the resort to digital dilatation when the rigidity has persisted so long as to induce symptoms of danger. To Robert Barnes is due the credit of demonstrating the advantages of a *more early* resort to artificial dilatation, a practice which is now generally commended by accoucheurs of the largest experience, but he gives his preference without stint to the use of "Barnes' bags" for this purpose. Referring to digital dilatation in the form of dystocia under consideration, after describing with some minuteness the technique of the operation, he says[12] "in some cases in which the second stage of labor has advanced, the cervix may sometimes be dilated by the hand, but," he adds in the same paragraph, "what is called manual dilatation of the cervix should be abandoned, except in the case of spasmodic contraction after expulsion of the child — as, for example, when the placenta is retained or clots are filling and irritating the uterus." Lusk, too, gives his entire assent to the early employment of these dilating bags.

While we may not accept fully the specious arguments of Sir James Simpson,[13] which were largely founded upon the dangerous deductions from statistics or be allured by the ponderous logic of Matthews Duncan,[14] experience, if not common sense, seems to teach that the undue prolongation of the first stage, with the abnormal conditions of ruptured membranes and a rigid os, is attended with danger both to the mother and child, and the danger to both is progressive with the increasing duration of this stage. Therefore it is a matter of great importance for us to determine when this stage is becoming unduly protracted, and, for this purpose, we must have regard both for the mother and for her child. Neglect of this common regard has led to the unnecessary sacrifice of human life and to the opprobrium of the obstetric art. It has been too common to delay too long in order to see what nature can endure, rather than to endeavor to determine, as early as possible, how much she can accomplish. Taking this, then, as the theme for my concluding remarks, permit me, by way of introduction, to recite briefly the histories of two cases, which occurred during one of my terms of service as visiting physician at the Boston Lying-in Hospital.

Case I. Addie S., single, twenty-five years of age, primipara, entered January 28th. From the first she was nervous and despondent. She continued to have pretty constant aching pain in the lower abdomen and sacral region, during the expansion and retraction of the cervix, which was not fully "taken up" until the morning of February 7th, when the os was the size of a ten cent piece, thin and unyielding. The head was low down, at the inferior strait, and the pains were moderately severe, with slight intermissions, during that day. At 6.25, P.M., the membranes ruptured. As no progress ensued, chloral was administered at 7, 7.30 and 8, P.M., with no permanent effect upon the os. At 9, P.M., full surgical anæsthesia was induced and continued for several minutes. Chloral was again given at 11, 11.40 and 12.30, P.M., after which the pains became more severe and nearly constant. At 1, A.M., of the following day, the pains were rather more intermittent and moderately severe, but the os showed no change. At 4, A.M., full anæsthesia was induced for four minutes when the os acquired the size of a twenty-five-cent piece. At 6.30, A.M., it was rather larger than a half dollar; the maternal pulse increased from 100 to 125 and the fœtal pulse from 140 to 160. Under this condition of things I was summoned. Learning from the house physician that under the immediate influence of the chloral or the ether the os each time became dilatable for a brief period, but soon recovered its rigidity, I administered two more doses of chloral, and taking advantage of the dilatability which I produced, I easily stretched the os with the fingers, slipped it over the head, applied the Vienna forceps and readily extracted the child, which was asphyxiated, but fortunately resuscitated. The mother, however, shortly after died, evidently from shock and collapse. There was no uterine rupture and no hæmorrhage.

Reviewing the record of this case, it will be observed that the woman presented unfavorable symptoms from the outset; that she was nervous and despondent; that she suffered, more or less, for more than a week, during the retraction of the cervix; that the os was rigid from the commencement of its dilatation; that the membranes ruptured early in the first stage; that the repeated employment of customary means had little effect in promoting dilatation; that twelve hours after the rupture of the membranes the os was only as large as half of a dollar, when symptoms indicating danger to both mother and child supervened; that the resort to manual dilatation, *while the os was made soft and yielding*, enabled me to deliver a living child in a few moments. Its asphyxiated condition, however, I think clearly showed that a little longer delay would have imperilled its life. As it was, I cannot but think that the fatal result to the mother must be attributed, in a measure at least, to the delay in interference, which was especially dangerous considering her protracted mental agony and the prolonged physical suffering which she experienced, though at no time was this notably severe.

Case II. Ella P., nineteen years of age, single, primipara, entered January 22d, at 11.55, A.M., labor having begun at 1, A.M., of the same day, and the membranes had broken at 7, A.M. On entrance the cervix was "taken up" and the os admitted only the finger tip. Pains recurred quite regularly and with no unusual severity, but it was soon determined that there was delay on account of the condition of the os, which, on the following morning, was the size of a half dollar, thick and rigid. Chloral was twice repeated and snoring anæsthesia was induced, but with slight if any permanent effect. At 4, P.M., of this, the second day, thirty-three hours after the rupture of the membranes, the condition of both mother and fœtus before this having been good, the maternal pulse suddenly rose to 110 and the temperature to 102.8°, while the fœtal pulse increased from 140 to 180. Shortly after this I was summoned, and, finding the threatening symptoms still present, I had the patient etherized, but did not administer chloral beforehand, partly to save time but more because I had in mind that in the previous case possibly the fatal result to the mother might have been promoted by the combined effect of the two agents. While under the influence of the ether, I did not obtain the general dilatable condition of the os which I did in the other case, but the left side dilated readily under the pressure of the fingers, and, having obtained sufficient space, I introduced the forceps,—the head had passed the brim,—and by the combined effects of traction with the instrument and, in the intervals, gradual stretching and pushing up the right side, the os finally slipped over the head, and then the child was quite readily extracted at 6.25, A.M., nearly thirty-six hours after the rupture of the membranes and forty-two after the onset of labor, but it was still-born. The mother made a good recovery.

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[8] System of Midwifery, Am. Ed., 1843, p. 235.
[9] The Principles and Practice of Obstetrics, 5th Ed., 1871, p. 361.
[10] Op. cit.
[11] Trans. Obstet. Soc. of London, Vol. XXI, p. 38.
[12] System of Obstetric Medicine and Surgery, Am. Ed., 1885, p. 744.
[13] Selected Works of Sir J. Y. Simpson, Am. Ed., 1871.
[14] Mortality of Childbed, etc., Am. Ed., 1871.

In this instance, too, I believed I conformed essentially to the general rules of practice which prevail in these cases. The error, in delaying interference too long, or until threatening symptoms supervened, I believe, was the cause of the death of the child, as it was, if not the principal, at all events a contributing factor in occasioning the death of the mother in the first case.

That "meddlesome midwifery" is bad and to be avoided needs no argument at this day, but I submit that, while this expression and the doctrines evolved from it have served a very useful purpose in preventing the indiscriminate resort to manual or instrumental interference, when often it is uncalled for and even unsafe, yet increased experience, I think, rightly teaches me that, in many instances perhaps, we have been controlled too completely by the dictates of traditional practice that have been accepted by successive generations as matters of doctrine which ought not to be questioned, and, with this view, I have come to believe with others that the rule, to await the occurrence of alarming or dangerous symptoms, either in the mother or the fœtus, in these cases where the dystocia is due primarily or essentially to the rigidity of the os, is an excess of conservatism which tends to disaster, as already observed, either from violence done to the mother, or from injury to the child in consequence of the great and direct pressure to which it is exposed for so long a period after the escape of the amniotic fluid or on account of its being deprived of proper and sufficient nourishment by the interference with the utero-placental circulation. Accepting this proposition it is our duty to abbreviate this stage, in these cases of dystocia, so far as we are able to do it.

Referring to the success which has resulted in other forms of dystocia from the practice of manual dilatation, notably with placenta prævia and eclampsia and in the induction of premature labor, as suggested many years ago, even by Hippocrates and Celsus, in some circumstances,[15] but revived and popularized in this country, I think, at all events in this vicinity, by our esteemed associate, Dr. A. D. Sinclair, and also to the now well-recognized effect of chloral and deep anæsthesia for a brief period in bringing about a dilatable condition of the os,—not to mention some other agents which have been employed for a similar purpose,—I believe we not only have it in our power, but that it is our duty, in these cases of tedious labor which promise to become laborious, to afford timely relief by early interference, as soon as we are satisfied that nature unaided directly by art is not likely to accomplish delivery with safety, by following up the temporary dilatable condition, which we can induce by the use of chloral and like agents, with manual dilatation, and the subsequent use of extracting means if they appear then to be required — that is to say, before dangerous symptoms occur.

If the head be above the brim or not far advanced, and the contractions are not too frequent and severe, the early introduction of the hydrostatic dilators of Barnes will, perhaps, accomplish everything that is required; but these are always open to the objection that, even in the most skilful hands, they are insensible and one is liable to effect dilatation with them too forcibly and too rapidly, and so start a laceration of the cervix which may end in extensive rupture. Fortunately, however, if we may rely upon recorded cases, this accident is not a common occurrence. My experience confirms that of many others, that, in a large number of these cases, the presenting part impinges so forcibly upon the os and is so firmly invested by the tissues below the "contraction ring," that the bag cannot be inserted within the os without the exercise of so much manipulation and force as to do violence to the tissues, and, furthermore, in many cases it is found impossible to keep the bag in position, — it will inevitably slip out before dilatation can be effected by it.

With manual dilatation, the principle is the same as with the hydrostatic bag, but employing the former we have the advantage of the tactile sense, which enables us to guide and control the process with the utmost precision and hence with due regard to the integrity of the maternal parts.

When the head has passed the brim and entered the excavation, the waters having escaped, I believe there can be no question as to the choice between these two methods of artificial dilatation, and we should resort without hesitation to the use of the fingers to accomplish the desired object.

I have already alluded to the practice of incising or scarifying the os for the purpose of expediting delivery in these cases under consideration, where no disproportion exists and the dystocia is dependent solely upon the rigid, unyielding condition of the os, whether this is a spasmodic stenosis alone, or associated with the cartilaginous condition which is the product of a cicatricial process, a hyperplasia or hypertrophic induration. All authorities agree that this necessity occurs with extreme rarity. My experience, to be sure, has not been very extensive, but I have never met with, nor have I known of, a case where this procedure became necessary. Indeed, I do not believe it is ever demanded, except in cases of absolute atresia or occlusion of the os, for employing anæsthesia, chloral, and like agents, and artificial dilatation *together*, I feel sure we have it in our power to accomplish delivery, even in the extreme cases of simple pathological degeneration of the cervix, without exposing the uterus to the imminent danger of extensive rupture.

With regard to the proper time when the interference of art is demanded, the essential point is to anticipate the period when dangerous symptoms will occur. As before remarked, while the membranes are intact, rarely will we be called upon to interfere, for, in these cases, there is practically no danger— nature is equal to the emergency and the patient's endurance is not by any means put to the utmost test.

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[15] Vide Braun, op. cit. p. 763.

When, however, the membranes have broken prematurely and the amniotic fluid has escaped, and, I may add, this is the rule in the pathological states of the os to which I have just alluded, and we are satisfied that we have to do with a rigid os, recourse should be had, first of all, to the faithful trial of the ordinary means for promoting a continued dilatable condition. These having been fairly tried, but without success, we should at once resort to artificial dilatation, having first administered an opiate, or better, chloral, either alone or in conjunction with anæsthesia, in order to develop a temporary yielding condition. This latter procedure, I repeat, I offer as an important and essential factor to the easy and safe performance of the mechanical process which we seek to effect by the dilating efforts we decide to employ.

Following these methods of practice which, I have endeavored to show, are based upon sound common sense, regard for the well being of our patients and respect for the obstetric art, I believe we shall be more successful in avoiding unnecessary suffering and in saving human life.

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A DISCUSSION OF THE STATISTICS OF OVARIOTOMY.[1]

BY J. C. IRISH, M.D., OF LOWELL.

Of all the major surgical operations, ovariotomy has received the greatest attention with regard to its statistical results. The reason for this is very apparent when we recall its early history. It was an operation very bitterly condemned and assailed by the profession at large at the time of its first performance by McDowell, and for many years after.

Those who believed in its promise of usefulness presented to its opponents their lists of lives saved from a disease otherwise hopeless, and usually soon fatal, as an unanswerable argument in its favor. Although these statistics have long since silenced all question as to the propriety of ovariotomy, still the prominence given them has continued and increased, so that, to-day, the ovariotomist, as a rule, simply presents to the profession his number of operations and the percentage of recoveries, as representing in an exact measure his skill in making the operation, and his wisdom in the details of after-treatment.

The various conditions that determine the result of an ovariotomy, and, at the same time, are beyond the control of the operator, are so much in the background, that the unsuccessful cases gives the profession and the surgeon as well, the feeling that there must have been some fault of omission or commission on his part. That is, such prime importance has been given to the bare statistics as almost to persuade one that the skill of the operator alone is the sole factor in determining the result, and that an ovariotomist of perfect skill and wisdom would save every case. The effect of this tendency to regard the operator as entirely responsible for every unfavorable result has been to stimulate him to the most careful study of every detail of the operation, and, in consequence of this care, the modes of operative procedure have become well-nigh perfect.

This weight of responsibility loaded upon the shoulders of the ovariotomist has contributed, therefore, to his success. It may also have had its effect, not quite so salutary, upon the statistics that have been recorded. It is not unreasonable that the specialist in abdominal surgery, where every failure, in a certain way, reflects upon his skill, and is charged up to his discredit, should present his statistics in the most favorable light that they can bear. Cases in which he may have avoided an operation can be omitted; also those cases of incomplete operation: that portion of his entire list which gives the best percentage of recovery may alone be published.

In other fields of surgery, and in medicine as well, the unreliability of statistics is conceded; but in ovariotomy, for the reason I have given, they are, perhaps, more at variance with the actual results than in the case of other operations. "Statistics alone seldom prove anything, certainly they never explain anything," says Lawson Tait. This, I believe, is not quite true, and, although I am criticising the statistics as not always representing the full proportion of deaths to the recoveries in abdominal surgery, yet I believe they are sufficiently affected by the real results to afford absolute proof of the rapidly-increasing success of ovariotomy.

At the present time, the statistics of ovariotomy in America, when compared with those of our English cousins, seem to show a very decided balance in their favor. One possible reason for this may be that comparatively fewer men operate there than here, and, consequently, that there is a much smaller proportion of operations by inexperienced surgeons, while those who do operate have a much larger experience than falls to the lot of any American. Another reason, and, I believe, the main one, is this, that every standard text-book, at least, so far as I know, except the last edition of Emmet's work, that has been published in America, and which treats at all of ovariotomy, advises postponement of surgical interference, except tapping — "with rare exceptions, a criminal procedure," says Stilling, and assents Thornton — until the failing health of the patient demands it. While in England, formerly, Dr. Clay, Mr. I. B. Brown, Bryant, Hutchinson and Wells advocated early operation before any failure of the patient's strength was apparent. Mr. Wells, however, in 1872, advised delay until considerable impairment of the general health had occurred. Yet in the last edition of his work upon ovariotomy, and in his later utterances upon this subject, he is in accord again with the prevailing English teaching, which favors early operations. In short, I believe that this difference between the English and American authors, in their recommendations given the general practitioner as to the proper time for ovariotomy, has, in great measure, determined the difference in the statistics of the operation in this country and England.

While admitting that in no other operation does so much depend upon the skill, experience, and care of the operator as in this, still it may be worth our while to consider briefly some of those conditions, independent of the surgeon, that may make a disastrous result inevitable. Taking the ovarian cases together, as they present themselves to the ovariotomist, in this country, at least, a certain proportion of them will be found to have in themselves an element of essential fatality. That is, the moment these cases are subjected to operation, they become necessarily fatal, and that, too, in spite of all care and skill in the performance of the operation, and independently of all accidents that may come at the time of it or afterwards. Every ovariotomist, unless of very limited experience, cannot fail to recall one or more cases of his own that belong to this class, which I have designated as essentially fatal. Cases in which he found conditions of the tumor or patient, or both, such as would necessarily determine an unfavorable issue of the operation — cases in which the ideal operator of perfect skill would have been equally unfortunate. Prominent among the conditions that, in many instances, render an operation essentially fatal, may be mentioned degenerative changes in cyst-walls, cyst-contents, or in the pedicle; twisting of the pedicle, extensive adhesions, particularly within the pelvis, depression of the patient's vitality by septic poisoning, by tapping, by long continuance of the disease, or by the malignant character that the cystoma often acquires.

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[1] Read before the Section of Obstetrics and Gynæcology, Suffolk District Medical Society, May 19, 1886.

I have operated in two cases of degenerate cyst-contents, attended, also, with parietal, intestinal, and pelvic adhesions, and with a marked septic condition in each patient. The first case, which recovered, was reported in the *Boston Medical and Surgical Journal* in April, 1884. The second I now briefly refer to in illustration of those cases necessarily fatal on account of the conditions mentioned:

Mrs. F., Pepperell, Mass., age forty. At the time of examination, June, 1884, an apparently solid single tumor occupied the entire abdominal cavity and was firmly impacted in the pelvis. The uterus was held immovably fixed in its position; its cavity of normal length. The case was supposed to be one of uterine fibroma. Patient's temperature 102°, pulse 100. Heart's action feeble, vomiting persistent. An operation was discouraged, more on account of the patient's general condition, than for the reason that the growth was supposed to have been of uterine origin. Two weeks later Mrs. F.'s condition had sensibly improved. With the assistance of Dr. Benoit, Heald, Fletcher, Spaulding and Hartwell, I made an abdominal section and removed two ovarian myomata, which had grown, each from the corresponding ovary, and were so closely joined to each other as to give the impression of a single ovoid growth. Except a small cavity in each filled with pus, they had the firm consistence and structure usual to fibroids. They weighed about seven pounds each. Both were adherent to the omentum, the intestines, and the pelvic peritoneum. Very little blood was lost in the separation of the extensive adhesions and the operation was completed as quickly as possible, occupying only about fifty-five minutes. Yet directly after, the patient died from shock. Had this case been in hands much more skillful and experienced than mine, I am sure the result could not have been different. In a word, it was a case with inherently fatal conditions.

In one case with a degenerate pedicle, when the cyst contents were being drawn off with a trochar, a profuse hæmorrhage within the sac, replaced with blood, the liquid removed from the tumor, and, although arrested, as soon as it appeared, the loss of blood was sufficient to cause a fatal syncope. In this instance neither experience nor skill of the operator could have availed in anticipating or checking this fatal hæmorrhage. The element of fatality existed in the patient.

In two cases of extensive parietal visceral and pelvic adhesions, in which I have operated one recovered and the other died. Whether the latter was a case necessarily fatal in itself, or one that might have been saved in the hands of a more experienced and skilled ovariotomist, I cannot say.

In that class of cases, which may be denominated as uncomplicated, simple and recent, and recent cases with rare exceptions are both uncomplicated and simple, I have operated fourteen times with thirteen recoveries and one death. This case I have previously reported. The unfavorable result was, by reason of an accident during the operation, and in a way, the fault of the operator.

For the purpose of making an approximate estimate of the proportion of essentially fatal cases in a large number of ovariotomies, I have collected the reports of six hundred operations by thirty-three different operators, mostly American. These are all cases that have been reported within the past five years, although the operation was performed in some instances somewhat earlier than five years ago.

I have confined myself to these recent operations, because they would contain the smallest proportionate number of deaths from accidental causes, certainly much smaller than the earlier statistics of American ovariotomy would include.

While, of course, it is utterly impossible to make any very exact computation of the number of essentially fatal cases in the list of six hundred, yet an examination of the conditions as existing in very many of those that were unsuccessful, convince one that no mean proportion of them were of this character.

In the entire number there were seventy-five cases of extensive adhesions within the pelvis and elsewhere; of these thirty-three recovered, forty-two died. Although the complete statistics of the different ovariotomists, whose records I am making use of, vary very widely, still in this class of cases, their results are quite nearly uniform. One, reporting the largest number of cases of pelvic adhesions, lost one-half; another eleven out of nineteen; another five out of nine. Therefore, if the most skillful and experienced operators lose rather more than one-half of this class of cases, that is, those with extensive pelvic adhesions, we may very fairly conclude that, at least one-half of them are essentially fatal, and may place thirty-seven of the seventy-five in this category.

Fifty cases of the six hundred were attended with degeneration in some form, of the cyst-walls, of the cyst-contents, or of the pedicle. Nearly all of them were still further complicated by adhesions.

It would seem, too, whenever degeneration, resulting especially from the mature age of the tumor — from its senility — commences with the usual inflammatory action, that, at the same time a great tendency to the formation of adhesions is developed.

Of the fifty cases twenty-six died, and twenty-four recovered. In this class, too, as in the preceding, the results of different operators were nearly the same. No matter into whose hands the patients with degenerate cystomata came, about one-half of them died. So in this second class, we have, practically, twenty-five cases essentially fatal. In the above class are included fourteen cases, that had been tapped, some of them a large number of times, before the operation. Five recovered, nine died. There were eight of these cases, in which the general septic condition before the operation was marked, in which there was considerable elevation of temperature and acceleration of the pulse-rate; six were fatal, two recovered.

Belonging partly to one and partly to the other of the two preceding classes, there were reported ten cases of papillomatous cysts. Six recovered, four were unsuccessful.

Dolan says of these tumors, "They are very intolerant of surgical interference, and are very formidable both for operator and patient." Many of them starting from the parovarium grow between the folds of the broad ligament stretching it over the cyst surface, while others, taking their origin from the hilum of the ovary, often become intraligamentous as their development progresses. These tumors are very bountifully supplied with blood, forming extensive adhesions from their inception, often impossible of removal except by enucleation, growing very closely upon the uterus, even when operated upon very early, make the case a difficult one and sometime necessarily fatal.

Yet, of every variety of ovarian cystoma, this most emphatically demands the earliest possible removal, because of its tendency to degenerative change and rupture, and, because, if it be not malignant from its commencement, it soon acquires that character. An examination of the detailed reports of the six hundred cases, shows several that were essentially fatal from various causes other than extensive adhesions or degenerative changes, yet from causes inherent in the patient and not dependent upon the operator.

Therefore if my deductions are substantially correct, we have in the whole list under consideration, rather more than sixty cases that were essentially fatal. Thirty-seven on account of pelvic adhesions, twenty-five by reason of degenerative changes, and the few additional ones just mentioned.

The statistics of these six hundred ovariotomies, made by thirty-three different operators, reported with sufficient detail to indicate the conditions attaching to individual cases, show an unavoidable fatality in at least one-tenth the whole number. And I have no doubt, that were it possible to obtain an exact history of every other ovarian case and ovariotomy in this country for the past six years, we would find this ratio of essential fatality fully maintained, and, furthermore, could we estimate accurately, those most important factors in determining the result of an ovariotomy, the patient's vitality, power of endurance and of resistance, in relation to the necessary length or severity of the operation, it is probable that we would find our proportion of essentially fatal cases still further increased: and the fatalities for which the surgeon is responsible, in like measure diminished. The American ovariotomist, therefore, operating upon all the cases presented to him — as it is his duty to do with rare exceptions — who has saved ninety per cent. of his patients, is to be congratulated, as having eliminated, practically, all deaths from any lack of skill on his part or from accidental causes.

This proportion, of course, would only hold with large numbers of cases. Those essentially fatal would be too unevenly distributed to make any small number of ovarian operations any criterion of their relative frequency.

In a general way, the deaths after ovariotomy may be divided into two classes:—

(1) Those due to lack of skill or care on the part of the operator, faulty modes of operation, or to accidents.

(2) Those necessarily fatal by reason of the existing conditions of tumor or patient or both.

Looking to the future results of ovariotomy in America, the question of how much it is possible to diminish the fatal statistics of the first class, comes to us. Certainly in the whole range of surgery, there are no operative procedures that require more special preparation and experience than ovariotomy and its kindred operations. Could all patients with ovarian cystomata be in the care of specialists in abdominal surgery, the number of deaths from lack of skill and experience in the operator would be largely decreased, and those from accidents as well, for the latter are avoided by the skill and especially by the experience of the surgeon. In the details of the operation, through its different stages, the modes of procedure are almost universally agreed upon; the only diversity of opinion and practice being in regard to Listerism and the frequency of the use of the drainage-tube.

In short, that degree of perfection has already been attained that would seem to admit of very little future improvement. Whatever advance is made, therefore, in this class, will come mainly from the increasing experience of those who perform the operation.

From this, it follows that if any great improvement in the statistics of American ovariotomy is to take place, it must be by a diminution of those deaths comprised in the second class, namely, those essentially fatal. Fortunately, too, this class contains the larger number of unsuccessful results, and also is the one in which the greatest improvement is possible.

In the twenty-five cases with degenerative changes and the thirty-seven with pelvic adhesions, the element of essential fatality was, for the most part, an acquired one, and had the operation been performed sufficiently early, in the place of this appalling list of fatalities, would have been substituted, less a few cases, a like number of successes.

The list of essentially fatal cases will be nearly obliterated from our statistics, when American physicians shall all agree in regarding a patient with an ovarian cystoma as constantly menaced with great and increasing danger to her life, and shall concur in urging its removal with the least possible delay.

Then will the statistics of American ovariotomy express in full measure the real skill and ability of American ovariotomists.

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REPORT ON PROGRESS IN THORACIC DISEASE.

BY FREDERICK C. SHATTUCK, M.D.

HÆMOPTYSIS AND APEX PNEUMONIA.[1]

After briefly relating the histories of five cases Dr. Hood goes on to say: "My desire in this paper is to emphasize the fact that in certain pneumonic conditions a sharp hæmorrhage at the initial stage is symptomatic of the attack, and is, as I believe, directly caused by the inflammatory hyperæmia. In such cases, where a severe hæmorrhage ushers in the attack, we shall find the inflammatory focus very frequently at one or the other apex, and the physical symptoms of such a pneumonia are often more easily demonstrated at the posterior than at the anterior region of the chest. Such pneumonia, complicated with severe hæmorrhage, is peculiarly connected with lung tissue already the seat of chronic change, whether such change be due to deposition of tubercle or to chronic inflammatory changes." . . . "In the cases of apex pneumonia I have referred to the progress was rapid as compared with an ordinary lobar pneumonia; the patients were not so severely ill. May not the severity of the attack have been mitigated by the local blood-let?"

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[1] Lancet, 1886, I, p. 1157.

THE PATHOLOGY OF ACUTE PNEUMONIA.[2]

Dr. Shore brings out very clearly in an interesting paper the wide clinical difference between two classes of cases of acute pneumonia, and thinks that this clinical bespeaks a pathological distinction. Typical pneumonia is of sudden onset, is ushered in by a chill, and terminates by crisis; the fever corresponding in no way to the changes in the lung. The consolidation may persist for some days after the fall of temperature, may first appear after the fall, or may be very ill defined during the whole course of the illness. The author, indeed, speaks of cases coming under his observation, at a time when pneumonia was very prevalent and the hospital wards contained many genuine cases, in which the clinical course was precisely similar to that of pneumonia except that local signs in the lungs were quite absent. These he is disposed to regard as abortive cases of pneumonia, and he queries whether cases of febricula are not sometimes to be classed under this head. The apparent independence between the rational and the physical signs has been used by many writers as an argument in favor of the general and specific nature of pneumonia. That the lung affection is only a local manifestation of a general disease is believed by Dr. Shore to be true as regards the class of cases thus far considered. But the other class, that in which the changes in the lungs and the constitutional disturbance, notably the fever, show close correspondence; the temperature increasing with the local process and, in like manner, gradually subsiding — termination by lesion — is to be regarded as a local inflammation of the lung attended by general disturbance which is purely symptomatic.

Anatomically no distinction can be drawn between pneumonia as a general and pneumonia as a local disease, at least in the present state of our knowledge. It is to be hoped that a careful study of the microbes attending these processes will be made. Dr. Shore, by the way, seems to have overlooked the fact that Friedländer himself has thrown over the capsule of the ovoid pneumonia micrococcus.

How much truth there is in this theory time will show. At present it rests on a purely clinical basis. The facts of observation and their presentment in the paper are interesting and clear.

PNEUMONIA FOLLOWED BY ABSCESS OF THE LUNG, TREATED BY TAPPING AND DRAINAGE: DEATH.[3]

A laborer, of thirty-six, who three months previously had gone through an attack of left pneumonia, from which recovery was only partial, was admitted suffering from weakness, cough, and fetid expectoration. A large cavity with liquid contents was found at the left base, the rest of the lungs being clear, and a week after entrance a large trocar was plunged into the cavity through the seventh interspace in the back; air and a few drams of stinking pus escaped. A tube was then inserted through the trocar, a carbolic solution was injected, and a large amount of pus was expectorated but nothing came through the tube. During the following days injections were frequently made into the cavity and small quantities returned through the tube; but by far the greater part of the injected fluid, as well as by the secretion, found their exit by the mouth. After a week the patient died, apparently from exhaustion. He thought that the injections promoted his comfort.

Autopsy. "On opening the thorax, both lungs filled their respective cavities. The right lung was adherent throughout to the chest-wall. The upper lobe of the left lung was free from adhesion. The lower lobe was adherent throughout, and so firmly that the lung was torn in removal. A cavity the size of a breakfast cup occupied the whole of the base of the left lung; the wall was smooth, and the cavity contained no pus; the surrounding lung tissue being almost black and solid. A bronchus of the second dimension communicated by two openings with the cavity. The drainage tube had passed into the cavity at a spot rather below its centre. The right lung was engorged and œdematous, and on incising its base pus could be pressed out, showing the passage of this fluid from one lung to the other. Heart normal."

[This case has been abstracted here, not because operative interference with abscess within the thorax is new, but because the manner of interference was wrong in the opinion of the reporter. An operation is clearly called for where there is a slight abscess of the lung, the situation of which is favorable and the pleura overlying which has become adherent. After the confirmation of the diagnosis by means of the trocar a free incision should have been made and a large double drainage tube should have been inserted. The chances of washing out the cavity through the tube would thus have been greatly increased. As it was, the trocar took the place of the second drainage tube, and some of the contents of the cavity evidently found its way into the sound lung during the forced inspiration which accompanied the violent paroxysms of coughing which are specially mentioned in the report of the case. An abscess within the lung with decomposing contents and free communication with the trachea is less favorable for operation than an empyema; but, if its situation permits surgical interference it should be treated as nearly as possible in the same way. Herein lies the main instruction to be derived from the case. The termination might have been the same but the chances of recovery would have been better. — Rep.]

THE OPERATIVE TREATMENT OF BRONCHIECTATIC CAVITIES.[4]

Six cases are reported or alluded to by Dr. C. Therdon Williams and Mr. Godlee. In one the cavity was single and a brilliant cure was brought about; in the others success was only partial, largely on account of the fact that the bronchial dilatations were multiple.

The arguments in favor of the operation were:

(1) The tendency to death by septicæmia in some form, unless proper drainage was effected.

(2) The reduction in the amount of the expectora-

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[2] Practitioner, May, 1886, p. 321.

[3] Brookhouse. Lancet, 1886, I, p. 111.

[4] British Medical Journal, 1886, I, p. 590.

tion, this being due not only to the removal of the matter, but to the disappearance of the effects of its irritation on the healthy bronchi.

(3) The invulnerability of the lung tissue; it being proved that punctures of this tissue gave rise to little or no disturbance of the part, or to the system generally.

The difficulties of the operation were principally those of diagnosis of the exact position of the bronchiectases:

(1) From the presence of emphysema.

(2) From the reverberatory character of their auscultation sounds which rendered exact localization very difficult.

Paracentecis of bronchiectases seemed to be indicated under the following circumstances.

(1) In cases when antiseptic treatment of all kinds having failed to correct the flow of expectoration, and to allay the harrassing nature of the cough, death by septic pneumonia seemed imminent.

(2) Where the evidence went to prove that the bronchiectases were confined to one lung, were situated in the lower lobe, and had overlying them an adherent pleura. It was not indicated where multiple bronchiectases existed in both lungs, where they were surrounded by emphysema, and where the pleura was non-adherent.

INCISION OF THE LUNG.

Truc[5] collects and analyzes most of the recent cases, the three just noticed are not included.

(1) For acute and subacute abscess of the lung the operation has been done in nine cases with seven recoveries.

(2) For bronchiectasis in ten cases with only two recoveries: it should be noted, however, that most of the fatal cases were in a desperate condition at the time of operation.

(3) In three of the twelve or thirteen cases of tuberculosis more or less improvement followed; but the cases in which an operation can be curative are very few.

(4) Thirteen cases of circumscribed gangrene are collected. In seven cases the cure has been nearly complete; in one marked improvement resulted; in some of the other five cases which proved fatal, temporary improvement was traceable to the operation.

(5) Three cases of hydatid cyst were cured.

(6) Only one case of incision for a foreign body is treated. A tooth fell into the right lung, and caused cavity formation; an incision was made, but repeated attempts to discover the tooth in the pulmonary tissue were unsuccessful. The patient was discharged in better condition.

[The above facts show clearly that there is a future for the operation, at the same time that they indicate its limitations.— Rep.]

VESICULAR RESPIRATION; HOW IT IS PRODUCED.[6]

Dr. Coats has carefully studied the respiratory sounds in a patient whose larynx had been extirpated and who breathed through a vulcanite tube of practically the same diameter as the trachea. It is sufficient here to state that he furnishes conclusive proof that the vesicular murmur is produced in the extreme distal part of the respiratory apparatus. The author's results were submitted to a special committee of the Glasgow Pathological and Clinical Society, one of the members of which committee was Dr. Gairdner, and received unanimous endorsement.

BRONCHIAL RESPIRATION; HOW IT IS PRODUCED.

Dehio[7] after careful experiments with an artificial respiratory apparatus reached conclusions which were essentially the same as those first put forth by Skoda, as to the mechanism of the sounds heard in bronchial respiration. The reporter regrets that lack of space prevents anything more than this mere statement of the fact here.

THE POSITION OF THE FLUID IN PLEURITIC EFFUSION.[8]

Our readers will have no difficulty in recalling the experiments of Garland with reference to this point, some years ago, explaining and enforcing the clinical fact first pointed out by the late Dr. Ellis that in moderate pleuritic effusion the line of dulness is not horizontal. It occurred to Dr. Symington that these experiments were open to two sources of error; the cocoa butter is of a different specific gravity from that of serum, and when injected into the pleura, excite its effects much more rapidly than does an effusion.

Symington succeeded in obtaining the bodies of several children the subjects of effusion, froze them in the horizontal position, and then made sections, sagittal and horizontal. The results support the views of Garland that the lung at first moulds the fluid, the lung being reduced in size but not altered in shape. The fluid enveloped the lung at its posterior, lateral, and superior portions; but did not separate the lower portion from the diaphragm. Symington thinks that this fluid must be pretty large in amount before occupying this supplemental pleural space; but sections must be made of bodies frozen in the vertical or sitting posture before this point can be considered as finally settled.

SHOULDER-JOINT FRICTION AND INCIPIENT PHTHISIS.[9]

Dr. Angel Money calls attention to a sound produced in the shoulder-joint during respiration, which may be heard over the apex of the lung and closely simulate the pleural friction or dry crumple so suggestive of commencing phthisis when heard in this region. The shoulder-joint friction is loudest in the joint itself, and is more readily conducted along the bones than along the muscles. Dr. Gowen first spoke of this sign which has an especial bearing on examination for life insurance.

THE CURABILITY OF PULMONARY PHTHISIS.[10]

Dr. Dettweiler is at the head of an establishment in Falkenstein, in the Taunus Mountains, where, in the course of six years, 1,022 phthisical patients came under treatment; cases which did not remain for at least a month are not included in the above number. Of these, 132 were discharged "cured," 110 "arrested." Of the 132, Dettweiler chose 99, of whom he believed he could obtain trustworthy information, and in all these cases, save one, he received replies either from the patients themselves or from their physicians. During three to nine years 11 had died; 12 had had a relapse, but were considered well again at the time of the report; in three the disease was active; the other 72 patients had remained quite well for periods varying between three and nine years, and were pursuing their avocations. More than half of the latter class were under thirty years of age when they first came under treatment. It should be stated that the patients belonged to the well-to-do class. The treatment was simply hygienic in the widest sense. The author expresses the hope it will, in the future, be possible to cure more than half the cases by early and judicious treatment.

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[5] Revue de Médicine, 1886, p. 270.

[6] Lancet, 1886, II, p. 11.

[7] Deutsche Archiv. für Klin. Med., 1886, p. 445.

[8] Edinburgh Medical Journal, March, 1886, p. 834.

[9] British Medical Journal, 1886, I, p. 778.

[10] Fortschritte der Medicin, 1886, No. 3, p. 94.

[Even at the risk of being tedious, it is proposed to continue to call attention to such careful and conscientious studies as the above seems to be. The more the opinion gains ground among physicians and the public that phthisis is often curable, the more curable it is likely to prove.—REP.]

THE CONTAGIOUSNESS OF PHTHISIS.[11]

A woman whose father, two paternal uncles and an aunt, brother and three sisters, died of phthisis, and who was herself the subject of dyspnœa and hæmoptysis, married, between the years 1872 and 1883, three healthy men of sound parentage. The first marriage was contracted in 1872, and the husband died of phthisis in 1879; the second husband, married in 1879, met a like fate in 1881; the third, married in 1881, was in the last stages of phthisis in 1883, in which year the woman herself succumbed to the disease.

[This series is somewhat remarkable in that the husbands were the victims; the transmission from husband to wife is much more common than is that from wife to husband. Weber relates the case of a husband who infected four healthy wives in succession, outliving them all.—REP.]

ASPIRATION OF THE RIGHT AURICLE: DEATH.[12]

The patient was admitted into the hospital in the last stages of cardiac failure consecutive to mitral disease; dropsy, cyanosis, stupor, and dyspnœa being the prominent symptoms. Stimulants and digitalis proving ineffectual, the next day Dr. Westbrook inserted a small, hollow needle into the right auricle through the third right intercostal space, at the sternal border, and drew off eighteen ounces of blood. "During the operation the radial pulse improved somewhat, and this improvement continued for half an hour. Toward the close of the operation the patient regained consciousness. The respiration improved somewhat, and the color somewhat improved. But, after an hour, he sank again, and died seven hours after the operation." At the autopsy, besides the usual lesions belonging to mitral stenosis with failure of the right ventricle, a considerable amount of blood was found in the pericardium, and "the orifice made by the puncture was still visible, and pressure upon the heart, while, *in situ*, caused a little oozing; the auricular wall was very much attenuated from long over-distension." In other words, the immediate cause of death was clearly hæmorrhage into the pericardium through the puncture.

[Our readers may remember that this operation has been practised by Dr. Westbrook several times of late years, and has been strongly advocated by him and by Dr. Leuf, of Brooklyn, in the medical journals. It is to be hoped that the unnatural operation may now be allowed to die a natural death. In such cases as that reported, the abstraction of blood from the veins is clearly indicated, and often yields astonishing results; drugs given by the stomach are not absorbed, or fail to act. But the blood should be withdrawn either by venesection or by the application of a dozen leeches over the liver—methods which attain the same end by unloading the distended right ventricle, and in themselves involve no danger to the patient, even if, as must sometimes be the case, he is too far gone for relief. Dr. Westbrook is to be thanked for reporting his bad cases, as well as his good.—REP.]

CONGENITAL STENOSIS OF THE DESCENDING AORTA.[13]

M. Barié, having met with two cases of this condition, has been at the pains of collecting the cases reported during the last hundred years, a total of ninety-one. The paper is very full, and of the twenty-three conclusions in which it is summed up, we select those of most practical importance:

(2) The localization is constant, the stenosis occupying the region between the ascending and descending aorta, which corresponds to the "isthmus of the aorta" of fœtal life, and reaching its maximum a little below the point where the left subclavian is given off, at or near the entrance of the ductus arteriosus.

(3) The stenosis is generally single; when it is double, the interposed segment of the aorta is almost always dilated.

(8) The dimensions of the stenosis are variable: the average length is about 0,020 millimeters; the calibre varies from that of the little finger to that of a hog's bristle.

(9) The wall of the aorta is sometimes normal in other respects at the contracted point, but in more than a third of the cases atheromatous changes were found, and, exceptionally, the coats were thinned.

(10) In more than half the cases, the aortic segment between the heart and the stenosis was dilated, and death has not infrequently resulted from rupture of the aneurismal enlargement. The distant portion of the aorta may also be dilated.

(12) The ductus arteriosus is nearly always obliterated, but was more or less patent in eight cases.

(13) The condition brings in its train changes in the heart, and also in the great arteries.

(a) The cavities of the heart are dilated, and the left ventricle is often hypertrophied, changes which may be intensified by secondary valvular lesions.

(b) In consequence of the dilatation of the large arteries given off from the aorta, the circulation in the heart and upper extremities is maintained, or may be unusually active; while in the thorax, abdomen, and lower extremities it is strikingly modified, being carried on principally by branches from the subclavian.

(14) In thirty-eight per cent. of the cases there was also some other congenital malformation, such as abnormal communication between the cavities of the heart, hair-lip, cleft palate, etc.

(16) As regard symptoms the cases may be divided into three groups:

(*a*) In numerous cases the lesion was not recognized during life and was found accidentally at the autopsy.

(*b*) In other cases patients consulting a physician for some ailment were recognized as the subjects of stenosis of the aorta although this condition had not of itself resulted in any impairment of health.

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[11] Lasetsky, Revue des Sciences Médicales, 1886, I, p. 532.

[12] New York Medical Journal, 1886, I, p. 447.

[13] Revue de Médecine, 1886, p. 343.

(c) The third and largest class included those who suffered from the symptoms of chronic heart disease.

(21) The prognosis is relatively favorable, many of the patients dying in advanced years. The average age of all the cases was thirty-four years.

(22) In diagnosis, mediastinal tumor, aortic aneurisms, and all causes of intra-thoracic pressure must be excluded.

(23) The affection depended on an arrest of development of the isthmus of the aorta, which seems to be the result of premature closure of the ductus arteriosus; traction is thus exerted on the isthmus of the aorta and its physiological growth is impeded.

No satisfactory explanation can at present be given for the rare cases in which stenosis of the aorta and patency of the ductus arteriosus, are co-existent.

ENDOCARDITIS OF THE RIGHT HEART.[14]

Dr. Byrom Bramwell subjected to a careful analysis all the cases of valvular disease which came to the post-mortem table during the three years that he was pathologist to the Edinburgh Royal Infirmary. The number of cases presenting marked eye evidence of valvular disease was one hundred and thirty-one, and of these eighty-three were classed as simple endocarditis; the tricuspid valve was affected in twenty-nine per cent. of these, and in most of them the lesions were of more or less recent origin.

The following are the most important practical conclusions to which the investigation has led the author:

(1) Pathological experience shows that right-sided endocarditis is much more common than is usually supposed, and this conclusion is in no way contradicted, but on the contrary rather confirmed, by clinical evidence and clinical facts.

(2) That a tricuspid murmur occurring in the early stages of acute rheumatism in a previously healthy person who is not anæmic, is indicative of a rheumatic affection of the right heart.

(3) That although right-sided endocarditis is of frequent occurrence, it is comparatively seldom followed by permanent organic disease of the tricuspid valve; in short that right-sided endocarditis is an eminently curable affection.

If these conclusions are correct and tricuspid is less liable to be followed by permanent damage than mitral endocarditis, do we not receive from Nature an important therapeutic hint? What reason can be assigned for the relative immunity of the tricuspid other than the relatively slight strain to which it is subjected? A new illustration of the importance of rest in the treatment of acute valvular disease is thus afforded.

— The *Boston Advertiser* says: "A physician of large experience remarked the other day that when he began the practice of medicine he was worried because people put so little confidence in him, and now he was troubled because they trusted his judgment so implicitly. He seemed to think that to be thought infallible was far more burdensome than to have one's fallibility emphasized as in his younger days."

— Irish Tramp. — "Is this a lying-in-hospital, mister?" Janitor.—"Yes, this is a lying-in-hospital." Tramp. — "Then I guess it's the right place for me, for I've been lying out these three nights."

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.
SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

May 19, 1886, Dr. James R. Chadwick in the Chair.

Dr. J. R. Chadwick reported

A CASE OF EXTRA-UTERINE FŒTATION, WITH PRESENTATION OF THE SPECIMEN.

Dr. John Homans showed a very beautiful specimen, the result of an abdominal pregnancy of seven years' duration. The bones of the skeleton, almost wholly complete, had been mounted by Dr. O. K. Newell. The case is described at length in the *Boston Medical and Surgical Journal*, May 20, 1886, Vol. CXIV, No. 20.

Dr. O. W. Doe mentioned a case that he reported two years ago. It was that of a colored woman who came to the City Hospital to be treated for diarrhœa. Upon examination, a mass of bone was found projecting into the rectum. Ether was given, and the mass, which had sloughed, came away easily. The only bones in it were those of the skull. The woman's statement was that she was last pregnant eight years before.

Dr. E. G. West, whose case was the one operated upon by Dr. Homans, said that the peculiarity of the case was the two cysts beside the fœtal sac. It was a question with him whether the fœtal remains might not have been the contents of a dermoid cyst.

Dr. Fitz remarked that in the dermoid or congenital cysts one does not find such large bones as in this case, so probably these bones were the result of pregnancy.

Dr. J. C. Irish, of Lowell, read a paper entitled

DISCUSSION OF STATISTICS OF OVARIOTOMY.[1]

Dr. John Homans thought that the ratio of recoveries and deaths depended largely on the operator. For himself, he had had, out of cases entirely unselected, thirty-eight successive recoveries and sixty-seven cases, with four deaths, but this is a better average than that of the whole two hundred and fifty ovariotomies that he has done, in which the recoveries are very nearly ninety per cent. Now, by selection, this percentage may be improved. If an operator has an assistant to whom he can turn over the doubtful cases, of course he will be able to make a better showing. Dr. Homans feels that in most of his fatal cases the result is to be attributed to some omission or commission on his part — some slip up; or being a little tired, or a little hurried, and he feels this not in a morbid way at all, but only as making him take more pains and precautions with every succeeding case. Some of the deaths after ovariotomy are unexpected and unexplainable. When a simple operation is followed by death, and the autopsy shows no adequate cause, we say the woman died from "septicæmia," and so she did, but all we know is that she died in consequence of ovariotomy. If a man has a hundred recoveries in succession, it would seem as if he must have had a remarkable series of cases if they were *entirely* unselected. Experience and surgical resource goes a long way in obtaining good results. As a general rule, the earlier the operation, the better the result, but there may be such a thing as too early an operation. It will not do to wait in most cases of papilloma, but you cannot tell that the tumor is papillomatous until you remove it. There is no operation in surgery where experience is of more advantage than in ovariotomy, and one might say the same of abdominal surgery generally.

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[14] American Journal of Medical Science. 1886, I, p. 419.

[1] See page 153 of this number of the Journal.

Dr. Lyman thought that there are certain cases that are essentially fatal, and that Dr. Homans was wrong in taking any blame to himself for a certain portion of his deaths.

Dr. Kimball, in speaking of the uncertainty regarding the results of ovarian operation, remarked that now and then cases, apparently the most promising for recovery, turn out badly. By way of illustration, he said that when last in London he called on Spencer Wells, and was shown a letter the latter had just received from Keith, of Edinburgh. Wells had seen Keith remove an ovarian tumor only a few days before. The case was, in every respect, as favorable for a successful result as could be desired. To the great surprise and disappointment of both gentlemen, this patient died in three days after the operation, but from what cause no one could tell. Then again, one sometimes has to deal with a case where the conditions are such as to contra-indicate an operation. Not long since, a patient was sent to Dr. Kimball from Canada, with a view to the removal of an ovarian tumor. Upon examining her case, he found difficulty in making a satisfactory diagnosis. The history of the case, as given by a highly-intelligent physician, taken in connection with the present feeble condition of the patient, led to the suspicion that the tumor in question might be malignant. He was, therefore, in doubt as to the expediency of interfering with it. Patient and friends, however, chose to take the risk, and he operated. On opening the abdomen, he found no ovarian tumor, but instead, a marked case of papillomatous cancer of the uterus, and so far advanced in the process of degeneration as to forbid any attempt to remove it. Contrary to expectation, the patient recovered from the operation, and in less than a month returned to her home in Canada, greatly relieved. He afterwards received a note from her, expressing her thanks for the great benefit she had received from the operation, saying also, that she was hopeful of still further improvement. Of course this case must ultimately prove fatal.

He mentioned another case of a patient he was called to see in Providence several years ago. She was suffering from an ovarian tumor, which, from its history, he thought might be malignant. He advised her to return to her home in Nova Scotia before she became too feeble to get there. She was greatly disappointed at his refusal to operate, and made him promise that if she improved in health, he would go to her home and operate whenever she saw fit to send for him. She held him to his promise, and three months later he went to Nova Scotia and removed from his patient a small-sized ovarian tumor, which proved to be of a decidedly malignant character. She recovered from the operation, and for a time seemed in a fair way of complete recovery, but he has since learned that she lived scarcely a year from the date of the operation.

Dr. J. W. Elliot had operated fifteen times with one death.

He thought that the technique of the operation was well settled and could easily be learned, but the important things in keeping the mortality low were cleanliness and good judgment. He did not believe it was possible for an operator to choose his cases so as to make a good record; for, the cases that seemed the most favorable often turn out the most difficult and *vice versa*. The only fatal case he had had seemed an easy one before the operation, and yet it turned out a very complicated double ovariotomy, one cyst being papillomatous and the other having a twisted pedicle. On the other hand, he had operated with a good result on a large suppurating cyst with a temperature of 103.° and a pulse of 120, where there was little hope of recovery. In this last case it became necessary to stitch the cyst to the abdominal wall and put in a drainage tube.

Dr. Elliot was decidedly in favor of early operations; the removal of a small simple cyst was attended with very little danger, but every day the cyst remains and grows it is liable to undergo changes which more than double the dangers of the operation; for instance, it may become malignant, the pedicle may become twisted, it may become inflamed and suppurate, it may rupture and cause peritonitis, it may become complicated with pregnancy, nephritis, thrombosis, or some accidental disease. Dermoid cysts are especially liable to become adherent or suppurate. Every ovarian tumor must some day come to operation. All things considered, Dr. Elliot thought it was best to operate as soon as the tumor is discovered.

Dr. Lyman said that statistics were now of comparatively little importance. Thirty years ago very few ovariotomies had been done and it was thought by many of the most distinguished surgeons that the operation should be condemned. But others thought it had a future before it, that it required more careful investigation, beginning with unbiassed statistical inquiry. After a year's careful research he published the statistics alluded to by the chairman. Only about 300 cases which could be *fairly authenticated* could be found in American or foreign literature. These, together, gave a mortality of only forty-two per cent., notwithstanding the inexperience of that day in abdominal surgery; not more than many operations which were considered to be perfectly legitimate, comparing favorably with such as strangulated hernia or amputation of the thigh. These results awakened a new interest and under the stimulus given by Spencer Wells and others, the cases in this country and England alone are now numbered by thousands, the mortality with some operators being not far from ten per cent., and the technique has become so nearly perfect that it seems as though any further improvement must be sought for in improved methods of diagnosis.

Dr. Farlow said that the statistics of ovariotomy would be more favorable if one fact were more commonly borne in mind, especially by general practitioners: that is, the harmfulness, in most cases, of tapping and the effect that it has on the formation of adhesions. This is, of course, well known to ovariotomists and gynæcologists, but among those who seldom see an ovarian tumor the idea seems to prevail that, because tapping is useful in ascites, all collections of fluid in the abdomen can be treated in the same way and with like benefit. If, on the contrary, it could be impressed on the general practitioner, that if there is a chance of the tumor's being ovarian, it should not be tapped but let alone and sent early to an ovariotomist for examination and advice, we should find the number of deaths after operation due to extensive adhesions much less than at present.

Dr. Reynolds referred to the duty of the general practitioner in cases of ovarian tumor. He considered it a serious matter for a general practitioner to say to a woman, you have an ovarian tumor and ought to be operated upon within four weeks. You have one chance in ten of dying. The patient is in a good condition, what shall she be told? How sure is it that delay is unwise when the tumor is evident?

Dr. Homans answered, that if a tumor had been growing slowly, and was increasing in size slowly, that one need not hurry in operating; one need not hurry in removing a parovarian cyst, that is, one of the broad ligament, but symptoms of a twisted pedicle, or rapid growth of a tumor, or distress, or rapid constitutional disturbances, ought to lead to *immediate* operation. Dyspeptic symptoms, diminution in the amount of urine, œdema or ascites require prompt but not immediate (that is, within a few hours) removal of the cyst, so also would any obstruction to the circulation from pressure. In regard to adhesions it is impossible to make an accurate diagnosis; posterior adhesions are rare, and these are the ones most to be dreaded. Again, if a woman is perfectly comfortable and has very young children to care for and is near her surgeon, she might wait, while a person who was going to a distance not to return for years could not.

Dr. Homans further said, given a case of ovarian tumor that is malignant with contents looking like vaseline, what is one going to do? The cyst cannot be tapped for the fluid will not flow. Should the woman be permitted to die as she is, or should the chances of an operation be taken to give her a few months' respite when the disease will recur and she will die? He does not see how one can tell what parts are invaded. He operated the other day on a double ovarian tumor and found malignant disease, which will recur. Another case was one of papilloma. The patient had been tapped thirteen times in eleven years, and the tumors were supposed to be fibroids, immovable and irremovable, and this verdict had been given in one of the largest cities; but at last he decided to operate. The tumors were papillomatous, and in operating the bladder was cut into requiring ten stitches. The woman has gained forty pounds in weight and is now well.

Dr. Reynolds asked if much importance was given to adhesions by ovariotomists.

Dr. Irish replied that, while the omental and parietal adhesions existing in a moderate degree did not greatly increase the dangers of ovariotomy, yet extensive visceral and especially pelvic adhesions had seemed to add very much to the risks of the operation. Among the 600 cases mentioned in his paper, were found seventy-five with extensive pelvic, or with pelvic and visceral adhesions. Of this number forty-two died. Hence, in this list, adhesions of the latter character had been followed by great fatality — greater than had attended the removal of degenerate cysts.

TUBO–OVARIAN CYST. HÆMORRHAGE INTO THE TUBE. OPERATION.

Dr. Elliot showed a tubo-ovarian cyst which he had removed by laparotomy on account of hæmorrhage into the tube.

The Fallopian tube was dilated, tortuous and elongated to the extent of nearly six inches. Its wall was in general at least one-eighth part of an inch thick and in places nearly twice as thick. The outer end was connected with a sacculated cyst as large as two fists. The cavity of the cyst and the canal of the tube communicated by an opening one-eighth of an inch in diameter. The cyst represented the ovary and was inflamed and injected. There was also a cyst of the broad ligament which was as large as two fists. There was then a chronic salpingitis, a tubo-ovarian cyst, acutely inflamed and a parovarian cyst, all in one specimen. Dr. Elliot had been called to see the patient by Dr. Worcester, of Waltham, on account of pelvic inflammation and hæmorrhage from the vagina. He had found a tumor in the pelvis reaching two inches above the pubes. Twenty-four hours later the tumor was as high as the umbilicus. The temperature was 101½°. He thought it must either be an abscess or hæmorrhage into the tube, but in all probability the latter, and accordingly opened the abdomen. The tube and cyst were found greatly distended with blood and pus. The operation was exceedingly difficult. The patient recovered promptly.

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AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

Dr. Mittendorf also described a case of

MELANO-SARCOMA OF THE CONJUNCTIVA AND CORNEA.

Mrs. M., aged forty-six, came under observation August 23, 1884. In April of that year, a black spot appeared upon the lower part of the conjunctiva and was removed. When she again came under observation two other tumors had appeared. They were about the size and shape of cucumber seeds. Two or three spots looking as though ink had been dropped on the eye-ball were also noted. The tumors were movable and the conjunctiva surrounding them slightly congested. Otherwise, the eye-ball was normal and vision almost perfect. The growths did not affect the left eye which was highly astigmatic. The patient was a strong, hearty woman with no appearances of cachexia. There had been no injury to the eye and the family history was good. The pre-aural glands and those of the neck were not enlarged. The tumors were removed and the wound in the conjunctiva brought together with sutures. Healing took place rapidly.

Four months later she returned with two growths starting from the lower portion and the outer canthus of the same eye. There was also a small flat growth on the cornea, not connected with the tumors. The tumors were again removed and the patient returned to her home.

In the spring of 1886, she again made her appearance with the eye closed. There was a small tumor the size of a cherry which had developed at the seat of the former growth. The tumor with a portion of the conjunctiva was removed. A pre-aural gland and some glands in the neck were found slightly enlarged. The general health remained good. She had, in fact, gained in weight since the previous operation.

Four or five weeks ago, she again returned with another growth. The eyelids could not be separated. An incision was made and the tumer removed.

Microscopical examination showed the growth to be a sarcoma with round cells. The melanotic appearance was chiefly due to hæmorrhage in the parenchyma. Pigment granules were also present.

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[1] Concluded from page 140.

DISCUSSION.

DR. H. D. NOYES, of New York. In a case of melanotic sarcoma on which I operated some years ago, the disease has not returned.

DR. H. KNAPP, of New York. I have seen a number of these cases on which I operated as carefully as possible, but they have all after a variable period, relapsed.

DR. O. F. WADSWORTH, of Boston. I know of two cases of episcleral epithelioma which did not recur for several years after removal.

THE USE OF HOT WATER IN SOME OF THE CORNEAL AND CONJUNCTIVAL INFLAMMATIONS,

by **DR. B. E. FRYER**, of Kansas City.

In this plan of treatment, the water is used at as high a temperature as can be borne. After a few hours a temperature of 140° can be borne. The water should not be of a lower temperature than this and as much higher as the patient can stand. A method of using it is by fomentation with a napkin dipped into the hot water, not wrung out, and applied to the closed eyelids. This is continued for half an hour at a time and repeated every one, two or three hours day and night. It may also be applied by suspending a vessel above the patient and allowing the water to escape through a tube, thus keeping up a continuous action of the hot water. In some cases the temperature may be raised almost to the boiling point. During the intervals between the applications a cloth wrung out of hot water is allowed to remain over the eyes. In some cases of purulent ophthalmia, the hot water may be thrown into the conjunctival sac.

In purulent conjunctivitis this application cuts short the attack more quickly and safely than the use of ice-cold water. In gonorrhœal ophthalmia, it quickly lessens the swelling and diminishes the occurrence of ulceration of the cornea. If ulceration has commenced, it is less likely to progress and the amount of cicatricial tissue is lessened. In these cases, I occasionally use instillations of sublimate solution of finely powdered iodoform. This plan of treatment is not so readily applied in ophthalmia neonatorum. In catarrhal conjunctivitis and phlyctænular ophthalmia, it is a good adjuvant. In acute and chronic keratitis it is useful. Its most marked effects are seen in corneal ulcer. The small amount of opaque tissue left is astonishing. The pain and photophobia are also diminished by the hot water.

DR. WILLIAM F. NORRIS, of Philadelphia. I have had good results from the use of hot water in gonorrhœal ophthalmia. It is a comfortable application and several apparently unfavorable cases have gotten well under its use.

DR. SAMUEL THEOBALD, of Baltimore. I have not used hot water in purulent troubles, but in interstitial keratitis and specific keratitis its use has been beneficial. I think that it favors absorption of the opacity of the cornea. Constitutional treatment and the use of atropia of course accompanied the applications of hot water.

ASTHENOPIA, AND THE CHANGES IN REFRACTION IN ADOLESCENT AND ADULT EYES,

by **WILLIAM F. NORRIS, M.D.**, of Philadelphia.

The speaker first referred to the changes occurring in the shape of the eyeball at various periods of life. It is regarded by some as not necessary to correct slight errors of refraction, but the author considered their correction as of great importance when they produce asthenopia. By removing the trouble the congestion and softening of the eye is removed and the lengthening of its visual axis is prevented. This congestion and softening were regarded as important factors in the production of astigmatism and conical cornea.

A number of cases of diminishing hypermetropia and of hypermetropia passing into myopia were described. Diminishing hypermetropia and increasing myopia are simply different stages in a process essentially the same. They are both the result of softening of the eyeball and slow distension in the direction of the visual axis. Careful correction in these cases is one of the best means of preventing their further progress. The eyes should be carefully measured under the influence of a mydriatic. The enforced rest of the eye, thus obtained, is an important aid in diminishing the congestion. During the dilatation of the pupil, dark glasses should be used even in a mild light. All cases of hypermetropia where there is a decided difference in level between the disk and the macula should be carefully watched.

DISCUSSION.

DR. E. GRUENING, of New York. I have been much interested in one group of cases. The patient on arising has pain in the eyes with photophobia, passing off in an hour or two. He was not able to fix on any object for any length of time. There is also lachrymation. When I find such symptoms, I look into the nose and almost always find evidence of nasal disease. The nasal reflex plays an important part in our modern pathology. All the affections due to nasal irritation are increased by the recumbent position, for this favors congestion of the erectile tissue of the nose. It is not, probably, that eyes which have rested all night would manifest painful sensations, and this fact tends to exclude ordinary asthenopia in these cases. I have treated these patients by removing the nasal trouble, and in a series of 200 cases, 150 have been benefitted, while the remaining fifty have passed from observation.

The subject was further discussed by Drs. Theobald, Harland, Risley, and Randall.

(To be continued.)

ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.[1]

JULY 21, 22, 23, LONG BRANCH, N. J.

EXECUTIVE session was then called, and officers for the ensuing year elected as follows: *President*, Landon Carter Gray, Brooklyn, N. Y.; *Vice-President*, J. Van Bibber, Baltimore; *Secretary and Treasurer*, G. M. Hammond, New York; *Councillors*, B. Sachs, New York, Wharton Sinkler, Philadelphia.

A paper was read by **DR. L. C. GRAY**, on

LESION OF BOTH TEMPORAL LOBES, CAUSING ALMOST ABSOLUTE LOSS OF MEMORY OF EVENTS, WITHOUT WORD DEAFNESS, OR DEAFNESS.

Male, aged forty-three years, unmarried, with a probable history of specific disease. Patient was admitted to the Hospital for Nervous and Mental Diseases, in the early part of June, remaining there until the latter part of the month, when he was removed to the Morris Plains Asylum, where he died in October. During the whole of this time careful observation failed to detect any other symptom than that of absolute loss of memory of events without word deafness or deafness.

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[1] Continued from page 142.

At post-mortem there was found a lepto-meningitis of both the right and left temporal convolutions which meningitis also extended around the fissure of Sylvius, involving the gyrus marginalis, and the bases of the two ascending frontal and the ascending parietal. A number of letters of the patient were read which showed this peculiar loss of memory and his intellectual preservation in other respects.

JULY 21, AFTERNOON SESSION.

The **President** then called for discussion of Dr. Gray's paper.

Dr. Wilder said that he had not quite understood the lesion Dr. Gray referred to in his paper. Dr. Gray replied that meningitis was the only lesion in the case.

Dr. Zenner, of Cincinnati, Ohio, asked to what extent the cortex was affected. Dr. Gray replied that both temporal lobes were softened and the layer of grey matter much less than any other portion of the brain. No microscopical examination was made.

Dr. Zenner asked if there was any confusion of speech. Dr. Gray answered he was told there was none at all, and he knew there was no evidence of it in his letter.

Dr. Zenner remarked he would not like to accept a case like this where softening was not detected, as refuting the ideas which have been generally accepted that the temporal convolutions were the receptacles of speech so to speak; for a meningitis does not necessarily rob the parts underneath of their function.

Dr. Gray stated that both temporal and sphenoidal convolutions were softened.

Dr. Zenner thought that could have occurred in the last few days of life. As regards the temporal convolutions being the seat of hearing he thought that had been less definitely established: that it was only one of the organs in physiology; and that there was nothing which he knew of in pathology which would establish the temporal convolutions as the seat of learning, but lesion of the temporal had been established to result in word deafness.

Dr. V. P. Gibney, of New York, then read a paper on

PSEUDO-HYPERTROPHIC PARALYSIS,

illustrating the same with a case and presenting specimens from the spinal cord which had been secured at the post-mortem, and afterward prepared and mounted by Dr. Amidon.

The Doctor remarked that he did not propose to advance any startling or new theories, but he wished to put a case on record substantiating the appearances of those microscopic specimens presented by Dr. Amidon. Until recently he had been under the impression that the lesion of pseudo-hypertrophic paralysis was more frequently located in the spinal cord. He spoke of the lesions occurring in the spinal cord and those originating in the muscles themselves, and which of late have been the subject of much discussion.

The case, on which the paper was based, came under the author's care on April 10th, 1878, and was seen almost daily for one year, and since that time has reported occasionally; death resulting from catarrhal bronchitis on December 30, 1885. The patient was a male, eight years of age when he first came under Dr. Gibney's care; the loss of power dated from the second year of his life; no medical advice in particular was secured until he was six years of age, now some ten years ago. The father, mother and children, some four or five in number, have all some peculiarity of speech. Three children had died from tuberculous meningitis, so reported; one brother, two years younger than the subject of the history, is affected in the same manner and his case is progressing the same way.

Dr. Amidon then presented the specimens under the microscope mentioned by Dr. Gibney: he also exhibited some sections of a normal spinal cord showing the contrast between the healthy and diseased cord.

The **President** then called for the discussion upon the paper.

Dr Gibney asked if there was any cord lesion in pseudo-hypertrophic muscular paralysis, whether the latter stages of this disease are distinctly clinical or whether they run one into the other.

Dr. G. W. Jacoby, of New York, remarked, the last time he had the pleasure of demonstrating a case, and in seventeen cases recorded, there was no change in the anterior cord; but on the other hand there was in the muscular tissue a shortening of the fibres, an increase of connective tissue and an increase of fat. In some cases there was no reference made to the motor nerves in the muscles themselves.

In others where pieces of the muscular tissue had been removed and examined microscopically, atrophy of the terminal filaments of the motor nerves was found with other changes. I would ask Dr. Amidon whether he paid any attention to that.

Dr. Amidon replied that Dr. Gibney had sent him a portion of the dorsal muscles for that purpose, but he had not yet examined it.

Dr. Sachs remarked that the subject of the paper was of practical interest at this time in neurology as we had had an era in which diseases of the brain were discussed mostly. Then there was an era of interest in the peripheral nerves. The doctor thought that in direct distinction to Charcot's school we must take into consideration what Ayers had done. He supposed that all knew that this condition was common in the young, but there was another form which was called juvenile muscular atrophy; juvenile atrophy would probably be classed as a motor and spinal cord affection. He thought there was one clinical point which would enable us to establish a differential diagnosis, and that would be in regard to the electrical reaction, if the affection is peripheral only, the electrical action might slightly diminish or increase, but where degenerative action has occurred the reactions are not altered.

Dr. Zenner remarked that we knew that a change in the muscular tissues produced by disease, will produce a change in the ganglionic cells. He thought that where the disease commenced in the muscles and nerves, there would be but slight change in the cord. Perhaps only in the size, and no change otherwise in the inter-cellular tissue: and it seemed as though the change there might be secondary and that the extensive disease in the periphery is primary. He thought however that where there is extensive disease in the anterior portion of the cord the disease would be primary, but that the slight change would be secondary.

Dr. Gibney remarked that it was true that peripheral lesions might cause central troubles probably travelling in along the nerve filaments, but there was no decided proof to that effect. In some cases there is a neuritis produced in animals where caustic has been used as also as in human beings where it has been used upon the scrotum or testicles. One of these cases that I have known of peripheral disease bas been of a decided nature.

Dr. Massey, of Philadelphia, thought that if there was no life in the muscles the cells would be affected.

Dr. Zenner explained that he had in view at the time he spoke the idea of serious injuries, as for instance, the loss of an arm, after which atrophy had been found in the brain or cord.

Dr. Mills asked an opinion as to the difference between pseudo-hypertrophic paralysis and muscular atrophy: stating that one of the brains he exhibited in the morning was from a youth who presented these two diseases together. He was one of three brothers in all of whom these diseases were conjoined. Some portions of the muscles were removed and a published report appeared some years ago of the same by Dr. Curlin. The doctor's own convictions were that these two diseases were practically the same thing rather than original central affections.

Dr. Lloyd then stated that he had reported the case of a female in whom pseudo-hypertrophic paralysis and atrophy of the muscular tissues was combined, there was wasting of the calf muscles and also those of the forearms but there remained some faradic contractility; the loss of muscular power was so great she could hardly raise her head from the pillow. There are also marked changes in her joints, there being hardly any olecranon process left, and the patellæ being only one-third of their normal size.

Dr. Gray remarked that he had a case in his wards who had been some six or seven years in dying; he has grown enormously fat for the reason he has been kept quiet; he is helpless in his lower extremities and almost so in his upper ones, but he takes an enormous amount of food, and to look at him, one would suppose it to be a case of pseudo-hypertrophic muscular paralysis.

Dr. G. M. Hammond, of New York, remarked that the destruction which occurred in the cells should not necessarily produce destruction of the spinal cord or atrophy, but if the disease extended from the muscles up the nerves it might do so.

Dr. Amidon said that he thought they came under progressive muscular atrophy and therefore there would not be any caving-in — so to speak — of the spinal cord.

Dr. Hammond replied that a disease which commences in the spinal cord might be extensive enough to produce caving-in of the anterior horns whereas in the specimens shown the horns seemed to be in very good shape and the disease involves the cells.

Dr. Durkem, of Philadelphia, thought that point was well taken, for in some of his specimens there was absolutely no change in the contour of the horns. He considered that in this disease there was an atrophic condition of the cells more purely; there is not an active inflammation but simply a shrinkage and gradual disappearance of the cells.

Dr. Gibney in closing the discussion thought the absence of the cells and slight loss of contour sufficient to account for the great muscular changes. But upon this point he was not satisfied, as to whether the loss of function and tone would not of itself account for the disappearance of the cells and their shrinkage.

Dr. Sarah J. McNutt, of New York, read a paper upon

MULTIPLE TUMORS OF THE CEREBRUM, PROBABLY OF SPECIFIC ORIGIN, OCCURRING IN AN INFANT.

The history of the child was as follows: Female, one year of age; was a nursing baby and owing to the carelessness of the mother was frequently exposed unduly. Parents both addicted to drink but no specific history or phthisis could be discovered, they were apparently fairly healthy.

The child on being admitted to the ward had a temperature of 102½°, pulse 160, respiration 44: there was occasional twitching of the extremities, head rolling and thrown from side to side. In the lungs râles were distinct, also dulness in places with bronchial respiration. The temperature gradually rose in spite of all treatment and death occurred twelve hours after being admitted to the hospital.

The autopsy revealed in the lower lobe of the left lung a yellow caseous mass about the size of two peas, the liver also being affected in the same manner, varying from the size of a millet seed to a pea; in the spleen were found deposits of the same; the intestines being also ulcerated in several places. The brain large and soft, was much distended by dark venous blood, but no evidence of thrombosis appeared; the pia-mater was congested and in some of the fissures pus of a greenish and yellow character was discovered. Both Sylvian arteries were nodulated and apparently thickened. In the left ascending frontal convolution just beneath the surface, were two caseous nodules the size of marbles which shelled out as though encapsulated. Similar nodules were found in the parietal and occipital lobes. Under the microscope these nodules revealed an abundant cellular formation, interspersed with thickened bloodvessels and cheesy zones.

The writer of the paper thought that syphilitic lesions of the young are rarely diagnosed, and considered this to be a marked case of gummatous infiltration; concluding that in the treatment of these cases we must rely on mercury promptly exhibited, but that of all methods inunctions seemed to afford the best results, the gummata in children apparently belonging to the secondary instead of the tertiary stage.

Dr. Wilder asked what was the composition of the nodules.

Dr. McNutt replied they were vascular and filled with large round cells.

Dr. G. Belton Massey, of Philadelphia, read a paper on

THE CAUSE OF ELECTROTONUS AND THE NORMAL FORMULA OF POLAR REACTIONS.

which was discussed by Dr. Jacoby and Dr. Gray.

July 22. — SECOND DAY. — MORNING SESSION.

Dr. Jacoby read the

REPORT OF THE COMMITTEE ON ELECTRICAL DOSAGE.

"That special rules for the application of electricity did not exist. Individual differences between patients and diseases make this impossible."

"They advocate measures adopted at the National Medical Congress, 1886, as recognizing certain electrodes."

"Knowledge of the current strength is not sufficient to know."

Report accepted and recorded in the proceedings of the Association.

Dr. Gray believed some thought should be taken of the substance of which the electrodes were made, and also as to the coverings of them as it would make a great difference in calculations; again, with what the sponges are wetted would make a difference, the temperature of the water must be taken into consideration; his rule being to use water as hot as the patient can bear it. The question of a galvanometer should also be considered.

Dr. Mills replied there was nothing in the resolution which would disband the Committee.

Dr. Lloyd stated that he had felt a great deal of dissatisfaction in using electricity especially in electrogynæcology, because he did not know what strength would produce certain effects; the area of surfaces making differences in the strength; the question to decide is how much current will produce catalytic action; for instance, if you want to promote absorption of an inflammatory deposit in pelvic cellulitis or in stricture of the urethra, etc.

Dr. Webber stated that as far as his experience went, an electrode, no matter of what it was composed, should be if possible square; he had discarded the use of oval ones. He thought the dosage of electricity an individual matter and that no committee could lay down laws for its administration.

Dr. Massey thought there should be a standard milliampere, but unfortunately we have not any milliamperes that are the same unless very expensive. He thought it desirable the Society should purchase a good meter for the use of instrument makers, to be left in New York City. He thought the Committee had devoted too much time to therapeutics, the points to be gained are the determination of milliamperes; for instance how many milliamperes are required to produce a contraction in a certain muscle. He had recently made some preliminary experiments in that direction with the cathodic closure and the anodic closure; he thought a certain number of observations on normal muscles were necessary to determine the number of milliamperes required to produce a contraction.

Dr. Jacoby, on behalf of the Committee, replied as follows: I feel that the fine idea of the Committee is lost to view. It was on dosage, not galvanometers, that it was formed. It would be a work of years and years and not the work of a committee of three men alone. Remarks as to the covering of electrodes did not enter into our consideration. Ohm's law covers that. If the resistance is increased, current strength must be increased. The reason that no particular galvanometer was recommended was because they did not care to recommend any particular instrument maker; all galvanometers have their objections; this must be left to individual choice. It would be a difficult matter to find a standard galvanometer, it would be difficult to find one remaining the same after a year. The best and most delicate he had ever used changed. They are subject to magnetic influences. As regards the amount of current strength required to effect a certain result; if the Committee were to inform the Association that a certain number of milliamperes would cure a certain disease, it would be only individual experience. As regards the question of electrical dosage, there again you will obtain a contraction with the danger of the same result. He did not think absolutely normal muscles would give you similar contractions. The recommendations of the Committee are a plea for accuracy, to use the milliampere as has been done; but when you do, describe the amount of current used, give the number of milliamperes and style of electrode used.

Dr. Amidon then showed a photograph sent by Dr. Correll, of Zurich, of a microcephalic girl who had three sisters also afflicted in the same manner, and who had since died. The parents were natural in appearance and enjoyed good health.

Dr. Wilder stated that he wished to retract what he had said yesterday in relation to the brain of the Chinaman: he had since had an opportunity of carefully examining the same, and thought it the most remarkable brain he had ever examined, although there was nothing to point to its Mongolian origin. It presented some remarkable features, and in a great many ways pointed to an ape ancestry.

NOTES ON THE BRAIN. AN ADDITIONAL CASE OF INDEPENDENCE OF THE PAR-OCCIPITAL FISSURE,

by Dr. B. G. Wilder.

The writer, in his recent paper on the par-occipital fissure stated that among forty-three reliable specimens and figures accessible to him, the par-occipital was continuous with the parietal in twenty-one, and independent in twenty-two.

The brain of a negro child at birth, lately prepared by him, had two fissures wholly independent on the right, and barely united by a shallow junction on the left side.

The ental correlative of the occipital fissure in an early fœtus — in a fœtus estimated to be about three months of age — as shown in the accompanying photograph. Opposite the occipital fissure there was a distinct ental ridge, so that the entire thickness of the wall was there folded. A similar ridge is figured by Tiedman but not named or described; by further observations he could not determine upon as to whether it disappears in the adult or persists as a more or less distinct elevation known as the bulbous cornu posterioris or eminentia splenalis. Even if transitory, it adds another to the list of total fissures, including the calcarine, hippocampal, collateral and Sylvian.

POINTS ILLUSTRATED BY THE TRANSECTION OF THE FŒTAL BRAIN.

Six points of morphological interest we note, most of them indicating that the thalami increase in width as development proceeds, so that in the adult human brain they form, or seem to form, part of the floor of the proiœtes or lateral ventricles, which is not the case in other mammals, excepting, perhaps, the primates.

Dr. Mills then presented the brain of a baboon and of a negro sent by Dr. Formad, of Philadelphia.

Dr. Leonard G. Weber, of New York, read a paper on

SOME AFFECTIONS OF THE NERVOUS SYSTEM ASSOCIATED WITH TUBERCULOSIS.

Dr. Weber remarked that in phthisis there was a condition of the mind in which cheerfulness predominated, but there was one in which the most gloomy thoughts were indulged in, frequently ending in insanity, and it was of this latter that he wished to speak. He illustrated his remarks with clear but somewhat lengthy histories of two cases, describing at length the well-known symptoms involved; he thought that rest-hygiene, somewhat like Dr. Mitchell's plan, was the proper treatment, but in these cases the difficulty was to make them rest, as it would be an extremely difficult matter to confine such patients to bed. He thought that in those cases where mental aberration occurred it was desirable to examine the lungs, as often the mental symptoms appeared long before any positive diagnosis of phthisis could be made.

Dr. Gray remarked that these cases had puzzled him sometimes, so much so, that he had sent his patients to a specialist in auscultation for an examination of the lungs. A case was quoted by him in which the mental symptoms predominated, and a consultation was called as to what really was the trouble; the patient died. At the autopsy, signs of tuberculosis were discovered. He thought Dr. Weber had looked at the prognosis of these cases in a rather too despondent manner, as be knew of several cases which had recovered and enjoyed excellent health. As to treatment, he agreed with Dr. Weber; the point is to secure absolute restriction of all expenditure of energy, giving them the largest quantity of food they can take.

Dr. Weber replied he was glad to hear hygienic measures emphasized, and also the great point of diet discussed; that in Germany this was very fully realized, and he had himself, while visiting there, seen it carried out with excellent results.

Dr. Van Bibber, of Baltimore, stated that he was in the habit of seeing a great many cases of melancholia, and that he made it a custom to always examine the lungs.

Dr. Parsons, of Sing Sing, N. Y., stated that he had had charge of a large number of cases of melancholia, and he had noticed the frequency with which phthisis was associated with it, and he had observed that frequently the disease of the lungs would run into the second, and even the third stage without objective symptoms.

AFTERNOON SESSION.

Dr. Wilder exhibited a frog which he had decerebrized more than seven months ago. The wound healed perfectly, and the animal has enjoyed good health ever since; the operation was performed on December 9th, 1885. A minnow or piece of fish is given to him twice a week, but it requires two persons to feed him, as one has to open his mouth, and the other puts the food in, and here a curious phenomenon presents itself — that if a piece of the minnow's tail projects from his mouth, the frog, while making an effort to swallow the fish, will, with its fore-feet, endeavor to pull the fish out of its mouth. The movements of the frog also are self-induced, for after remaining in one position for some time, he will slightly change his position. If placed upon a convex surface, and this be slightly revolved, he will endeavor to balance himself. The writer sometimes, while carefully observing him, would notice that he would wink with only one eye, but, when irritated, he would wink both eyes. He also wondered whether the animal ever slept, as on the least jar, when apparently asleep, he would instantly open both eyes. (The frog was then fed before the meeting, and exhibited the phenomenon described). Dr. Wilder remarked that he would like to know if a frog, under these conditions, could be educated. Just before coming into the meeting, while removing the frog from his box, one of his hind legs was accidentally broken, but it does not appear to cause him any inconvenience, and apparently no pain is felt. This frog also can be laid upon its back, and will remain there without any aid of mesmerism. The question also occurred to him whether this frog was capable of procreating his species.

Dr. Gray asked if he had ever hypnotized that frog.

Dr. Wilder replied he had not.

Dr. Mills thought it would not have that part of the brain to be hypnotized.

Dr. Sachs stated that he was in Gault's Laboratory for some time, and saw frequent exhibitions of frogs, but nothing was removed; the parts were simply severed. He thought Dr. Wilder's method more thorough, and was surprised to see the frog live so long; he then asked Dr. Wilder if he had ever put a block of wood in front of the frog and then irritated it, to see if it would jump over it or avoid the obstacle.

Dr. Wilder replied that he had not.

Mr. Jastrow, of the Johns Hopkins University, stated that he had a series of frogs at one time. First, normal; second, the same as this one; third, the optic lobes were also removed; fourth had everything removed. He had found that the more you removed, the more readily would the frog remain upon its back.

Dr. Wilder remarked that when the parts were severed subcutaneously, there might be a question whether union did not occur.

Dr. Zenner stated that, in the hands of some experimenters, there had never been reproduction in the cord, but he did not know how it was in the brain.

Dr. Gray suggested applying a little acetic acid to one of the frog's legs, to see if he would try to brush it away.

Dr. Wilder replied that he had not neglected to do so, and with the usual result.

Mr. Jastrow said he found a frog that had lost one leg; he applied a little acid to its body; first the animal tried to brush it off with his sound leg, and afterwards with the stump of the other.

(To be continued.)

— According to a recent writer in the *Nineteenth Century*, the average number of days of sickness of the better class of Englishmen in middle life are about four days per annum. According to statistics derived some years since from the records of the mutual benevolent societies, whose members are drawn from classes not well situated in a hygienic point of view, and who report themselves as "sick," when having only local injuries incapacitating them from use of the hands, the number of days of illness in the lower classes, among men of middle age, was six days per annum.

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LITHÆMIA.

The term lithæmia is now applied to a morbid complexus in which there are various nervous symptoms (vertigo, certain obscure neuralgic pains, palpitations, cramps and muscular twitchings, lassitude and irritability of temper) associated with an excess of urates, and frequently of oxalates in the urine. In accordance with modern views of the metabolism of albuminoids, the liver has been supposed to be the principal source of uric acid production, as well as the seat of that "metabolic neurosis" which finds expression in lithæmia, oxaluria, and glycosuria. In short, there has been a partial return (with clearer notions, however,) to the old humoral pathology, which ascribed a whole series of disorders to peccant principles in the blood, and we are now taught, as a deduction from important experimental facts, that there is a gouty diathesis, which, in its grave form, is gout, in its mild form is lithæmia.

Public attention was called to the "nervous symptoms" of lithæmia by an article by Dr. Da Costa in the *American Journal of Medical Sciences* for October, 1881, and subsequent articles by Lyman in this Journal,[1] by Bartholow in "Pepper's System of Medicine," by Dana in the *Medical Record*, have tended to confirm or qualify Da Costa's views. Da Costa and Lyman have laid much stress on vertigo as a symptom of lithæmia, and the disappearance of this symptom under careful dieting, with exercise and a suitable eliminative treatment. Bartholow includes under the symptoms of lithæmia, derangements of the digestive organs and liver, of the circulation and nervous system. The subjects of lithæmia have the symptomatology of gastro-intestinal catarrh, with headache, frontal and occipital, dizziness, tinnitus aurium, nervous irritability, and despondency; they are subject to neuralgic attacks, have aching in their limbs, and more or less burning in the palms and soles.[2] Bartholow explains these symptoms as due to "deficient oxidation" of urea in the liver. "When albuminoid matters are taken in excess of the power of the system to convert them, or when the supply of oxygen to the blood is deficient from any cause, urea is not formed, but uric acid, and urates are abundantly excreted by the kidneys;" this excess of urates constitutes lithæmia.

At a meeting of the Practitioners' Society of New York, December 4, 1885, there was an interesting discussion of a paper by Dr. C. L. Dana, on the "Relation of Lithæmia, Oxaluria, and Phosphaturia to Nervous Symptoms."[3] Dr. Dana took the ground that there is no such thing as a lithæmic or uric-acid diathesis. There are, however, morbid conditions of the nervous system which are associated with excessive acidity of the urine, and excess of uric acid in the urine. The morbid nervous symptoms in these cases are those of gastric neurasthenia, lighter forms of nervous irritation, great nervous irritability, vertigo, bad sleep, hypochondriasis, etc. The lithæmic state is one allied to gout and rheumatism, rather than identical with either. Besides the ordinary and recognized divisions of neuroses — motor and vaso-motor, trophic and secretory, sensory — Dr. Dana would make a fourth class, the *metabolic neuroses*, glycosuria and lithæmia being included under this head.

In the discussion which followed, Dr. W. H. Draper expressed the belief that the lithæmic state (which he was inclined to regard as a diathesis whose aggravated condition finds expression in gout, rheumatism, and diabetes), is often responsible for chronic catarrhal affections of the gastro-intestinal tract, and even of the respiratory tract. The nervous disturbances he attributed to vaso-motor derangements provoked by the poisoned condition of the blood. Dr. E. D. Hudson, Jr., had come to the conclusion that the majority of neurasthenic cases were of lithæmic origin, and that the liver was the organ especially at fault. It seemed to him evident that most of these cases occurred in persons of rheumatic or gouty diathesis, and he had observed the transition, in a patient, from acute and sub-acute rheumatism to lithæmic symptoms. Dr. G. B. Fowler was disposed to refer lithæmia and oxaluria to interference with digestion, and imperfect oxidation of albuminoids.

Dr. A. A. Smith stated that he had been led to regard deranged states of the alimentary canal, and especially of the liver as at the bottom of all symptoms included under the names lithæmia, phosphaturia, oxaluria. When he became actively engaged in practice he found that his teachers had paid too little respect to the liver. His own respect for it was constantly increasing. Even in malarial poisoning he would give a cholagogue, not before giving quinine, but in connection with it, in short, in most of the cases under consideration persistent treatment directed to the liver would effect a cure.

In this discussion there was a striking unanimity as to the value of a diet in lithæmia largely nitrogenous; the withdrawal of carbo-hydrates and saccharine foods; the use of alkaline remedies, and mild cholagogues, and the administration of nerve tonics such as strychnia.

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[1] G. H. Lyman in Boston Medical and Surgical Journal, Dec. 13th, 1883.

[2] Bartholow in "Pepper's System of Medicine," Vol. II, p. 970.

[3] Medical Record, January 16, 1886.

The discussion at the meeting of the Association of American Physicians at Washington in June last[4] on the question. "Does the Present State of Knowledge justify a Clinical and Pathological Correlation of Rheumatism, Gout, Diabetes and Chronic Bright's Disease," was opened by Drs. James Tyson and W. H. Draper, and was participated in by Drs. J. T. Dana, Horatio Wood, A. L. Loomis, William Pepper, A. Jacobi, E. G. Janeway and others. This discussion was so recently reported that it is unnecessary to more than refer to it. Those interested will find there the present mental attitude toward this subject of some of the leading clinicians and pathologists in the United States.

The problem of how from retrograde food or tissue elements, uric acid may be generated in such excess as to poison the economy has of late occupied the earnest attention of physiological chemists, notably Schultzer, Nenki, Salkowski, Hoppe-Seyler and Latham. It may be that valuable results, with an important bearing on the therapeutics of the future have been attained. The metabolism is of an exceedingly complicated nature, with what success the formula has been worked out may be judged by the synopsis given below of Latham's valuable contribution in the London *Lancet* (Vol. I, 1886):

> In order to study the changes which take place in the tissues in rheumatism, gout and diabetes owing to abnormal metabolism, the first consideration is to determine as far as it may be possible the structure of the molecules of living tissues, and then what changes take place on the death of the molecule. Lieberkühn gives the formula of albumen as $C_{72}H_{112}N_{18}O_{22}S$, and from the decomposition of albumen may be obtained aspartic acid, glutamic acid, acids of the lactic acid series, ammonia, glycocine (glycocol or amido-acetic acid), leucine, tyrosine, and other amido-acids. It is well known that lactic acid and the amido-acids can be prepared from a particular series of cyanogen compounds, the cyanalcohols, of which the type is $C_xH_{2x}\left\{\begin{smallmatrix}OH\\CN\end{smallmatrix}\right.$. These cyan alcohols are unstable bodies, and possess some of the properties of living tissue, namely, that of undergoing intramolecular change, and also that of condensation.
>
> Further, the cyan alcohols can be formed from the amido-acids as leucine and tyrosine, which exist in the intestine, and which are also converted into urea in the liver. (In yellow atrophy of the liver, urea disappears from the urine and is replaced by leucine and tyrosine). In the normal condition the urea which is excreted by the kidneys, enters the circulation with the blood which issues from the liver.
>
> Pflüger attributed the functional metabolism of protoplasm, by which energy is set free, to the conversion of unstable cyanogen compounds to less energetic, stable amines, of which Wöhler's conversion of ammonium cyanate into urea by heating is a type: ammonium cyanate, $CNO{\cdot}NH_4$ is a type of living protoplasm, urea $CO(NH_2)_2$ of dead protoplasm.
>
> By combination of amido-acids with dehydration, molecules would be formed containing the group CNOH, characteristic of cyanalcohols, this group arising from the dehydration of the acid-group $CO{\cdot}OH$ and the amido-group NH_2. Since, further, this group CNOH possesses a marked tendency to condense — as CNOH, cyanic acid to $(CNOH)_3$ cyanuric acid — by combining different cyanalcohols with tyrosine, we might have a molecule
>
> $$C_6H_3\left\{\begin{array}{l}OH\\ SO_2OH\\ CH\cdot CN\cdot(CH_2\cdot CNOH)_5\cdot(C_2H_4\cdot CNOH)_3\cdot(C_3H_6\text{-}\\ \quad CNOH)_3\cdot(C_4H_8CNOH)_3\cdot(C_5H_{10}\cdot CNOH)_3\cdot OH \text{ or}\end{array}\right.$$
>
> $$C_{72}H_{118}N_{18}O_{22}S$$
>
> which differs by H_6 only from Lieberkühn's formula for albumen. When such a molecule, held together by a force vital or otherwise, is decomposed, the CNOH group would be broken up and among the decomposition products might be acids of the lactic acid series, ammonia, glycocine, leucine, tyrosine, creatine, creatinine, urea, and carbonic acid, the products depending upon the mode of decomposition.
>
> In the case of rheumatism and gout, the morbid product is uric acid, and not as formerly supposed, lactic acid, which is present merely as a result of the decomposition spoken of. The uric acid is due to defective metabolism and is a condensation product of the amido-acid glycocine, with urea, a condensation which may be artificially carried out. The process is as follows: The glycocholic acid (a compound of glycocine and cholic acid) of the bile enters the intestine and after it has served its purpose in digestion, the glycosine is returned to the blood. This with other amido bodies as leucine and possibly tyrosine, the products of digestion of albuminous food, is carried by the portal vein to the liver, and there converted into urea. When, however, this metabolism of glycocine in the liver is interrupted, whilst leucine and tyrosine still undergo normal changes into urea, we have in the liver glycocine and urea, which by dehydration become hydantoin, and this being easily soluble, passes into the circulation. In confirmation of this we have the experiments of Schiffer, in which, after the administration of sarcosine (methyl glycocine), methyl hydantoin was found in the urine. The hydantoin reaches the kidneys and is there condensed with urea (or biuret, a condensed urea) into ammonium urate. If the kidneys are sound, unless in large excess it will be excreted as fast as formed, and there will be little if any overflow into the circulation; when the urine is alkaline it will appear as urate of ammonium, sodium, etc., if other acids are formed at the same time and eliminated by the kidneys, the uric acid will according to the amount give rise to gravel, renal or vesical calculi. But if the kidneys become weakened or overflow, a portion of the urate will pass on into the circulation, and meeting the soda of the blood will be converted into sodium urate, in which form, it is deposited about the gouty joints; and being toxic it will act upon some portion of the nervous system, causing irritability, gloom, cephalagia, vertigo, palpitations, etc.
>
> If uric acid is the poison of rheumatism and gout, the treatment should aim to prevent its formation and to promote its elimination. If the formation can be prevented, the kidneys will in time accomplish the elimination. Since the formation of uric acid depends upon glycocine, by seizing and eliminating this we may accomplish the end. When benzoic acid is introduced into the system of a mammal, it appears in the urine as hippuric acid, which is a condensation product of benzoic acid and glycocine. We can conceive in this case that the benzoic acid may combine directly with the glycocine to form hippuric acid, $C_6H_5{\cdot}CO{\cdot}NH\,CH_2{\cdot}COOH$: or that the benzoic acid unites with the cyanalcohol $CH_2{\cdot}CNOH$, which is the antecedent of glycocine, forming living hippuric acid, $C_6H_5\,(CNOH)\,CH_2{\cdot}COOH$. When instead of benzoic acid, salicylic acid is used, the result is similar, salicyluric acid being formed. When the function of the liver is so interfered with that there is imperfect metabolism of glucose in passing through the organ, we have glycosuria, in which we are sure to witness marked mitigation by a careful diet, and abstention from saccharine and starchy food. But in other cases the diet seems to have much less effect in controlling the symptoms. If in the decomposition of albumen before spoken of, the group $CH_2\left\{\begin{smallmatrix}OH\\CN\end{smallmatrix}\right.$ should be detached and hydrated to glycollic acid $CH_2\left\{\begin{smallmatrix}OH\\COOH\end{smallmatrix}\right.$, and only partially oxidized, there would be formed carbonic acid, water, and methyl aldehyde HCHO, which as in plants might condense to glucose.
>
> Should the group $C_2H_4\left\{\begin{smallmatrix}OH\\CN\end{smallmatrix}\right.$ be similarly hydrated to lactic acid, and partially oxidized, we should have aldehyde $CH_3{\cdot}CHO$, which by condensation would become paraldehyde $(CH_3CHO)_3$, a remedy recently introduced as a hypnotic, and hence the drowsiness which appears in some stages of diabetes.
>
> And again, the group $C_3H_6\left\{\begin{smallmatrix}OH\\CN\end{smallmatrix}\right.$ would yield similarly acetone $CO(CH_3)_2$, which appears in the urine toward the termination of the disease.

Researches such as these must still be regarded as mainly speculative, though interesting and suggestive, and doubtless giving unmistakable indications as to the direction in which chemical pathology is tending.

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[4] Journal, June 30th, July 6th.

SYPHILIS IN COREA.

We have previously on more than one occasion quoted the Medical Reports of the Imperial Maritime Customs of China. Their object is to procure and disseminate information in regard to disease among foreigners and natives in China. The last number of the series contains a report from Dr. H. N. Allen, on the health of Seoul, the capital of Corea, which is exceedingly interesting as an account of a little-known nation, but is most striking in the prominent part which it attributes to syphilis in the native pathology. Dr. Allen does not so state but it is very evident from his account that practically no treatment is available for this disease except through foreigners, so that his report may serve to give us an idea of the natural history of a nation in which syphilis is not only allowed to run its course unchecked, either by governmental regulation or by medical treatment, but is fostered by the habits of the people.

The people are married early and plural marriage is the common rule. Concubinage is recognized and a class of "dancing girl" prostitutes is largely blamed for the spread of syphilitic affections and gonorrhœa. Chancroidal ulcers about the anus occurring in boys led to the discovery of unnatural practices which the report mentions but without details. "Gonorrhœa seems as inevitable as ague and does not alarm the patient. The people distinguish between the various veneral troubles and have separate names for gonorrhœa, syphilis, and the primary sore." The discharge and painful urination in gonorrhœa is all that they wish treatment for; the presence of gleet seems a matter of little concern to them. "Chancres in all stages" are frequently seen; chancroids more often. Constitutional syphilis is known as the Chinese disease, and is almost a constant factor which must be considered in making up nearly every diagnosis. It is known to be the cause of the frequent abortions and the children that survive have very often ugly notched teeth.

Leprosy is also abundant, occurring in all its forms. Many of the patients are beggars who are not well posted in their family history, but from the disconnected accounts it seems probable to Dr. Allen that the disease is often hereditary. Leprosy and syphilis are often co-existent and iodide of potassium and iron worked quite a change up to a certain point. This has given rise to a report that foreign medicines will cure leprosy and as a result victims come from distant provinces with large certificates bearing the stamp of the various governors through whose territory they have passed to the effect that the bearer is worthy, etc. The report makes mention of certain cases in which the frontal bone is carious and the nose eaten away. The diagnosis in these nose cases proved difficult and the question between syphilis and leprosy was left to treatment.

Eunuchs are very commonly met; they are intended for service at the palace, yet they usually have their own homes and women. A Eunuch's "compound" is known by its usually having only one gate, instead of the usual gate for men and another for women. This is said to be a necessary precaution for keeping the women in as they do not like their masters and are apt to run away. One case of gonorrhœa presented itself in the person of a eunuch. The operation of castration usually consists in ablation of the testes only, but in some cases all the appendages are said to be removed.

Malaria occurs in all its forms, tertian, quartan, and quotidian; double quartern and double quotidian; "in fact the patients seem so over-charged with the poison that they only come out of one paroxysm to go into another." Very naturally masked forms also occur as brow ague, when syphilis and malaria sometimes join forces and pains occur every other night, in which cases quinine and the iodide need to be united.

Appended to the report is a list of the out-patients treated during the first six months after the establishment of the hospital at Seoul. It bears evidence of being the work of a man more interested in his cases than in the compilation of statistics but its figures are very interesting. It shows a total of 7,234 cases: of these, chancre and syphilis count up 868, and other headings must contain many cases of the same nature, as nocturnal pains, 50; necrosis frontal bone, 6; iritis, 6; enlarged cervical glands, 176; ulcerated throat, 60; In addition there were chancroid, 200, gonorrhœa, 196, gleet, 47.

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MEDICAL NOTES.

— Dr. George Sturge in a letter to the *British Medical Journal*, lamenting the inadequacy of the Hospital Sunday offerings to support the expenses of the London Hospitals, says that these institutions altogether expend the sum of £10,000 annually for alcoholic liquors, of which a large portion is consumed by the medical staff.

— During the past year, wild beasts and snakes were unusually destructive to human life in the Central Provinces of India, there having been an increase of 262 in the number of persons killed, as compared with the preceding year. Of wild beasts, tigers, of course, were the most destructive, their victims numbering 110, against 98 in 1884, while the number of tigers killed was only 221, against 260. The death from snake-bite last year amounted to 1,066, against 797 in 1884, while only 1,997 snakes were killed, as compared with 2,378 the previous year.

— At this season of the year the *Northwestern Lancet* opportunely calls attention to the value of watermelons as a diuretic, because at this time the fruit can be obtained at the greatest advantage. There is, however, a preparation called honey of watermelon whose diuretic action is most striking. A Russian physician has recently made experiments both with fresh juice and the syrup, and has been able to increase the daily flow of urine by three or four times. The treatment is well worth trying, not only in dropsies from various causes but in gonorrhœa, cystitis, and other affections of the genito-urinary tract where it is desired to produce an abundant and bland urine. The peasants of Russia have long know this remedy and used it with good success in the classes of affections named.

— A contemporary quotes the following story from "Lockhart's Life of Scott": It happened at a small country town in the North of England that Scott suddenly required medical advice for one of his servants, and on inquiring if there was any doctor at the place, was told that there were two — one long established, and the other a new-comer. The latter gentleman, being luckily found at home, made his appearance — a grave, sagacious-looking personage, attired in black, with a shovel hat, in whom, to his utter astonishment, Sir Walter recognized a Scotch blacksmith, who had formerly practised with tolerable success as a veterinary operator in the neighborhood of Ashestiel. "How in all the world," exclaimed he, "can it be possible that this is John Lundie?" "In troth is it, your honor, just *a' that's for him*." "Well, but let us hear; you were a *horse* doctor before; now it seems you are a man doctor; how do you get on?" "Ou, just extraordinar' weel; for your honor maun ken my practice is vera sure and orthodox. I depend entirely upon twa *simples*." "And what may their names be? Perhaps it is a secret." "I'll tell your honor;" in a low tone, "my twa simples are just *laudamy* and *calamy!*" "Simples with a vengeance!" replied Scott. "But, John, do you never happen to *kill* any of your patients?" "Kill? Ou ay, may be sae! Whiles they die and whiles no; but it's the will of Providence. *Ony how, your honor, it wad be lang before it makes up for Flodden!*"

NEW YORK.

— From the books recording the financial transactions of the Croton Aqueduct Commissioners, which have just been officially examined by the Commissioners of Accounts, it appears that the total expenditures from October, 1883, to August, 1886, amounted to $5,174,574.

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Miscellany.

OPERATION OF THE ACTS RELATIVE TO THE ADULTERATION OF FOOD AND DRUGS IN MASSACHUSETTS.

In a circular lately issued by the Massachusetts Board of Health, the following articles are specified as having been found by the chemists of the Board to be especially liable to adulteration:

Food. *Form of Adulteration.* Milk: addition of water or coloring matter, and abstraction of cream. Butter: substitution of foreign fats, and addition of coloring matter. Spices: addition of starch and other foreign powders. Especially true of pepper and mustard. Cream of Tartar: substitution of starch, gypsum, and other cheaper substances. Baking Powders: alum and other injurious ingredients. Baking powders have no legal standard other than that of freedom from harmful ingredients. Lard: presence of cheaper fats and oils. Olive Oil: substitution of cheaper oils. Jellies and Preserved Fruits: substitution of cheaper fruits, and addition of coloring matter. Vinegar: absence of the required amount of acetic acid, and addition of coloring matter. Honey: substitution of cane sugar, glucose, and other substances. Molasses: addition of glucose, presence of tin or other foreign substances. Sugar: glucose, poisonous coloring matter. Maple Sugar and Syrup: glucose. Confectionery: terra-alba, poisonous coloring matter, fusel oil, arsenical wrappers, etc. Coffee: mixture or substitution of various cheaper substances. Canned Fruits, Vegetables, and Meats: metallic poisons.

Drugs. *Form of Adulteration.* Opium and its preparations, especially powdered Opium and Tincture of Opium: deficiency in the required strength of morphia. Cinchona, Quinine, and its preparations, especially the Citrate of Iron and Quinine: deficiency in the required amount of quinine. Quinine Pills: deficiency in weight. Compound Spirits of Ether [Hoffmann's Anodyne]: absence of its most important ingredient, the ethereal oil, or substitution thereof. Spirits of Nitrous Ether [sweet spirits of nitre]: deficiency in ethyl nitrite. Salts of Bismuth: excess of arsenic. Tincture of Iodine: deficiency in iodine. Iodide of Potassium: excess of chloride, or other impurities. Bitartrate of Potassium: excess of lime or other impurities, and substitution of starch and other ingredients. Jalap: deficiency in required strength. Cochineal: loaded with heavy foreign powders. Essential Oils: adulteration with turpentine. Pharmacopœal Wines and Liquors: excess or deficiency in required strength of alcohol, and excess in solid residue, addition of water, alcohol, or sugar.

Since the enactment of the laws of 1882 and the succeeding years providing for the inspection of Food and Drugs by the State Board of Health, 175 complaints have been entered in the Courts, for the violation of such laws in forty or more cities and towns of this Commonwealth.

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OBITUARY. DR. FRANK HASTINGS HAMILTON.

The eminent surgeon, Dr. Frank Hastings Hamilton, who has been in bad health for the past two years, died at his residence in 32d Street, on August 11th. During his last illness he was attended by Drs. Damainville and Lansing, with Dr. Austin Flint as consultant.

Dr. Hamilton was born at Wilmington, Vermont, September 10th, 1813, and was graduated from the Medical Department of the University of Pennsylvania at the early age of twenty. After remaining for a short time at his home in Vermont, he commenced practice at Auburn, New York, where he soon won an enviable reputation as a surgeon. Five years after receiving his medical degree he was appointed Professor of Surgery in the Fairfield (New York) Medical School, and one year later he gave up this position to accept a similar one at the Geneva (New York) school. He remained at Geneva for nearly four years, and then went to Buffalo; where, together with the late Drs. Austin Flint and James P. White, he was instrumental in organizing the present medical department of the University of Buffalo. From 1846 to 1860 he remained Professor of Surgery, constantly adding to his laurels as a distinguished surgeon and teacher. In 1860 he accepted the professorship of surgery in the Long Island College Hospital, and removed to Brooklyn; but scarcely had he settled in his new home when the Civil War broke out, and he entered the army as surgeon of the 31st Regiment New York Volunteers. Between his entrance into the military service and 1863 he was successively promoted to the grades of Brigade Surgeon, Corps Surgeon, under Gen. Keyes, and Medical Inspector of the United States Army. After leaving the army he came to New York to reside, and was one of the founders of Bellevue Hospital Medical College; in which school he occupied the Chair of Surgery until 1875; when he resigned. He still retained his position as one of the surgeons to Bellevue

Hospital, however, and continued to hold surgical clinics, which were largely attended.

Not only as a practical surgeon and a teacher of surgery, but also as a writer, Dr. Hamilton attained the highest eminence. His standard work on "Fractures and Dislocations," has gone through seven editions, and has been translated into both French and German. Among his other widely-known works, in addition to a large number of valuable monographs, are "Prognosis in Fractures," "Treatise on Military Surgery," "New Views on Provisional Callus," and "Treatise on the Principles and Practise of Surgery." The latter (published originally in 1872) was the work in which he took the greatest pride, and he felt that the crowning labor of his industrious life was the completion of the third edition of the book, which was issued only a few weeks since. He was also highly distinguished as an inventor of surgical appliances, and one of the most useful of his achievements in this field was the introduction of gutta-percha for splints for application to irregular surfaces.

Almost immediately after President Garfield was shot, Dr. Hamilton was summoned to his bedside at the particular request of Mrs. Garfield, who was naturally anxious to secure the most eminent surgical talent in the country, and he went on to Washington by a special train; remaining almost constantly in attendance upon the wounded president until his death at Long Branch.

Dr. Hamilton was consulting surgeon to St. Elizabeth's Hospital and a large number of other medical institutions in New York, and at various times was President of the Medical Society of the State of New York, the New York Pathological Society, the Society of Medical Jurisprudence and State Medicine, and other scientific bodies.

Dr. Hamilton was twice married; his first wife, whom he married in 1834, being Miss Mary Virginia McMurran, of Virginia, and his second, whom he married in 1840, Miss Mary Hart, of Oswego, New York; the latter died about a year ago. Two children survive him, Col. T. B. Hamilton and Mary, wife of Daniel Davis, Esq. The funeral services were held at his residence in New York, August 14th, and the interment was at the Sleepy Hollow Cemetery at Tarrytown-on-the-Hudson.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 7, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	776	401	34.36	10.20	24.36	.84	5.16
Philadelphia	971,363	409	196	21.36	11.52	14 40	2.40	2.88
Brooklyn	690,000	330	168	37.20	12.09	24.80	.31	4.96
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	211	105	34.31	15.04	30.61	.47	3.29
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	188	100	33.92	6.89	26.50	—	1.06
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans,	238,000	120	46	20.75	11.62	10.79	—	.83
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	85	40	42.12	25.74	39.78	4.68	1.17
Pittsburgh	190,000	105	66	49 40	1.90	24 70	11.40	3.80
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	47	18	31.95	4.26	25.56	—	2.13
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	20	8	15.00	20.00	10.00	—	—
Charleston	60,145	41	25	34.16	4.88	26.84	—	—
Worcester	68,383	28	21	60.69	7.14	53.55	—	—
Lowell	64,051	35	19	45.76	11.44	37.18	—	5.72
Cambridge	59,660	30	18	56.61	6.66	46.62	—	6.66
Fall River	56,863	28	17	39.27	14.28	39.27	—	—
Lynn	45,861	23	11	21.75	4.35	17.40	—	
Lawrence	38,825	13	3	23.07	—	23 07	—	—
Springfield	37,577	15	6	39.96	6.66	33.33	—	—
New Bedford	33,393	14	5	14.28	28.56	14.28	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	8	—	8.33	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	11	2	27.27	9.09	18.18	9.09	—
Taunton	23,674	14	8	50.00	—	50.00	—	—
Haverhill	21,795	6	1	33.33	33.33	33.33	—	—
Gloucester	21,713	10	9	—	10.00	—	—	—
Brockton	20,783	7	4	28.56	28.56	28.56	—	—
Newton	19,759	10	6	50.00	10.00	40.00	—	—
Malden	16,407	8	4	62.50	12.50	37.50	—	25.00
Fitchburg	15,375	7	4	28.56	—	28.56	—	—
Waltham	14,609	0	0	—	—	—	—	—
Newburyport	13,716	6	2	33.33	23.33	33.33	—	—
Northampton	12,896	5	1	20.00	40.00	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,604: under five years of age 1,322: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 887, consumption 294, lung diseases 109, diarrhœal diseases 645, diphtheria and croup 93, typhoid fever 51, whooping-cough 27, malarial fever 27, scarlet fever 21, measles 11, cerebro-spinal meningitis nine, puerperal fever three. From whooping-cough, New York 11, Brooklyn eight, Pittsburgh five, Boston, Charleston and Newton one each. From malarial fevers, New Orleans nine, Brooklyn six, New York four, Charleston two, Philadelphia, Nashville, Springfield and Northampton one each. From scarlet fever, Brooklyn seven, Pittsburgh five, New York four, Philadelphia three, Baltimore and Providence one each. From measles, New York eight, Brooklyn, Cambridge and Lynn, one each. From cerebro-spinal meningitis, New York five, Philadelphia three, Lowell one. From puerperal fever, New York, Brooklyn, and District of Columbia one each.

In the 22 cities and greater towns of Massachusetts, with a population of 958,050 (population of the State 1,941,465), the total death-rate for the week was 25.02 against 26.39 and 24.27 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending July 24th the death-rate was 20.2. Deaths reported 3,521: infants under one year of age 1,296; acute diseases of the respiratory organs (London) 163, diarrhœa 505, measles 86, whooping-cough 66, fever 36, scarlet fever 36, diphtheria 25.

The death-rates ranged from 7.8 in Wolverhampton to 24.6 in Birkenhead; Birmingham 18.1; Blackburn 21.4; Hull 14.2; Leeds 17.9; Leicester 24 3; Liverpool 20.6; London 21.6; Manhester 24.2; Nottingham 15.3; Sheffield 16.6.

In Edinburgh 16.8; Glasgow 23.6; Dublin 21.0.

For the week ending July 17th, in the Swiss towns, there were 41 deaths from consumption, lung diseases 22, whooping-cough five, typhoid fever four, small-pox two, diphtheria and croup one.

The death-rates were: at Zurich 11.5; Geneva 13.1; Basle 17.1; Berne 18.2.

The meteorological record for week ending August 7, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Aug. 7, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 1	29.822	69.9	75.7	65.3	95.0	72.0	88.0	85.0	N.W.	S.E.	S.W.	13	4	6	O.	F.	O.	—	—
Monday,.. 2	29.517	72.5	83.8	64.0	91.0	42.0	54.0	62.3	E.	N.	N.W.	6	16	16	O.	F.	C.	—	—
Tuesday,.. 3	29.677	60.4	66.1	56.2	60.0	60.0	74.0	64.7	W.	W.	W.	16	24	13	F.	O.	C.	—	—
Wednes... 4	29.919	69.0	77.2	57.1	64.0	39.0	47.0	50.0	N.W.	N.W.	N.W.	13	10	8	C.	F.	C.	—	—
Thursday, 5	30.011	67.6	77.6	57.0	60.0	32.0	90.0	60.7	N.W.	N.W.	W.	6	8	9	C.	C.	R.	—	—
Friday, ... 6	30.020	65.3	72.9	60.1	87.0	72.0	85.0	81.3	W.	S.E.	S.W.	5	6	3	O.	C.	C.	—	—
Saturday,. 7	30.024	61.7	67.0	56.3	92.0	90.0	94.0	92.0	N.W.	E.	N.E.	2	12	15	G.	O.	R.	17	0.96
Mean, the Week.	29.856	66.6	74.3	59.6				70.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 7, 1886, TO AUGUST 13, 1886.

Wolveston, Wm. D., major and surgeon. Granted one month's leave of absence on or about August 15, 1886. S. O. 104, Division of the Atlantic, August 7, 1886.

Bentley, Edwin, major and surgeon. Ordered from Department Texas to Department East.

Appel, D. M., captain and assistant surgeon. Ordered from Department East to Department Texas. S. O. 179, A. G. O., August 4, 1886.

Loring, Leonard Y., captain and assistant surgeon. Granted leave of absence for one month, on surgeon's certificate of disability, with permission to apply for an extension of two months. S. O. 59, Division of the Pacific, August 2, 1886.

Adair, Geo. W., captain and assistant surgeon. Ordered for duty as post-surgeon, Fort Brady, Michigan.

Gandy, Chas. M., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 103, Division of the Atlantic, August 6, 1886.

Merrill, James C., captain and assistant surgeon. Assigned to duty as post-surgeon at Fort Klamath, Oregon. S. O. 130, Department of Colorado, July 30, 1886.

Benham, Robert B., captain and assistant surgeon. Relieved from temporary duty at Fort Omaha, Neb, and ordered to Fort Bridger, Wyo. S. O. 97, Department of Platte, August 5, 1886.

RETIRED.

Murray, Robert, brigadier-general and surgeon-general, August 6, 1886.

APPOINTMENTS.

To be assistant surgeons with the rank of first lieutenant:

Harris, Henry S. T., January 5, 1886.

Wood, Leonard, January 5, 1886.

Banister, William B, January 26, 1886.

Mason, Charles F., May 5, 1886.

PROMOTIONS.

To be surgeon with the rank of major:

Bartholf, John H., captain and assistant surgeon, January 4, 1886.

Kimball, James P., captain and assistant surgeon, January 24, 1886.

(Mem. A. G. O., August 2, 1886.)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING AUGUST 7, 1886.

Hutton, W. H. H., surgeon. To proceed to Key West, Fla., for temporary duty, August 7, 1886.

Bevan, A. D., assistant surgeon. Ordered to examination for promotion, August, 1886.

Williams, L. L., assistant surgeon. When relieved at Buffalo, New York, to proceed to Mobile, Ala., for temporary duty, August 2, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 14, 1886.

Walton, Thomas C., surgeon. To remain on present duty until September 1, 1887.

White, C. H., passed assistant surgeon. To remain on present duty until August 21, 1887.

Rush, C. W., passed assistant surgeon. Authorized to delay ten days, under orders to Sitka, Alaska.

Lumsden, G. P., passed assistant surgeon. Ordered to Hospital, Mare Island, Cal.

Baldwin, L. B., passed assistant surgeon. Ordered to the United States Steamship "Ranger."

Neilson, J. L., surgeon. Detached from the United States Steamship "Ranger," to proceed home and wait orders.

BOOKS AND PAMPHLETS RECEIVED.

The Pathology and Treatment of Dropsy. By James Barr, M.D., L.R.C.S., Edin., Physician to the Stanley Hospital, Liverpool; Medical Officer to H. M. Prison, Kirkdale. (Reprint.)

Meconeuropathia. By C. H. Hughes, M.D., St. Louis, Mo. (Reprint.)

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Original Articles.

THE RELATIONS OF THE INFERIOR THYROID ARTERY AND THE RECURRENT LARYNGEAL NERVE.

BY THOMAS DWIGHT, M.D.,
Parkman Professor of Anatomy at the Harvard Medical School.

Text-books of anatomy say little on this point, which, however, may be of much practical importance. Luschka, Quain, Holden, and Sappey teach that the nerve passes behind the artery. Other authorities give the same impression without distinctly asserting it. Cruveilhier is, I believe, the only one who teaches the contrary. Sappey's account is the most precise one: "In its course, the artery describes two curves: one with the concavity downward and forward, embracing the internal jugular, the common carotid, and the pneumogastric; the other with the concavity looking upward and backward, containing the recurrent nerve."

Having observed some time ago that the relation is not always the same, but that the nerve may be found before the artery, as well as behind it, I began a series of observations, with the help of my assistants, in the anatomical department. I had tabulated the results, and had decided to continue the observations for another year, when I found that this question had been broached in Germany, and as my series is larger than any yet given, I thought it best to publish it now.

The relative position of the nerve and artery may be of interest in œsophagotomy, but it is important chiefly in operations for removal of the whole or a part of the thyroid, and it is in this connection that German observers have studied the question. Wöfler[1] stated that the nerve always passes before a branch of the artery.

Kocher,[2] on the other hand, describes the artery as passing behind the nerve, coming forward on its inner side and hooking over it. Rotter[3] made some fifteen examinations, and found it in a third, as described by Kocher; in a third the artery passed before the nerve. The remainder were not easily classified, as the nerve ran among the branches of the artery. Dr. Streckeiser,[4] in an elaborate paper on the "Morphology of the Thyroid," reports the results of the examination of both sides of fifty-six bodies. He appears, however, to have had chiefly in mind the question whether or not the artery hooked round the nerve, and, if so, to what degree it surrounded it. It is not quite clear, therefore, in how many of his cases the artery passed before or behind the nerve. In thirty-one instances, ten right and twenty-one left, the vessel did not curve round the nerve; and in forty-one cases, nineteen right and twenty-one left, the *ramus perforans* (a branch of the upper division of the inferior thyroid) is the one that makes the curve. This shows that in seventy-two of one hundred and twelve cases, no loop was formed by the main artery. In the remaining forty cases, twenty-seven right and thirteen left, the loop was almost or quite complete. It is probable that the enlarged and more tortuous artery of a diseased gland would be more likely to inclose the nerve in its folds than when the parts are normal; and it must be noted that Streckeiser made his observations at Basle where goitre is very prevalent.

Had I been acquainted earlier with Kocher's views, I should have paid particular attention to this point: as it is, I have endeavored simply to determine whether the artery passed before or behind the nerve, and have disregarded the relations of small branches.

Of the fifty-two bodies examined on both sides, the arrangement was symmetrical in twenty-nine, and the two sides differed in twenty-three. Of the twenty-nine cases in which the sides were alike, the artery was before the nerve in twenty-one, and behind it in eight. Of the other twenty-three, the artery was behind the nerve on the right, and before it on the left in seventeen; the artery was before the nerve on the right, and behind it on the left in three; the artery was either absent, or so small that it did not reach the thyroid in three, two left and one right. On the opposite side of each of these three cases the artery was before the nerve.

In twenty-seven subjects, only one side of the body was examined. On the right, the artery was before the nerve seven times, and behind it six. On the left, the artery was before the nerve ten times, and behind it four.

Adding these observations together, we find that on the right the artery was before the nerve thirty-three times, and behind it thirty-one. On the left, the artery was before the nerve forty-nine times, and behind it fifteen. Three times the artery was absent or very small. It appears, therefore, that as far as we may decide from so small a series, it is an even chance whether the right artery or nerve is in front, and that, on the left, the chances are three to one that the nerve will be behind.

The practical deduction appears to be that when it is necessary to tie the artery near the gland, it should, if possible, be carefully isolated. If the base of an enlarged thyroid be transfixed and ligatured *en masse* it is evident that if the nerve should happen to pass before the artery it would be in danger of being included.

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AN EPIDEMIC OF MALARIA IN EASTERN MASSACHUSETTS.[1]

BY ZABDIEL B. ADAMS, M.D., OF FRAMINGHAM.

Between the years 1876 and 1879, for the purpose of increasing the water-supply in the city of Boston, three large dams were made upon the Sudbury river and one of its tributaries in the town of Framingham. The riparian owners afterwards brought suits against the city on the ground of injury to health. The writer, being summoned as an expert, gave testimony in court, that in his opinion before many years intermittent fever would probably appear in consequence of building these dams. A further study of the subject compels the somewhat humiliating confession that no unimpeachable evidence can be found upon which to base this testimony. It is true that in the summer of 1885, a decided epidemic of malarial fever occurred in South Framingham, and that since that time many cases have appeared in various parts of the town, but there is no clear evidence proving a relation of cause and effect between the creation of these reservoirs and the epidemic of fever.

Almost fifty years ago, Dr. Oliver Wendell Holmes wrote his Boylston Prize Dissertation on intermittent fever in New England. This comprised an abstract of all that could be found in the earlier writers regarding the subject, and also a host of observations and opinions gathered from competent physicians living in places where the malady had occurred, together with reports, bearing on the question, from many localities where the disease was unknown, or known only through vague and unsupported tradition.

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[1] Wiener Med. Wochenschrift, 1879.
[2] Archiv. für Klin. Chirurgie, Bd. 29, 1883.
[3] Archiv. für Klin. Chirurgie, Bd. 31, 1885.
[4] Virchow's Archiv., 1886.

[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 9, 1886, and recommended for publication by the Society.

Two deductions may be drawn from this paper. First, that, since the settlement of the country, intermittent fever, whether as an endemic or an epidemic disease, was almost unknown in Eastern Massachusetts; and second, that the testimony of the greater number of observers was to the effect that the disease is generated spontaneously in swampy situations, and is bred autochthonously in heat, moisture and vegetable decay.

The author in his introduction is at some pains to demonstrate with his inimitable felicity of style and force of diction, that here, in our own New England, are presented all those conditions of latitude, of climate, of rainfall, of summer-temperature, and of soil, supposed to contribute to, if not to cause, the existence of malaria in the pestilential districts of Europe, but leaves "aside all discussion of the more subtle questions which naturally arise."

Dr. Holmes gives a map on which he notes a few places east of the Connecticut river where intermittent fever was believed to have arisen. In most instances the evidence appears hardly sufficient to prove indigenous origin. In the town of Hopkinton, Mass., it seems that in the last century some cases occurred in the vicinity of two ponds; and reference is now made to this fact as a matter of curious interest in connection with the epidemic in Framingham. It is well known that the neighborhood of Providence, R. I., has been repeatedly visited by malaria. Now the Blackstone river, which makes its way to the sea by Pawtucket and Providence, has a source in one of these infected ponds, while the river Sudbury, which flows through Framingham, arises from the other pond, the smaller feeders of the two streams flowing in adjoining meadows.

Another very valuable contribution to this subject is the able and thorough paper published in the Massachusett State Board of Health Report for 1880, written by Dr. J. F. Alleyne Adams, of Pittsfield.

In 1877, '79 and '80, it appears that there were twenty cases of intermittent fever in eastern Massachusetts, eleven of which were in Worcester County, five of them, the largest number in any one town, being in Hardwick, the extreme western boundary of that county. In Middlesex there were four, one in Ayer, one in Woburn, one in Billerica, and one in Wakefield. Three cases are reported from Taunton, in Bristol County, in 1879. None other are known to have occurred since 1836.

But this paper of Dr. Adams is especially interesting, as showing how views had changed with regard to etiology of the disease. Several observers remark the fact that it occurred independently of heat and marsh miasm. In most instances, some reference is made to the acknowledged agency of dams and swamps in its production, while clearly intimating that some other more important factor remains to be discovered.

Within the period covered by these papers, there have been three distinct epidemics of intermittent fever in New England — the first at the close of the last century, the second in 1836–37, and the third in 1879–80. The intervals have varied somewhat, but may be roughly said to be about forty years. In the second outbreak it appeared in places not attacked before, and in the third, again it advanced to new localities. There were, besides, a few places where it was seen in the intervals of these epidemics.

During one space of forty years, we have no record of intermittent fever anywhere in the State of Massachusetts, and for fifteen years, if we except south-west Connecticut, it was not seen in New England.

Dr. William H. Thayer, in a paper on "Malarial Fever on Long Island," (*N. Y. Med. Jour.*, March 7, 1885), says: "Its northern boundary in North America, as an endemic, is apparently regulated by two causes, more or less combined: the character of the soil and the mean temperature." "Eastward of the Alleghany Mountains its northern boundary, as an endemic, coincides with the isothermal line of 70° F. of mean summer temperature, which, beginning about Sag Harbor, L. I., runs west-northwest to the Hudson River about West Point, thence north as far as Watervliet Arsenal, thence south-westerly through Carlisle, Pa." "This places the greater part of Long Island, Westchester County, and the valley of the Hudson as far north as Watervliet, within the boundaries of the endemic. which will be shown to agree with the record."

Outside of these limits, described by Dr. Thayer, is a sort of debatable land, where malaria occasionally appears as an epidemic. Within this latter area, along the Connecticut River, in the valleys of Berkshire and Franklin, and about Long Island Sound and its bays, perhaps as far as Providence, R. I., there are localities where the favorable conditions of soil-moisture and summer temperature combine to make it almost endemic.

Some fifteen years ago, intermittent fever seems to have set out on a hostile march through New England. Beginning in south-western Connecticut, it has moved forward slowly year by year, generally in a north-easterly direction. Its course has been somewhat erratic, usually following up the streams, often doubling upon its track, making wide skips of twenty or twenty-five miles, and then going back again. The column has usually been preceded by a small skirmish line, the main advance not being made until the next year or the year after.[2] In some instances it has first appeared upon high ground, and remote from marshy or wet lands.[3]

Framingham occupies nearly the geographical centre of eastern Massachusetts. and is about 30 miles from Providence, 70 from the Connecticut River, and 100 from New Haven, these being, it is believed, the nearest points where malaria may be said to exist in a quasi-endemic form. The town of Thompson, in north-east Connecticut, is perhaps, topographically, the nearest of any where it has appeared, that in 1881, the nearest as regards time, as well as distance, being Providence, R. I., where it prevailed in 1883–84.

South Framingham is on the Boston and Albany Railroad, and is the point of junction of several important railway lines. The village covers about 600 acres on both sides of the railroad, and contains 4,200 inhabitants, 750 families occupying 500 houses. It is a manufacturing place, and growing rapidly. It lies between the Sudbury River basin and that of Lake Cochituate.

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[2] This is said to be the case in some of the towns invaded in the State of Connecticut, and in Massachusetts also. Dr. R. W. Griswold, Report of the State Board of Health of Connecticut, 1885. South Framingham seems to furnish an exception to this rule.

[3] This was the case at Rocky Hill, Meriden, and East Lyme, Conn., and in some of the towns in this State.

The soil of South Framingham is a sandy loam of little elevation, resting upon an extensive bed of quicksand, which underlies all the adjacent country, and is of varying depth and indefinite extent. This quicksand everywhere contains water, so far as known.

On the south and east of the village lies a wide, swampy region of some 3,000 acres in extent, called Guinea Meadows, constituting the water shed of Beaver-dam Brook, a stagnant, obstructed stream which empties into Lake Cochituate. These swamps, which are partly wooded, are composed of a retentive peat, spongy, and in some places, of great depth. Into this bog the sewage of the village filters, or is led by means of ditches and drains. In spite of these unwholesome surroundings, the place is not unhealthy.

The part of South Framingham where the chief force of the epidemic of intermittent fever was felt in the summer of 1885, lies south of the Boston and Albany Railroad.[4] It differs somewhat from the rest of the village in three respects: *First*, it is contiguous to, and partly built upon, the Guinea Meadows. *Second*, it is traversed and bounded on one side by a deep, stagnant ditch, which comes especially under suspicion. This was made by the city of Boston in 1872, in order to connect the Sudbury River with Lake Cochituate by way of Farm Pond and Beaver-dam Brook. It has, however, for many years been abandoned and shut off completely from the pond. It has become stagnant, or nearly so, and its wooden sides have rotted and fallen in. A good deal of drainage runs into it. *Third*, when the wind is north-west, which was frequently the case during the epidemic, it comes directly from an area of about forty acres in Farm Pond, which has been isolated, become stagnant, and is covered with a rank, coarse vegetation.

The district infected contains, roughly, one-third of the area and one-fifth of the population of the main village. It covers about two hundred acres, half of which, perhaps, is swamp and not habitable. Five-sevenths of the houses in this region were attacked, and in some cases, every person in the house.

Among the supposed contributory causes which have existed for a long time in this locality and in various parts of Framingham without the appearance of intermittents, may be mentioned: a high summer temperature, hot days and cool, damp nights, with the peculiar effluvium of swamps and decaying vegetation; dry seasons and low wells; spring freshets choking up the drains of meadows with silt, and leaving stagnant pools "festering and evaporating in a summer's sun;" the digging up of the soil, making new streets, etc.; and the rank growth of vegetation in swamps and hollows. All these things have existed in perfection for an indefinite time in various parts of Framingham during the hot weather.

The connection of malaria with *dams* and artificial reservoirs, especially upon sluggish streams having banks of little elevation, and where wooded swamps are flowed, causing foul exhalations and effluvium when the water is low, is too much insisted upon by observers to be hastily denied. In the thirty towns of Massachusetts visited by epidemics of this disease in the past and present century, there are very few where this condition does not exist. Further, it is an admitted fact that in other countries and in this, and especially in New England and in our own State, that the removal of dams and draining off of reservoirs has coincided with, and is believed to have been a cause of, the disappearance of the pest.

As already said, in 1876–77 the city of Boston, having decided to take the Sudbury River for an additional water-supply, began the erection of three large dams within the town of Framingham.

The Sudbury rises in Hopkinton and Westborough. It is a slow stream, having little fall, and wide margins of meadow and swamp, often wooded. It winds through the town of Framingham from the south-western corner to the northeastern. Stony Brook, a large tributary upon which was placed a high dam, is a quick stream, but is, or was, bordered with wide areas of peat bogs and woods.

The watershed of these streams is largely composed of land which has been, for more than a century perhaps, used for farms and plentifully treated with barnyard manure. The water of both streams has always had a yellow tinge and pondy taste.

In making these dams the streams were turned aside, their beds exposed and deep excavations made, in some places of thirty feet. Great quantities of alluvium and peat were removed in this work, as was also the case in laying the main conduit to Chestnut Hill, which, as it quits Farm Pond, passes directly through the now infected area of South Framingham and crosses the Guinea Meadows. The workmen, numbering many hundreds, lived in barracks or shanties built upon the low ground near the bed of the streams, or in the woods and swamps; and most of the work was done in summer, the water being then at the lowest. They lived in the constant association of meadow-mud and fog, drank the water of the streams and worked in summer heat, and yet not a single case of intermittent fever appeared among them nor in the town anywhere. In 1877–78 the bottom of reservoir No. 1 was dug up from end to end for the purpose of laying a 48-inch connecting pipe.

During 1878–79, the dams being completed, the basins were filled and connection was made with Farm Pond, a natural body of water of no great depth which was utilized as a settling basin. In this manner about 850 acres were occupied by these reservoirs, representing a surface about one-eighth as large as the whole acreage of that portion of the town which from its elevation might presumably receive malarial infection from this source.

At various times since the filling of the reservoirs the water has been drawn off and the bottom exposed, and remained in that condition for months. Hundreds of acres of "drowned lands," covered with black mud and rotting stumps of trees and sending forth a horrible stench, have thus been laid open to the sun. The mud has been removed and placed upon the banks, or used to fill up the dead ends and shallows.

Farm Pond was drawn down in 1881 seven feet, and a temporary channel made around its shores, and in this work great quantities of the muddy bottom were removed.

The smell of sulphuretted hydrogen was, in summer, always perceptible in the sluice-ways and gate-houses at the dams.

In the summer of 1879 the water in the largest basin (No. 3, on Stony Brook) became offensive.

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[4] Cases occurred in various parts of the town remote from this region.

This was found to be due to the growth and decay of certain minute algæ, described as follows by Mr. A. Fteley, the resident engineer, in his superb report on "Additional Water-Supply, City of Boston, 1882."

> "These minute plants, which appear to be uniformly distributed throughout the water, flow with it, and are of such small bulk that they cannot be separated by screens; the wind has a noticeable effect upon them, and often blows them toward the lee shore, where they accumulate and form a solid scum of a sharp green color. When in the fresh state they emit a very peculiar musty odor: if stranded by the action of the wind they soon decay and form a bluish-green mass, and develop a smell as of organic matter in the process of decomposition. When in the water the algæ remain suspended for some time, and after a while sink to the bottom. Of the formation of the algæ, or of their origin, little is known; but it is remarkable that they appear very suddenly in large quantities, . . . equally distributed through hundreds of millions of gallons of water, twenty feet deep, several hundred feet from any shore, and in very calm weather, . . . increasing or diminishing with wonderful rapidity."

It remains only to add to this admirable description that the sudden disappearance of these organisms was as unaccountable as their appearance, and that the peculiar fœtid effluvium which was caused by them was distinguishable at a long distance from the reservoirs.

In the fall of 1881, the fishy or "cucumber" taste, which has occasionally developed in the Cochituate water-supply, was found in the water of Farm Pond. Professor Ira Remsen, of Baltimore (see his report on the impurity of the water-supply, City Document, No. 143, 1881), attributed the objectionable taste to the presence of a "species of fresh-water sponge, which was found in small quantities on the gravelly or stony parts of the bottom of the pond." "After a short time the bad taste in the water disappeared."

At this time there was an offensive and peculiar odor in the neighborhood of the pond.

The object of these details is to show that at various times during a period of eight or nine years previous to 1885, all those conditions which, in connection with the building of dams and formation of artificial reservoirs, are cited as being *contributory* causes at least of malaria, had been in operation in Framingham without producing intermittent fever.

It is only necessary to say further that the point where the epidemic of 1885 raged with greatest intensity is more than a mile from the nearest basin, and a mile and a half from any of the dams. No cases in fact occurred about the dams, and very few in the neighborhood of the reservoirs. It is true Farm Pond lies contiguous to the locality; but this is a natural body of water, although receiving that of the basins above.

The history of the epidemic requires but few words. It is hardly necessary to say that intermittent fever, at least in its epidemic form, can scarcely be mistaken for any other disease. A few scattered cases were seen in June and July. The latter month was hot and unusually dry. At the close of July there was a change of weather and a heavy fall of rain. This was immediately followed by the appearance of many cases. August was cold, colder than for fifteen years, and the amount of rainfall was very great (more than seven inches), much greater than had occurred for a long series of years, August being generally hot and rather dry. Between the end of July and the latter part of September, when the disease began to decline, more than 200 cases were seen and reported by the various physicians of the town. Others are believed to have occurred which were not seen and not reported.

As usual the type of the disease was tertian, rarely quotidian, more rarely still quartan. In many cases there was but one severe chill. People of all ages were attacked. There was generally a day or two of malaise or headache before the seizure. Vomiting was a frequent occurrence. The chill lasted one, two or more hours; the fever was intense, and was followed by profuse sweating, which continued in many cases far into the night. On the following day the patient was found completely recovered, or complaining only of weakness. There was one death, a feeble woman and very old, who refused all treatment. An Italian, one of the workmen upon the new conduit in Farm Pond, was sent to some State Institutton, where he is reported to have died from the fever. During the epidemic two cases of severe typhoid fever were seen by the writer in consultation in South Framingham.

Quinine was given in most of the cases, and with the usual success. Recurrent attacks, prolonged anæmia, enlarged spleens, and the other sequelæ were observed; but by far the greater number of patients recovered completely after a longer or shorter time.

As to the mode of introduction, the avenue by which malaria enters any locality, little can be said that is not more or less conjectural. The vehicle is probably water; but whether it descends in the form of rain or dew, or rises from the ground, or is drawn from springs or wells, we have no positive evidence to decide. It was remarked in the present instance that a large number of cases developed on the days succeeding two quite copious falls of rain. If this is the method of entrance, it may explain the apparent anomaly of the first appearance of malaria upon ground where no standing-water is seen.

But the source of the water which flows in the subsoil, or in the crevices of the strata of rocks, is something of which we know very little. "Barometric springs," as they are called, are found in New England, whicl in dry seasons suddenly burst forth, it is said, and flow in full volume many hours before the actual appearance of rain in their vicinity. Whence comes the vast body of water in the extensive wet quicksands underlying some parts of the county of Middlesex? It is believed by many that this water has a flow. Competent authorities maintain that malaria enters the body in the drinking-water. If this is the case, a distant source of the springs that feed the wells may explain the appearance of malaria in a spot where neither of the so-called factors, namely, heat, soil-moisture and vegetable decay, can be shown to exist.

(*To be continued.*)

— In May, 1883, obligatory vaccination was abolished in Zurich. In 1882 there were no deaths from small-pox. In the first three-quarters of 1883 none. In the fourth quarter the deaths from small-pox were eight in a 1,000 of total deaths. In 1884 in a thousand deaths there were from small-pox, the first quarter, nine, second, none, third, none, the fourth two and one-half. In 1885 in the first quarter six, second, fourteen, third, fourteen, fourth, thirty-eight. In 1886, first quarter, eighty-five.

REPORT ON PROGRESS IN SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

TREPHINING IN CASES OF HÆMORRHAGE FROM THE MIDDLE MENINGEAL ARTERY, WHERE THE SKULL OR SOFT PARTS ARE UNINJURED.

In the past three years, Krönlein [1] has opened the cranial cavity for hæmorrhage from the middle meningeal artery and resulting hæmatoma in four cases where neither wound of the skin, nor fracture of the skull existed.

The diagnosis was correctly made in every case. In each instance there was found a marked supra-dural extravasation in the region of the arteria meningea media. Two patients recovered. Cerebral hæmatoma may be (a) diffuse, or (b) circumscribed. Of the latter (b), Krönlein makes the following classification, according to the seat of hæmorrhage:

First. Hæmatoma media, or tempero-parietale, of the middle cerebral fossa (a region supplied by the trunk and anterior or posterior division of the arteria meningia media) due to hæmorrhage from the anterior branch of the anterior division.

Second. Hæmatoma posterius, or parieto-occipitale — parietal eminence — due to hæmorrhage from rupture of the posterior branch.

Third. Hæmatoma anterius, or fronto-parietale — frontal eminence.

The tempero-parietal region is the most common seat of injury (a) from the vulnerability of the region, (b) from the size and number of vessels, it being the seat of the trunk and the main branches. All hæmatoma are accessible at the anterior inferior angle of the parietal bone, with the exception of the circumscribed ones of the parieto-occipital region. If the hæmatoma is not found here, the parieto-occipital region must be explored, and the point for trephining is under the parietal eminence. Krönlein's indications for surgical interference are symptoms of cerebral compression, and his rule for locating the points for operation are as follows:

(1) A line called the horizontal line of the skull, namely, one passing from the infra-orbital border to the external auditory meatus.

(2) A horizontal line parallel with the above, and projected backward from the supra-orbital ridge. Both points of operation are in this line.

(a) The anterior; three to four cm. posterior to the zygomatic (ext. angular) process of the frontal bone.

(b) The posterior; at the point of intersection of the above horizontal lines, and one projected vertically, from a point just posterior to the mastoid process.

Krönlein claims that a double operation is indicated not only in cases where a single perforation fails to find the seat of extravasation, but also in cases of diffuse hæmatoma, since the clot can be more completely removed, and also a better opportunity afforded for drainage, should such be necessary.

CONTROLLING BLEEDING DURING EXCISION OF THE TONGUE.

Mr. Jordan Lloyd [2] describes a method of controlling bleeding from the tongue during partial or complete excision. The patient is placed under ether, a gag adjusted, the left index finger is carried well to the bottom of the glosso-epiglottidean pouch, defining clearly the hyoid bone with its cornua, the front of the epiglottis, and the back of the root of the tongue. A stout, long, well-curved, mounted needle, threaded with medium-sized whipcord, is entered from the front of the neck, in the middle line, immediately above the hyoid bone; one feels for the point of the needle with the left finger, as the instrument is pushed through the root of the tongue. In this way, the epiglottis is protected from injury, and nothing more than the lingual tissues are transfixed, then hook up the loop of thread with the left finger, and pull it well through and out of the mouth. Withdraw the needle, liberate the thread from it, and cut through the loop. Now enter the empty needle at the same point of puncture, through the skin only, and pass it subcutaneously to the right, until its point is opposite the upper border of the root of the great cornu. Care must be taken to keep just under the skin, and so avoid the lingual artery. Now turn the point inwards above the great cornu, so as to enter the bottom of the side of the pouch, and feel for the point of the needle with the finger. Thread one of the ends of the cord, which is in the mouth, through the needle, and withdraw. This casts a loop around the right half of the tongue. The left half may be dealt with in a similar manner.

TREATMENT OF AORTIC ANEURISMS BY THE INSERTION OF WIRE.

Ransohoff [3] reports a case treated by the introduction of ninety-six inches of silver wire into a sacculated aneurism of the ascending aorta; the result was temporary improvement, followed by death in a month from the time of operation. There have been fourteen cases reported in which this method of treatment has been applied, all terminating fatally, except in Stimson's case, where the result was negative.

Dr. Ransohoff thinks that there are ample reasons for repeating the operation in suitable cases. In the first place, death has in no instance ensued during the operation, although the possibility of such an occurrence is conceded. In four cases, death followed on or before the fifth day after the operation, so that in only thirty per cent. of the cases can death be attributed to the operation itself, while in the remainder it is in no way dependent upon it. The post-mortem reports show that coagulation almost invariably took place in the sac; the clot was found laminated and often adherent to the sac wall. Life was sustained for periods varying from three weeks to as many months from the date of operation. It should never be resorted to in aneurisms of peripheral vessels when so many safer methods are at command; nor is it admissible in internal aneurisms until all ordinary therapeutic measures have been fairly tried. Practically, as a last resort in such cases, it has undoubtedly lengthened life, and it is far from improbable that, if often adopted, a permanent recovery will occasionally be obtained in cases that are hopeless without it. The subject of the treatment of aneurisms by the introduction of filiform material was discussed at the Royal Medico-Chirurgical Society.[4] The general opinion seemed to be that such a measure must be regarded as a last resort. Mr. Holmes was in favor of the employment of a less rigid material than wire, instancing catgut and horse-hair, of which he thought the latter the better.

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[1] Deutsche Zeitschrift für Chir., 1886, xxiii, Heft 3-4.

[2] London Medical Record, May 15, 1886, p. 202.

[3] Medical News, May 29, 1886, p. 597.

[4] British Medical Journal, February 27, 1886.

MODE OF FRACTURE OF THE FIRST RIB ALONE.

The mechanism of this injury is considered by W. Arbuthnot Lane.[5] He considers that it may be fractured by force applied directly to the seat of fracture when this is in the posterior portion of the rib. The direct force required to break the first rib at this point must of necessity be great, and would probably also fracture the scapula. It may be broken by force applied to the manubrium. This is a more probable means than the first, as the first rib and cartilage are closely connected to this bone. However, on account of the great obliquity of the first costal arch, force applied to the manubrium would be much more likely to produce fracture or dislocation of the sternum than fracture of the first rib or cartilage alone. The most likely way Mr. Lane considers to be that the first rib is broken by force transmitted to it through the clavicle. In a paper,[6] "One Mode of Fracture of the Sternum," he showed the immense leverage exerted by the clavicle on the anterior portion of the first rib when force is applied in a vertical direction to the shoulder or outer end of the clavicle. Mr. Lane considers that he proved that the force so transmitted by the clavicle tended to fracture of itself (probably the common result), the rib, the first costal cartilages, one or both, and to fracture or dislocate the sternum at the junction of the manubrium and gladiolus; in fact, to break the costal arch, which consists of the first two ribs with their cartilages and the manubrium, or tear it away from the gladiolus.

LAPAROTOMY IN THE TREATMENT OF PENETRATING WOUNDS AND VISCERAL INJURIES OF THE ABDOMEN.

Rarely do we come across a more practical paper than that contributed by F. S. Dennis,[7] on the above subject. The paper and discussion deserves careful attention from every surgeon and we append some of the conclusions. Dr. Dennis considers that penetrating stab wounds of the abdomen are less fatal than penetrating gunshot wounds. That if the stab wound has injured the intestines or any abdominal organ or if any doubt exists, laparotomy is indicated. Laparotomy offers no great additional danger to the patient if properly performed under the strictest antiseptic precautions. The enlargement of the original wound for an examination of the peritoneal cavity will not enable the surgeon to exclude in all cases fæcal extravasation, perforation, volvulus or hæmorrhage. The size, shape, character and velocity of the bullet, the attitude of the patient, the kind of weapon used to produce a stab wound, seem to influence the question of laparotomy.

If there is any value in abdominal section, it should be promptly performed, irrespective of the facts connected with the penetrating abdominal wound. Fatal hæmorrhage from the large venous trunks in the abdomen may occur, and this hæmorrhage not be discovered until the peritoneal cavity is about to be closed. The sutures, if properly applied, will close the perforation in every case, no matter how lacerated these wounds are. The sutures will close the wound in case of resection of the gut, so that no leakage will occur if water is forced through the sutured intestine. The success of laparotomy is to be attained where every arrangement is complete and perfect. Everything depends upon the preparation which is made for this operation, and the antiseptic conditions under which it is performed. Shock, perforations, and the resections of injured parts of the canal, are all important steps in this operation.

Dr. Dennis further believes that in the present unsettled state of opinion, it would seem best not to perform this operation in medico-legal cases without the full sanction and support of a consultation.

DANGER OF GANGRENE TO THE INTESTINE INCURRED BY SEPARATION FROM ITS MESENTERY.

D. G. Zesas,[8] in an interesting article, has published the results of his experiments (on this subject), with a brief *résumé* of the most recent investigations. His observations show that the vitality of the intestine is dependent upon the integrity of the vascular system at its mesenteric attachment. This cannot be injured without great danger of gangrene resulting from interruption of nutrition. Separation, on the other hand, of the mesentery not less distant than two to three cm. is comparatively harmless, since the abundant anastomosis distally situated protect the intestine from interference of nutrition without difficulty. His conclusions are:

(1) That portion of intestine must always be resected which has been separated from its mesentery at its point of attachment to the gut, for gangrene is inevitable.

(2) Resection is not necessary (of the separated tract) when the point of separation is two to three cm. distant from the intestinal attachment.

(3) The greater the extent to which the intestine is separated the greater the danger of gangrene.

(4) In transverse sections of the intestine the mesenteric separation should be avoided beyond the line of division; or danger of gangrene occurs.

(5) Small and large intestine tolerate equally well a distant separation from their mesenteria.

EXTIRPATION OF RECTUM FOR HIGH-SEATED CARCINOMA.

Ordinarily cases of carcinoma of the rectum whose upper border cannot be reached by examination per anum, and in which infiltration has fixed the adjacent tissues are considered beyond surgical interference.

The limited field of operation available to the surgeon even after removal of the coccyx, has caused the removal of these tumors to be exceedingly difficult and uncertain. Kraske[9] has attempted to enlarge the field of operation by a partial excision of the sacrum. After preliminary dissection on the cadaver to demonstrate the practicability of his proposed operation he extirpated the rectum in the living subject successfully in the following manner: With the patient lying on the right side an incision is made in the median line from the centre of the sacrum to the posterior border of the anus, through the soft parts to the bone. The left gluteus muscle is dissected from its insertion to the lower portion of the lateral border of the sacrum — the coccyx is excised; then the exposed greater sacro-sciatic ligament (tuberoso-sacrum) and the underlying lesser ligament (spinosa-sacrum) close to their attachment to the sacrum are divided. The edges of the incision are separated by retractors. The left border of the sacrum is then chiseled away along a curved line (concavity to the left) commencing at a point on a level with the third posterior sacral foramen passing through the lower border of the same foramen and continued downwards and inwards to the left inferior sacral cornu. No regard is paid to the posterior division of the sacral nerves. The anterior division of the fourth and fifth nerves are divided but not of the third. After the remaining soft parts covering that portion of the rectum thus exposed are divided, the patient is placed in the lithotomy position with pelvis well elevated. The lower end of the rectum divided at the anus or at the lower border of the disease — the sphincter is often saved — the intestine can be isolated to the sigmoid flexure with considerable ease and accuracy. Of the structures involved the insertion of the glutæuo — the sacro-sciatic ligaments — the posterior branches of the third, fourth or fifth sacral nerve, result in no essential disturbance of function. The anterior branch of the third sacral, which is an important part of the sacral plexus is not injured, nor is the sacral canal opened.

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[5] Trans. Path. Soc. 1885, 36, p. 327.

[6] Trans. Path. Soc., 1884.

[7] Med. News, 1886, vol. 68, pp. 225, 253.

[8] Archiv. für Klin. Chirurgie, Bd. 33, H'ft 2.

[9] Archiv. für Klin. Chirurg., xxxiii, H'ft 3.

The peritoneal cavity if opened by high section of the rectum is closed by suturing. The wound is packed with iodoform gauze after draining the peritoneal cavity.

TREATMENT OF THE PERITYPHILITIC ABSCESS.

In a paper contributed to the Practitioner's Society of New York [10] Dr. W. T. Bull calls attention to the vital necessity of an early needle exploration of perityphilitic abscesses followed by the immediate evacuation of pus. The question in these cases is to determine when pus has formed. Dr. Bull records a case in which a perityphilitic abscess was opened forty-eight hours after the symptoms became acute and the patient took to bed. He considers that the thorough exploration with the needle and hypodermic syringe is imperative in these cases. He uses a good sized needle (No. 3 or 4 of the French scale of urethral instruments) and a "tight" syringe. He considers the punctures harmless; and, not only would he aspirate in the iliac fossa but considers that one should also puncture through the lumbar region, with the needle, passing it downward and forward towards the middle of the iliac fossa, when punctures directly into the fossa or the tumor occupying it are fruitless.

Dr. John Homans [11] reports a case in which he operated upon a perityphilitic abscess within forty-eight hours of the doctor's first visit. He could not find a dull place in which to pass a needle and so dissected down through the locality. If he had passed a needle in he would have perforated the bowel four times before the needle would have reached pus. The patient recovered. From these recorded cases, early exploration of acute perityphilitis becomes imperative to the surgeon.

NEPHRECTOMY.

Samuel W. Gross in a paper considering the "Indications and Contra-Indications" for this operation [12] has made a valuable addition to this interesting subject. Of two hundred and thirty-three cases of extirpation of the kidney which he has collected he finds a mortality of 44.63 per cent. Of the entire number, two hundred and thirty-three, one hundred and eleven by the lumbar incision indicate a mortality of 36.93 per cent., while of one hundred and twenty by the ventral incision 50.83 per cent., died. This makes the fatality of the abdominal operation greater by 13.90 per cent. than that of the lumbar operation.

Dr. Gross after carefully analyzing the facts that he has collected, feels justified in formulating the following propositions:

First. That lumbar nephrectomy is a safer operation than abdominal nephrectomy.

Second. That primary extirpation of the kidney is indicated, first, in sarcoma in adult subjects, secondly, in benign neoplasms at any age; thirdly, in the early stage of tubercular disease; fourthly, in rupture of the ureter; and, lastly, in ureteral fistula.

Third. That nephrectomy should not be resorted to until after the failure of other measures, first, in subcutaneous lacerations of the kidney; secondly, in protrusions of the kidney through a wound in the loin; thirdly, in recent wounds of the kidney or of the ureter, inflicted in the performance of ovariotomy, hysterectomy, or other operations; fourthly, in suppurative lesions; fifthly, in hydronephrosis and cysts; sixthly, in calculus of an otherwise healthy kidney; and, finally, in painful floating kidney.

Fourth. That nephrectomy is absolutely contra-indicated, first, in sarcoma of children; secondly, in sarcoma at any age, unless, perhaps, the disease can be diagnosticated and removed at an early stage; and, thirdly, in the advanced period of tubercular disease.

Le Dentu [13] considers the operation to be contra-indicated in the following cases:

(1) Sarcoma in children.

(2) Carcinoma except in cases of early diagnosis.

(3) Advanced tuberculosis.

(4) Other affections. Pyo and hydronephrosis. Also ren mobilis which has resisted all other therapeutic attempts.

He describes two operations.

(1) Extra peritoneal.

(2) Intra (or more properly named) trans peritoneal. This has a very limited field only, and is to be performed in cases of wandering kidney with a thin pedicle and of large hydronephrosis or neoplasms which project far between the peritoneal folds. But in such cases it is doubtful if any operation would be justifiable. In describing the operation the full details are of value.

I. EXTRA PERITONEAL OPERATION.

The position recommended for the patient as most satisfactory is one half between prone and lateral decubitus resting on a firm pillow placed between the thorax and pelvis so as to give as large a field for operation as possible. It is also most favorable for forcing the tumor into the wound if required.

The use of the thermo-cautery to control hæmorrhage is discountenanced. It is claimed to interfere with a rapid recovery, and is inefficient to stop hæmorrhage except that from small vessels.

Incision. Is varied with each case but in general one vertically downwards from the eleventh to twelfth rib to the iliac crest is recommended. This can be prolonged backward at its superior end or forward at its inferior, if a larger incision is required. (Czerny, Clement Lucas). The tip of the twelfth rib is the only portion of the thoracic border which can be resected without danger of injury to the pleura.

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[10] Medical Record, March 6, 1886, p. 265.

[11] New York Medical Record, May 1, 1886, p. 496.

[12] Tr. Am. Surg. Assoc., 1885, III, 109-124.

[13] Technique de la nephrectomie. Revue de Chir., 1886, No. 1 & 2.

Enucleation. When the capsule is found adherent to important structures or organs, it is incised along the greater curvature of the kidney and the organ enucleated through the incision.

Pedicle. Is best ligated *en masse* with silk or catgut ligatures, which can be reinforced with an elastic ligature if necessary. By temporarily securing the pedicle with a clamp the tumor can be removed and a convenient space obtained to permanently ligate it.

Treatment of the wound. If the extirpation has been complete the wound can be drained and closed. When the removal has been partial it is advised to pack the wound with antiseptic gauze and to allow it to close by granulation.

The emergencies which can occur are:

Wounds of the pleuro-peritoneum or intestines. These should be sutured at once.

Hæmorrhage. If the bleeding vessel cannot be seen the pedicle should be secured as rapidly as possible. Parenchymatous bleeding is rare and controlled by packing.

II. INTRAPERITONEAL OPERATION.

Incision. ("Langenbuch's"). At the outer border of the corresponding rectus muscle. The incision of the posterior layer of peritoneum is made externally to the mesocolon.

Pedicle. Is to be ligated previous to enucleation to diminish the danger of hæmorrhage.

Treatment of the wound. The cavity resulting from the operation should be drained posteriorly through a lumbar incision and the wound of the peritoneum then closed.

(*To be continued.*)

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.[1]

ALBERT N. BLODGETT, M.D., SECRETARY.

Dr. H. C. Haven read a lengthy and elaborate paper on

THE ETIOLOGY AND TREATMENT OF SUMMER DIARRHŒA OF INFANTS.

Dr. Buckingham said that the paper of Dr. Haven is a hard one to discuss without having it before one, because it deals largely with statistics. He agreed with it, that in estimating the value of children's foods, great consideration should be paid to other factors, and that a child with good hygienic surroundings and comparatively poor food, will often thrive more than another child with better food but poorer surroundings. He was glad that Dr. Haven had emphasized this fact because it is so often ignored by writers on the subject.

It is certainly rational as is stated by the writer, when constructing an artificial food, to copy as nearly as may be the natural food of the child. He was unable, however, to agree with Dr. Haven, if he had understood him rightly, that the food need not vary in strength with the age of the child; for although it may be true that the mother's milk does not vary from month to month, a matter about which he expressed no opinion, yet he believed it to be a clinical fact that many children do not digest so undiluted a food at birth, as they can a few months later, even of a kind on which they do reasonably well when it is diluted. He furthermore disagreed with the reader as to the clot being of no importance.

The speaker had had no experience with some of the foods studied by Dr. Haven, but had for some years used mostly a mixture of milk and cream, sweetened, made alkaline and more or less diluted. This he had used both in private practice and elsewhere; largely in the children's room of the Boston Dispensary, and with increasing confidence. The objection to cream on the ground of expense and of its greater age, he had obviated by having the milk stand a half hour or an hour, and then pouring from the top as much as may be wanted for the day's use. Of course the value of this course depends on a certain reliability on the part of the milkman: but the method, which is not original with him, does often give practical results, even when used in dispensary practice in this city. The suggestion of the reader that the salts in milk play an important part may prove true. It is certainly rational to suppose so. Practically he had himself used the alkaline bicarbonates for making milk alkaline; but had changed to lime-water, at first in dispensary practice, on account of its greater convenience, and afterward in private practice, using half as much lime-water as milk, and further diluting with water if he thought proper. He had not seen any difference in the result.

It is interesting to observe that Dr. Haven got no starch reaction in the fæces of babies into whose food barley water entered, thus bearing out the statements of physiologists that the parotid has commonly, though not always, a diastatic power at birth. When we remember the further results of the laboratory, that the pancreas has no such power for two or three months, although to this rule also, there are exceptions, we can understand that the reader's results are in no way incompatible with the common clinical experience that where starch enters largely into babies' food, the result is often disastrous. The reader's statement that barley contains in itself some diastatic power was of interest.

Dr. Bennett F. Davenport spoke of the

PHYSICAL AND CHEMICAL QUALITIES OF ORDINARY COWS' MILK,

and added: The question of the age of the milk which is given to our city children, I consider as of very much greater importance than it is usually deemed by physicians. There is no fluid that I know of which is a more rapid absorbent of foul odors of all kinds, or which offers a more fertile field for bacterial growths. Yet most of the milk, even when just delivered to the consumers in this city is already in its third day of age, and has been exposed to a probability of contamination so great that I very much wonder that it does not become downright soured before the time of the next daily delivery. Very much of it is but very little short of this stage. I am firmly persuaded that it is to this changed condition in the milk, to which city folks have become so accustomed, as to consider it the proper and natural condition, that a very large proportion of the summer diarrhœa, and the resulting mortality among the children in our cities is due. If any one wants ocular proof of the grosser forms of contamination to which city milk is exposed, he has but to visit any of the larger milk depots of the city, and to look at the nature and the quantity of the foreign material left upon the cloth strainers connected with the centrifugal machines used for separating the cream from the surplus milk of the day. If he does not then learn by seeing with his own eyes what he could otherwise hardly be brought to believe to be possible, I am very much mistaken as to what are the real facts. Very fortunate indeed, would it be if only the firm and already dissolved impurities could also be thus readily separated out from the milk.

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[1] Concluded from page 31.

We, as physicians, have learned to know that milk about upon the point of changing will more disturb the digestion of a child than that which has already turned sour. I believe that the difference in the coagulation of breast and cow's milk in a child's stomach is more owing to the difference in the chemical reaction of these two milks, and in the amount of albuminoids contained therein, rather than to any difference in the nature of these albuminoids, for cow's milk, even when fresh, is of an acid reaction, while breast milk is neutral, or may be slightly alkaline. Then, too, cow's milk contains a much larger amount of albuminoids. Making cow's milk of a neutral or slightly alkaline reaction will render this curd finer and softer, and this is also accomplished by diluting with fluids or with soft solids, for which barley flour or malted extract serves well.

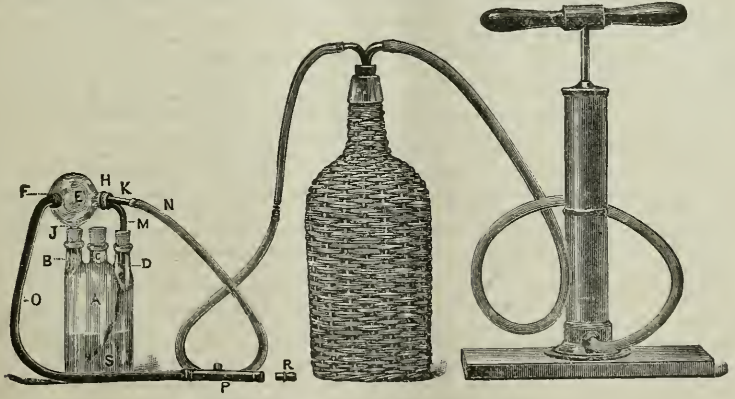
When it is desired to add cream to the diluted and sweetened milk when prepared for a child, I think it is better here in the city to use sweet cream raised by the centrifugal machine, rather than that obtained by separation from standing, which necessitates it being just so much the older, when one of the chief troubles is that it is already too old. Such sweet cream is to be had at the large milk depots in the city.

I think that if physicians would instruct all their patients to demand that their milk be delivered to them the same day that it is brought into the city from the country, that this would become the more common custom of the trade, and that there would be a marked decrease in the infant mortality during the summer months, for if we cannot secure proper cleanliness in the care of the milk we might at least thus shorten materially the time during which fermentative contaminations would have a chance to work out their harmful changes.

Dr. George W. Galvin exhibited an

IMPROVED INHALER,

which he describes as follows:



LEACH & GREENE. 165 TREMONT ST., BOSTON.

The inhaler is the invention of Dr. Geo. A. Evans, of Brooklyn, New York, and a full description of it, with a group of cases treated by him, was published in the *New York Medical Journal*, March 6, 1886. The great obstacle to overcome in the local treatment of pulmonary diseases, is the condensation of the vaporized medicament, in the mouth, pharynx and upper air passages. This has been overcome by Dr. Evans' instrument, which can reduce any fluid medicine, or solution to so fine a degree that it can pass the bronchial tubes without condensing and reach the air cells of the lungs in which is stored the residual air. The changes in the lungs in pulmonary phthisis bring consolidation, tissue necrosis, putrefaction, decomposition, and septic absorption (I am not now considering tubercle, its nature, etc., but what is considered pulmonary consumption), it is natural to suppose that if we can convey to the lung an antiseptic vapor which will reach the part undergoing the pathological changes we should obtain practical results from the local treatment of pulmonary affections.

The apparatus consists of an air condensor, an air chamber (flask) for preserving a continuous current of air, a three-mouthed bottle, "Wolf's;" a spray chamber having three mouths, spray tubes; respiratory tube; mouth-piece.

A spray of the solution in the bottle is thrown (by means of compressed air), against the opposite wall with sufficient force to produce a thorough churning with the atmospheric air, a fine vapor, resembling cigar smoke, which escapes through one of the openings in the glass air-chamber to the respiratory tube.

During inspiration through the mouth-piece, air enters the middle mouth of the bottle and displaces the vapor of which the bottle is full. During expiration the air in its turn is displaced passing out of the middle mouth of the bottle, to make room for the vapor which passes from the glass-air chamber to the bottle, where it accumulates for the next inhalation.

A vapor produced by means of this apparatus condenses slowly, 50 cu. in. of a vaporized solution, containing carbolic acid, borax, glycerine and water, requiring twenty minutes at a temperature of 60° F. to entirely condense.

Ten cases now reported in this Journal with a cessation of symptoms which leads the patients to consider themselves cured, one case of my own far advanced in the second stage of chronic catarrhal pneumonia, after ten inhalations has gained in ten days two and one-half pounds and to all intents and purposes is making a rapid recovery.

Dr. W. Everett Smith then exhibited a Semple's Atomizing Inhaler which he has been using in connection with Williams' Pneumatic Cabinet. This inhaler was devised by Wm. F. Semple, of Mount Vernon, Ohio. in August, 1881, and consists of a glass receptacle containing an ordinary atomizer. The medicament is held in the bottom of the jar and is atomized either by a rubber hand bulb or more effectually by a cylinder of compressed air. The spray is projected against the top of the jar, the larger particles are condensed to be re-atomized and only the very finest portions of the spray escape through the inhaling tube.

The vapor thus inhaled has been so churned as it were and broken up that it is as fine and impalpable as smoke and indeed resembles it in appearance. The mouthpiece to the inhaling tube can readily be removed and attached to a flexible rubber tube so that the vapor can be conducted wherever and in whatever direction one pleases. Any fluid that is readily atomized may be employed, the best menstruum being either fluid petrolatum or a twenty per cent. solution of glycerine in water. The resulting vapor will resist condensation for from five to fifteen minutes.

This atomizer was shown to be identical in its principles of construction with the Evans' Inhaler that was exhibited by Dr. Galvin, and when attached to the cylinder of compressed air produced as fine and perfect a vapor as Evans' apparatus. It has, however, these differences in its favor — is simpler in its construction. more easily cleaned and was perfected and in use *four years* before Dr. Evans set up his claim; yet Dr. Evans calls his atomizer a "*new* instrument."

Further than this, Dr. Evans in his article in the *New York Medical Journal* of March 6, 1886, makes no mention of and gives no credit either to the Semple Inhaler or to the Globe Inhaler of Beseer.

Dr. Evans' apparatus is faulty in two particulars: the inhaling tube is long and is complicated with three glass globes which must be kept thoroughly antiseptic if we are to assign any dangerous activity to the numerous germs of disease. The patient under treatment must moreover inhale and likewise exhale through this one tube, the three glass globes and the Wolff bottle which contains the medication; each patient ought therefore to have an entire atomizer reserved for his own particular use, since it would be practically impossible to cleanse *thoroughly* all this complicated arrangement after each application.

Dr. Evans claims, however, as an advantage in favor of his apparatus that the vapor will resist condensation for twenty minutes. But it is easily demonstrated that with any form of atomizer constructed upon these principles, the increase in the resistance to condensation depends *directly* upon the increase in the specific gravity of the fluid atomized and not upon the particular *shape* of the atomizer.

The very fact, however, that the vapor refuses to condense for so long a period as twenty minutes is an objection rather than an advantage to the method of treatment. Everyone grants that ordinary atomizers are of little benefit in the treatment of lung diseases, because the vapor from them condenses almost entirely upon the mouth and pharynx. At the same time no physician would demand that a patient suffering from pulmonary phthisis should actively inhale a medicated vapor longer than twenty or twenty-five minutes at any one time because of the physical exhaustion that would follow a longer treatment. If then the vapor that is inhaled resists condensation for so long a period as twenty minutes, Dr. Smith claimed that it is *just beginning* to be deposited upon the bronchial tubes when the treatment is stopped. He had been better satisfied with the results obtained by a vapor that did not resist condensation for nearly so long a period as that claimed by Dr. Evans.

At the same time Dr. Smith claimed it to be a fallacy that by the use of either the Semple or the Evans' Inhaler atomized vapor can be deposited upon *lung cells*, especially if these lung cells are diseased so that they are unable to be readily expanded. The vapor when finally churned in these inhalers may be deposited and very likely is deposited upon the larger bronchial tubes, but we must remember that bronchial tubes are very different from air vesicles and that the volume of air which we ordinarily breathe — the *tidal* volume — reaches *directly* only the trachea and large bronchi, but enters the air cells in obedience simply to the law of the diffusion of gases.

Unless therefore some of the external pressure of the atmosphere be removed from the chest walls, as it is in the Williams' Cabinet, so that the *complemental* volume of air can be inhaled *involuntarily* into even remote air vesicles, the only medication that can effectually reach any decided area of lung cells must be gaseous in form. But however finely you may divide aqueous vapor under ordinary conditions of temperature and atmospheric pressure, you cannot make it gaseous, for a gas is not condensed except under enormous pressure and at exceedingly low temperatures.

Dr. Smith accordingly, while praising the inhalers that were exhibited, maintained that to derive their greatest benefit they should be used in conjunction with some form of the Pneumatic Cabinet. He has used the inhaler with the cabinet since last December, and has found the results to be highly satisfactory and encouraging.

Dr. Bowditch said that one of the important objects of any inhaler was to force the substance to be inhaled into the pulmonary structures as much as possible. Whatever the arrangement for inhalation may be, the object to be attained is the pulverization of the substance, and its forcible propulsion into the lungs. The inhaler shown by Dr. Smith is always employed in conjunction with the Pneumatic Cabinet, as an aid to its introduction or propulsion into the deeper parts of the pulmonary recesses.

Dr. Knight stated that the instrument exhibited by Dr. Galvin was capable of producing a finely pulverized fluid, and he had never seen anything so fully answering this demand as the one shown at this meeting.

Dr. George B. Shattuck rose and stated that he desired to warn the Section against a travelling individual calling himself Dr. Watson, who pretends to have been shipwrecked on the steamer "Oregon," and who has made appeals for aid to several of the members of the profession here. The man may be a physician, but if so he is a dishonest one, as he had received a contribution of $2.00 from Dr. Shattuck, which had been made to read $5.00 when the list reached other members of the Society.

REPORT ON WATER-SUPPLY.

Dr. Shattuck then presented the following report for the Committee of the Section appointed to consider the present condition of the water-supply of the City.

Mr. Chairman: — Your Committee appointed at the meeting of this Society held June 9th, 1885, to coöperate with a similar committee from the Norfolk District Medical Society, which was appointed to take into early consideration the impurities of the Boston water-supply, and to urge upon the mayor the vital importance of promptly using all those means which the law allows to prevent further contamination of that water-supply and to remedy the contamination which exists, beg to report as follows:

Of the five gentlemen appointed upon this committee, owing to absence from town and other impediments, only the two who sign this report were actually able to serve and they did so at some little sacrifice of time and personal convenience.

On June 18th, 1885, in company with three members of the committee appointed by the Norfolk District Society, we visited the Mystic Valley, getting out of the train at Winchester, driving through Winchester and Woburn, and inspecting the tributaries to the Mystic supply and some of the principal tanneries and other industrial establishments upon their banks. The upper Mystic Pond itself was not visited, but the distance from the Winchester station, where the nearest point of pollution observed was situated, to the pond being scarcely half a mile, the possible danger of the situation was sufficiently revealed.

On the afternoon of June 22d, the same members of the two committees made a personal inspection of a portion of the watershed of the Farm Pond and Lake Cochituate water-supply.

The results of these visits of inspection were communicated to the mayor of Boston by the secretary of the joint committee, Dr. E. P. Gerry, of Jamaica Plain, under dates of August 27th and September 5th. The first of these communications, detailing the visit to the watershed of the Mystic supply, was written by Dr. Gerry himself; and the first part of the second communication, giving the results of our observations on the Cochituate watershed, was written by Dr. A. H. Nichols; the latter part of the second communication was added by the secretary and must not be accepted otherwise than as possibly expressing personal opinions of individual members of the committee, certainly not as having an official character. Both of these communications were referred by the mayor to the Boston Water Board, and appeared with some inaccuracies in the daily papers; copies are herewith appended. It is only necessary for us to say further in regard to them that, apart from some comparatively unimportant mistakes as to the names of certain manufacturing establishments, these reports contain a correct, though possibly in some instances (in that on the Mystic) rather picturesque statements of the conditions encountered by us in the Mystic and Cochituate watersheds at the time of our visit.

It is one thing to select and point out sources of pollution of water-supplies, it is another and sometimes much more difficult one to remedy them. Prior to 1884, when complaints were made against public or private corporations or individuals for violations of the provisions of Section ninety-six of Chapter eighty of the Public Statutes, a section designed to protect water-supplies, such complaints were referred to boards of health and local sheriff's juries, with results as you may imagine, going far to render nugatory the provisions of this section. In 1884, owing largely to the efforts of the city of Boston, the Legislature amended the statute so that the Supreme Judicial or Superior Court might in term time or vacation, upon the application of the mayor of a city or the selectmen of a town interested, grant an injunction against any violation of the provisions of the above-mentioned section. At the same time these questions were removed from the jurisdiction of boards of health and of sheriff's juries. Under this amendment a permanent injunction was finally obtained, in March, 1885, from the Supreme Court by the city of Boston, against one Gleason, an inn-keeper, emptying the refuse of his establisment into Pegan Brook.

We desire to say that we believe that the Boston Water Board, strengthened by this action of the Court, has, through its efficient superintendent of the Western Division of the city's water-supplies, strenuously exerted itself to abate the then and the still existing causes of pollution in the Cochituate basin.

Some of these causes can only be satisfactorily removed by the establishment of some suitable systems of sewage-disposal for the towns lying in that watershed. Suggestions for such systems may be found in the late report of the Massachusetts Drainage Commission, which if adopted would probably reduce to a minimum the evils observed by your committee. The sewerage of the Woman's Prison at Sherburne should not be allowed to remain in its present state.

The excavation of the basins of the Sudbury River System puts them in a position where the resources of nature will in all probability not be overtaxed in protecting the purity of the water therein stored. The construction of basin No. 4, which will add 5,000,000 gallons to the storage capacity of this system, has been proceeded with on the most approved modern principles for such work.

To return to the Mystic water-supply, we desire further to state that one of us, Dr. H. J. Barnes, visited that watershed a second time in company with two members of the other committee toward the end of March of this year, and found that the tributaries to Wedge Pond and the upper Mystic were still being contaminated by the tanneries and other factories in that region in a way which cannot but be regarded as liable at any time to prove detrimental and even dangerous to the health of the consumers of Mystic water. At one, at least, of the worst tanneries discharging into the Abajonna river some efforts have been made since our first visit to ameliorate its offenses; but the devices — subsidence and filtration — adopted in most instances by those tanneries, not connected with the sewer built by the city of Boston which attempt any purification of their refuse, are entirely unsatisfactory, inasmuch as they permit the escape of dissolved organic matter from beam-houses and hide-mills. as well as the spent liquor from vats directly into the tributary streams. At the time of our first visit a large number of privies, water-closets and sinks were discharging directly or indirectly into Russell Brook (a branch of which is known as Stink Brook). and into Town Meadow Brook. These brooks flow through thickly settled portions of the town of Woburn and empty, the former into Wedge Pond after a course of half a mile, the latter immediately into Horn Pond; the contents of both, therefore, find their way pretty directly into the upper Mystic Pond. In their last report, dated December 31st, 1885, the Boston Water Board say: Considerable attention has been given to the removal of sources of pollution; but the increase of the population and the character of the business done upon the water shed of the Mystic supply make this a more difficult problem each year.

They are now of the opinion that the sources of danger from privies, water-closets and sinks have been abated, and we can only hope that this opinion is well-founded.

The basin of the Mystic is, however, so thickly populated that, even when the inhabitants take the trouble to discharge their waste into cesspools, the soil can hardly be expected to depurate it before it reaches the streams by the subsoil currents.

The Boston Water Board contemplate the abandonment of the Mystic water-supply, and in the opinion of your committee it must come to that. In the mean time, until other sources of supply can be secured, if such should prove to be required, it would seem desirable that such connection should be made with the water-supply on the south-side of the Charles River, if practicable at a reasonable expense, as would bring the Sudbury River and Cochituate supplies within the reach of the inhabitants of the Charlestown district, within short notice — should an emergency arise.

Your committee have naturally considered the question submitted to them by you from the point of view of the physician and sanitarian. They desire again, however, to state that they are fully conscious of the complexity as well as of the importance of the problems presented.

They pray to be discharged.

George B. Shattuck, M.D., *Chairman.*
Henry J. Barnes, M.D.

The report of the Committee was accepted, and the Committee discharged. The secretary was directed to place a copy of this report in the hands of His Honor, the Mayor, as supplementary to the reports previously rendered to the medical societies and transmitted to the Mayor.

— By a decree of the Roman Inquisition, dated May 19, 1886, and confirmed by the Pope, Catholics are forbidden to join cremation societies, or to order their own or the bodies of others to be cremated. His Holiness, in confirming the decree, condemns the "detestable abuse of cremating human bodies."

— A contemporary calls attention to an advertisement extolling the virtues of a new make of infant's feeding-bottle, which winds up as follows: "When the baby has done drinking, it must be unscrewed and laid in a cool place, say under a tap." Poor baby!

AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

THURSDAY. — SECOND DAY. — MORNING SESSION.

The meeting was called to order at ten o'clock.

The first paper read was entitled

THE AMBLYOPIA OF SQUINTING EYES: IS IT A DETERMINING CAUSE OR A CONSEQUENCE OF THE SQUINT?

by S. Theobald, M.D., of Baltimore.

He criticized the views of Alfred Graefe and Sweigger that the amblyopia exhibited by squinting eyes is a congenital effect and argued in favor of the older view that the amblyopia is secondary to the squint and due to the mental suppression of the visual image formed in the squinting eye. He stated in the first place that it is a mistake to call this variety of amblyopia "amblyopia exanopsia," as the amblyopia is not due simply to want of use of the squinting eye, but to an active cerebral process which induces a much more rapid loss of vision. Schweigger and Alfred Graefe who both accept the theory of acquired retinal identity, believe that squint is often due to a non-establishment after birth of retinal identity. If this were the case, as there would be, from the first, no stimulus to binocular fixation, the squint ought to develop in early infancy, whereas it is rarely met with then, but usually makes its appearance about the fourth or fifth year. They both also lay stress upon the fact that some squinting eyes (even where there is no alteration), retain good vision for years, while others, which have squinted but a short time, are highly amblyopic and that this contradicts the theory that the amblyopia is produced by the squint. These observations however, do not conflict with the suppression theory, for as the amblyopia doubtless develops during the forming stage of the squint, it is reasonable to suppose that in some cases it will have reached a high grade by the time the squint is fully established, while on the other hand, a marked difference in the refraction of the two eyes (because then the diplopia will be less annoying.) will explain the retention of vision in the squinting eye.

The most convincing argument, however, in favor of the suppression theory is that the peculiar regional characteristics which the amblyopia exhibits are of just such a nature as we should anticipate if this hypothesis be the correct one, but entirely inexplicable if we suppose the amblyopia to be a congenital defect.

Until more convincing evidence is adduced to sustain the congenital amblyopia theory, it was suggested that we ought to act upon the older theory, that the squint produced the loss of vision, and so give to our patients the benefit of an early operation for the correction of this deformity.

DISCUSSION.

Dr. H. D. Noyes, of New York. I differ entirely from the conclusions presented in this paper. My objections are based upon an experience and careful observation for a number of years. It has been claimed that before the development of the squint such patients have had binocular vision. There is no proof of this and the evidence is against it. Again, I have the records of a large number of cases of monocular amblyopia, presumably of congenital origin, without lesion demonstrable by the ophthalmoscope, which have had no squint although they may or may not have hypermetropia. Binocular fixation after operation is not infrequent, but according to my experience binocular vision is obtained in only one-fifth of the cases. It is rare to find material improvement in an amblyopic eye after operation.

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[1] Concluded from page 162.

Dr. O. F. Wadsworth, of Boston. I agree with what Dr. Noyes has said. After a careful examination of this subject, ten years ago, I convinced myself that the amblyopia of squinting eyes was not due to disuse. At that time I thought that I was alone in that view, but on looking up the literature of the subject, I found that Schweigger had said the same thing some years before. I think that after operation, there is no decided improvement in vision. It is sometimes said that there is, but this is largely due to the fact that the vision was not carefully measured before the operation. I have never been able to increase the vision to any extent after operation.

Dr. George C. Harlan, of Philadelphia. It has been my experience that vision is not materially improved by operation. I have at times attempted to compel the patient to use the affected eye by keeping the fixing eye under the influence of atropia for a long time. In some cases, I have succeeded in improving the vision in the amblyopic eye. I recall one case in which the vision was increased from $\frac{20}{cc}$ to $\frac{20}{L}$. Some two years later, this was still retained, the axis having become straight under the use of correcting glasses.

Dr. W. F. Mittendorf, of New York. In those cases where there is a central scotoma we can not expect any improvment from an operation, but there are certain cases in which vision is at once improved. I have thought that this was to be explained by the removal of the undue pressure exerted by the internal and external recti muscles, which is different from that exerted by the superior and inferior recti. Taking away this pressure, puts the eye in a more favorable condition and we should expect better vision.

Dr. Samuel Theobald, of Baltimore. I regret that Dr. Noyes was absent when the early part of my paper was read, for I have taken up the objections which he has brought forward.

In regard to the restoration of binocular vision my test has been as follows: If we cover the eye which formerly squinted, we find that there is still a balance of power in the internal rectus. If the amblyopia is not of too great a degree, the patient is directed to fix his eyes on a certain object. The squinting eye is then covered and it at once turns in. When the covering is removed it again turns out showing that it did so to obtain an image upon a corresponding point of the retina. To my mind, that is conclusive evidence of the restoration of binocular vision. In regard to vision, I assert that where there is a considerable amount of amblyopia, there is no appreciable improvement after operation, but this has no bearing upon the question whether the amblyopia is congenital or due to suppression.

Dr. B. Alexander Randall, of Philadelphia, reported

TWO CASES OF SEVERE TRAUMATISM OF THE EYE WITH PARTIAL DISLOCATION OF THE CRYSTALLINE LENS.

In the first case, a man of fifty, there were three points of rupture of the sclera visible on the upper surface of the globe, with some tendency to hernia of the contents. The upper half of the lens was in the anterior chamber in front of the iris, the lower half apparently being in nearly the normal position. Its extraction was advised, but delay being asked, the operation was deferred. The lens receded under rest in bed and other appropriate measures. The scleral rupture healed and in spite of disseminated opacities in the lens and in the vitreous, which prevented at any time a view of the eye-ground, the vision increased to about one-thirtieth of the normal. The patient has since been at work and fairly comfortable, the other eye giving no suggestion of sympathetic trouble. The injured eye shows little tendency to grow worse, although the lens is still luxated backwards.

In the second patient, a boy of twelve, the lens was less markedly luxated, but the ophthalmoscope showed two rents in the choroid, the larger, a little outside of the macular region, the other close to the temporal margin of the optic disk. In connection with the latter there was a reddish area of choroid, embracing the upper and inner border of the disk, where the force had apparently been insufficient to rupture the membrane, but had given it a twist causing its inflammation and subsequent atrophy. The case progressed to an excellent recovery. The vision which had been lost improved to $\frac{6}{12}$M+, and the accommodation to the extent of some five dioptrics. The choroid rents healed with little but pigmentation to mark their sites.

The eye which had shown a high degree of myopic astigmatism, probably by reason of the dislocation and rotation of the lens, returned to the approximately emmetropic condition of the other eye. The early and late appearances of the eye ground were illustrated by colored sketches.

The next paper was on

BADAL'S OPERATION. LACERATION OF THE INFRA-TROCHLEAR NERVE FOR THE RELIEF OF GLAUCOMA, ETC., WITH CASES,

by **J. S. Prout**, M.D., of Brooklyn.

In 1882–83 Badal, of Bordeaux, proposed the laceration of the infra-trochlear nerve (*nerf nasal externe*, of the French), for the relief of glaucoma accompanied by pain. He selected this nerve because it is the direct extension of that branch of the ophthalmic, the nasal, from which the eye-ball receives its nervous supply. It emerges from the orbit, just below the insertion of the pulley of the superior oblique muscle and supplies the skin at the root and side of the nose and the caruncle, lachrymal sac and nasal duct. It is readily reached by an incision along the margin of the orbit running from the pulley to the upper margin of the tendon of the orbicularis muscle. It is small, soft, not easily recognized, lies on the periosteum and is to be taken up by a hook with its accompanying vessels and stretched and torn by pulling directly forward. Very little bleeding occurs. Sutures are used to close the wound which under ordinary dressing soon heals. Small painful nodules are sometimes left at the point of rupture. No anæsthetic is needed as the time is short and there is but little pain except when the nerve is torn. The rationale of the operation is not explained.

In severe cases, when a short delay may be fatal to the eye, he advises that the operation be combined with evacuation of the aqueous humor. A great advantage of the operation is that, as it does not attack the eyeball. it will be accepted by patients much more willingly than a sclerotomy or iridectomy. Four of his patients assented to it only on condition that the eyeball should not be touched. When it has failed, he has not had better results from other operations.

Badal, in 1883, reported his results in twenty operations on eighteen patients. nearly all of whom were unpromising for any operation. Pain was relieved at once in ten cases, rapidly in one, gradually in five, not stated in four. Tension was relieved quickly in four, gradually in eight. not relieved in six. not stated in two. Sight had been long lost in seven, it was improved in four, not improved in four, and not stated in five.

Dr. Prout has performed the operation nine times on five patients, which he reported. All were unpromising cases. In one there was for a time. decided improvement of vision; in one there was temporary relief from moderate, and in one from severe pain; one was a case of glaucoma simplex, operated on without benefit, another a case of hæmorrhagic glaucoma, not benefitted. Others have reported much better results. In the *American Journal of Medical Sciences* for July, 1886, Dr. C. S. Bull refers to a paper by Lagrange, who strongly commends the operation, as efficient, especially against the symptom, pain.

Dr. Prout drew the following conclusions: the operation has been shown to deserve further trial, especially in cases unfit for operations on the eye-ball. it cannot make matters worse as to the eyes; relief of pain. even if only temporary, is worth procuring at the cost of so slight an operation; it is important that cases be recorded so that its value may be ascertained.

DISCUSSION.

Dr. C. S. Bull, of New York. In my cases where the operation was performed for the relief of pain in glaucoma or ciliary neuralgia, while the relief was marked immediately after the operation, it was temporary only and in every case returned.

ADVANCEMENT OF TENON'S CAPSULE IN STRABISMUS,

by H. Knapp, M.D., of New York.

This operation was devised by de Wecker five years ago. He performed it in the following manner: A piece of conjunctiva, five millimetres long and ten millimetres high, is detached from the region of the insertion of the tendon as a centre, leaving a small band near the cornea. Tenon's capsule is now incised near the insertion of the tendon and loosened alongside of and under the muscle. The capsule is then stitched forward by two sutures, entering through the conjunctiva to the capsule at the lower and upper edges of the muscle and coming out in the conjunctiva above and below the cornea. The greater the piece of capsule loosened and stitched forward the greater the effect. If the effect appear too great, the stitches are removed the next day. If not, they are allowed to remain four or five days. De Wecker used capsular advancement for cases of insufficiency to strengthen the weak muscle, and for high degrees of strabismus, both convergent and divergent.

Dr. Knapp, during the present summer, had done the operation ten times. His operation differed from that above described in leaving a broader conjunctival flap and in using a third middle suture. His intention was to advance the whole anterior portion of the vertically folded muscle and the capsule and produce plastic inflammation which through subsequent cicatrization will shorten the parts. The operation was performed in two cases of convergent strabismus due to paralysis of the external rectus. In these cases the operation caused decided improvement.

The eyes could be approached to within four millimetres of the outer commissure. The formerly paralyzed external muscle had gained a considerable degree of power. The operation was performed on two cases in which former tenotomies had not overcome the difficulty. The operation was followed by improvement in both cases. In six cases, the operation was performed for convergent strabismus of high degree with considerable amblyopia. The results have all been quite good.

In none of the cases has there been any alarming reaction, although there was for some weeks redness and swelling in the region of the advanced capsule. At first Dr. Knapp had used catgut sutures, but one gave way on one occasion and since then he has employed black-silk sutures. Antiseptic precautions have been employed in all cases. The speaker preferred advancement of Tenon's capsule to simple advancement of the tendon, because the operation is simpler and attended with less risk. The preservation of the natural attachment exposes the muscle less to inflammation and there can be no undue retraction in cases of failures. His experience with limited advancement of Tenon's capsule has been quite encouraging.

DISCUSSION.

Dr. George C. Harlan, of Philadelphia. Does Dr. Knapp consider this a safe operation? Four or five years ago I did the operation a number of times and was much pleased with it until I had a case of pan-ophthalmitis. Of course antiseptic precautions were not employed at that time.

Dr. H. Knapp. I considered it a dangerous operation a year ago, but my views have changed considerably since then. Under antiseptic precautions, the danger is much lessened. Where suppuration occurs within the first twenty-four hours, it is certainly the result of infection, and not due to the traumatism alone.

A CASE OF TUMOR OF THE LEFT OCCIPITAL LOBE,

by Dr. Emil Gruening, of New York.

The chief interest in the case lay in the fact that the disease of the brain was localized by the existence of homonymous hemianopsia. Diagrams showing the course of the optic fibres were shown. At the autopsy a hard mass was found in the left occipital lobe and the whole cortex of this lobe was destroyed.

NEW FORMATION IN THE VITREOUS OF BOTH EYES,

by Dr. J. S. Prout, of Brooklyn.

The patient was a young man, aged twenty-six. He had never had any trouble with the eyes. In the right eye there is a band arching forward. There is no evidence of any relation to the papilla. The speaker thought that in all probability it was a remnant of the fœtal circulation of the vitreous. In the left eye there was a similar band. Drawings showing the appearance presented were exhibited.

Dr. Edward Jackson, of Philadelphia. presented a

LENS SERIES FOR THE REFRACTION-OPHTHALMOSCOPE.

Dr. John Green exhibited and described a new

SERIES OF TEST-LETTERS.

Dr. Charles A. Oliver, of Philadelphia, presented a

SET OF METRIC TEST-LETTERS,

and words for determining the amount and range of accommodation. They are made of six sizes of differently arranged words; each word contains three or four of the seven letters, C, D, E, T, O. L, F. Each letter is made in exact conformation with the Snellen basis. The adoption of such a series puts the determination of the acuteness of vision and of accommodation upon a uniform basis.

A CASE OF RETINITIS ALBUMINURICA: INDUCED PREMATURE LABOR,

by Dr. S. D. Risley, of Philadelphia.

The patient, the wife of a physician, was seen September 24, 1884. She was between the fourth and fifth month of pregnancy. She had suffered with headache and giddiness. The urine had been examined a week previously and no albumen found. At this time there was marked disturbance of vision. In a previous pregnancy she had had albuminuria, but no trouble with sight. In the second pregnancy there had been no trouble.

The ophthalmoscope showed albuminuric retinitis of both eyes. The urine contained a large quantity of albumen. After standing two days, the albumen constituted four-fifths of the entire contents of the test-tube. After consultation with her husband and Dr. William Goodell, the induction of abortion was advised, but to this the patient positively refused to consent. Finally, after consultation with her clergyman, she consented.

Labor was induced, and she was delivered of a fœtus at five months. She then passed into an unconscious condition, in which she remained four days. There were no convulsions as consciousness gradually returned; evidences of right hemiplegia with aphasia was noted. The quantity of albumen gradually diminished. Six months later the lady was able to return to the office. There were still some traces of aphasia. Vision was greatly improved.

The object in reporting the case was to put on record an additional experience in this problem presenting so many serious considerations.

Dr. B. Alexander Randall exhibited a

MODIFICATION OF THE LORING OPHTHALMOSCOPE,

which consisted in adding a series of cylinders from .25 D. to 4 D.

THE FREQUENT INSTILLATION OF A TWO PER CENT. SOLUTION OF NITRATE OF SILVER IN PURULENT OPHTHALMIA,

by Dr. J. A. Andrews, of New York.

He had employed this method in thirty-five cases of gonorrhœal ophthalmia, and the eyes were seriously damaged in none of them. The cases were all severe, with much discharge, chemosis, and swelling of the lids. The applications were repeated usually three times a day, sometimes as often as five times per day. The use of the nitrate of silver is graduated to the amount of hyperæmia, and especially to the amount of swelling of the lids. If this is marked, I do not fear to repeat the instillations frequently.

Dr. Russell Murdoch, of Baltimore, exhibited an impervious covering for the sponge in the administration of ether.

MEASUREMENT OF ASTIGMATISM BY THE OPHTHALMOMETER OF JAVAL AND CHIOTZ,

by Dr. H. D. Noyes, of New York.

The instrument is useful for purposes of rapid determination, for confirmation, and in doubtful cases of diagnosis.

Dr. H. D. Noyes also read the following papers by title:

BURNS OF THE EYE BY FULMINATE OF SILVER AND FULMINATE OF MERCURY.

CASES OF FOREIGN BODIES IN THE GLOBE, INCLUDING TWO CASES OF SPONTANEOUS EXTRUSION.

The officers for the ensuing year are as follows: *President*, Dr. William F. Norris, of Philadelphia; *Vice-President*, Dr. Hasket Derby, of Boston; *Secretary and Treasurer*, Dr. O. F. Wadsworth, of Boston; *Corresponding Secretary*, Dr. J. S. Prout, of Brooklyn.

The next meeting will be held at the Pequot House, New London, Conn., on the third Wednesday of July, 1887.

Adjourned.

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ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.[1]

JULY 21, 22, 23, LONG BRANCH, N. J.

THURSDAY, JULY 22.

Dr. C. L. Dana, of New York, read a paper on

PSEUDO-TABES FROM ARSENICAL POISONING.

The reader remarked that the first object of his paper was to report two somewhat unique cases of arsenical paralysis presenting the symptoms of tabes dorsalis. Next, to show that arsenical paralysis, like paralysis from diphtheritic poisoning and from alcohol, presents two types. One might be called the mixed or ordinary form, and the other the ataxic form. And to show also, if possible, that the ordinary teaching that arsenical paralysis is due to a diffuse myelitis is not correct, and that these paralyses are really the result of a multiple neuritis.

The conclusions arrived at were:

(1) That a disease resembling locomotor ataxia may be caused by arsenic given medicinally, absorbed from wall papers, or taken in a single large dose.

(2) That arsenical paralysis of this type, and arsenical paralysis of other types are not due to a diffuse myelitis, as has been taught, but to a multiple neuritis.

(3) That arsenical paralyses, like those from diphtheria, alcohol, and probably other infections and poisons, are of two types.

(a) The ordinary mixed motor and sensory paralysis.

(b) The pseudo-tabic form, in which there is no pronounced motor paralysis, but marked sensory troubles, especially ataxia.

Dr. Mills said the subject of arsenical paralysis was one in which he was especially interested. In referring to the case which Dr. Dana mentioned, and which he (Dr. Mills) had reported, he said that the case was one of poisoning from Paris green, and that since then he had reported a series of cases. He thought that in these cases of metallic poisoning the true way was, not to regard it as a myelitis, neuritis, or myositis, but to look at it as a protoplasmic poisoning. That the poison, as the causing agent, affects the nervous protoplasm in varying degrees, according to the circumstances, and although Dr. Dana had asserted his reasons for regarding this disease as a neuritis, he regarded it as a myelitis. In the case just mentioned, other members of the family partook of the poison; one died with symptoms of encephalitis, one or two came near being permanently paralyzed, and others remained with the symptoms of neuritis; this, Dr. Mills thought, indicated that a broader and better generalization be taken.

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[1] Continued from page 166.

Dr. Sinkler stated that he could recall some points in the case Dr. Mills mentioned; there was atrophy of the muscles of the upper extremities, atony of the bladder, marked reaction of degeneration, but the patient suffered no pain.

Dr. Mills regretted he could not substantiate Dr. Sinkler's remarks, but he thought the patient suffered considerable pain, and anodynes were used largely.

Dr. Jacoby stated that he had reported a case of lead-poisoning in which the diagnosis was very difficult indeed. The diagnosis was pseudo-tabes, due to lead-poisoning. He had expressed his opinion that the ataxia was due to a lesion in the cord; that view he now desired to correct. He would now say it was a multiple neuritis, due to lead-poisoning. The patient recovered completely, with absolute return of the patella-tendon reflexes.

Dr. Sachs remarked that, in speaking of these cases, they were called arsenical and lead poisoning, as though the symptoms were similar; these poisons have also been compared to the poisoning in diphtheria. Now, as we know that in infections the poison spreads to the most distant parts of the body, why should it not, in these cases, be peripheral, as well as central?

Dr. Mills thought arsenical-poisoning could produce a neuritis, but myelitis or cerebritis more often occurred.

Dr. Dana, in closing the discussion, stated that perhaps he had put his case rather stronger than he had intended, but the ordinary teaching was that arsenical-poisoning produced a myelitis. The main point he desired to bring out was that there is a form of the disease resembling locomotor ataxia; he thought this should be known. He also wished to show that arsenical-poisoning can bring about a multiple neuritis.

Dr. Sinkler read a paper on

THE TREATMENT OF FACIAL SPASM.

He entered at length into the results which have been secured by others in such cases, quoting an interesting case that came under his observation, in which the biceps of the right arm was also affected. All the teeth upon the right side of the mouth were removed, but gave no relief. Gelsemium, cannabis-indica, quinine, eserine, nitro-glycerine, and electricity were used, but without any marked result; in fact, the pain now extended to the right thigh and leg. The operation of stretching the facial nerve was decided upon after consultation. From the date of the operation up to the present time there has been no spasm; the force used in the stretching of the nerve was estimated to be about twenty-five pounds. When Dr. Sinkler saw the patient, about four weeks after the operation, the right side of the face was palsied, she could not shut the right eye, and the corner of the mouth hung down; but she assured him she was willing to remain that way, rather than return to the former terrible twitching. Dr. Sinkler thought, in this case, the disease was of peripheral origin, and that in such cases, after therapeutic measures have failed to relieve, the operation of stretching should be performed without any unnecessary delay.

Dr. Massey remarked that he had seen a case a few days since which was first brought to him a year ago. He had, at that time, applied the galvanic current, and during the following year the patient had been entirely free from pain.

Dr. Dana thought statistics were rather fallacious; also that some cases might get well with a slight operation, or perhaps none at all. It must be taken into account that the case mentioned by Dr. Sinkler had only been operated upon four months ago.

Dr. E. D. Fisher, of New York, read a paper on

REMARKS ON EPILEPSY,

enumerating the various phenomena occurring during convulsions. He relied chiefly upon the use of bromides for the relief and cure of the disease.

Dr. Sachs read a paper, entitled:

INTRACEREBRAL HEMORRHAGE IN THE YOUNG.

After referring to the increased attention neurologists are paying to the cerebral accidents of children, the writer recorded his conviction that intracerebral hemorrhage is more frequent in children than it is generally supposed to be, and that many cases of this sort are classified under the head of meningeal hemorrhage. Dr. Sachs then reported two cases of intracerebral hemorrhage, one in a boy two and a half years of age, and the other a young man of nineteen years. The first case was given in full in order to place the diagnosis upon a firm basis. The child had typical right hemiplegia with aphasia without coma or convulsions at the time of onset. The onset was slow, aphasia setting in first, paralysis of the arm and leg some hours later. The recovery was typical of that which takes place in many cases of adult hemiplegia from apoplexy.

The reasons were given why the writer held that in this case the apoplectic attack was due to hemorrhage rather than to embolism or thrombosis. As regards the differential diagnosis between meningeal and intracerebral hemorrhage, the lack of convulsions seemed to be of unusual significance. In meningeal hemorrhage, convulsions are invariably present and their absence might argue, other things being equal, in favor of intracerebral hemorrhage. In the second case the young man had had two apoplectic attacks, exactly one year apart. The histories of these attacks were very similar to the one given in the first case. In the first mild attack all symptoms developed and ended typically. In the second attack the onset was slow, there was coma lasting for over eighteen hours, and recovery was not complete, contractions having set in in the affected arm. No convulsions at any time. There was no specific history.

Using these two cases as a basis, the author of the paper entered upon a discussion of the changes in the walls of the cerebral arteries, permitting an effusion of blood into the brain substance. Autopsies on this condition are very scarce, but there is good reason for supposing (reference was here made to some recently reported cases of Dr. Osler) that miliary aneurisms occur in young children, and that fatty degeneration of the cerebral arteries (permitting transudation of blood through the vessel-walls — Recklinghausen) is not an infrequent condition:

Discussion was invited on the following points:

(1) Frequency of intracerebral as compared with meningeal hemorrhage in young persons not the subjects of specific disease.

(2) The value of convulsions as a factor in differential diagnosis.

(3) Pathological changes in the walls of the cerebral arteries in the young.

Dr. Mills thought that intracranial hemorrhage occurred in the young more frequently than was imagined. He had made three autopsies in children from the same family, all three of whom had died within a few days after birth; he found extensive meningeal hemorrhage in all these cases.

Dr. Lloyd then quoted two cases occurring in young men, one eighteen years of age and the other less. In one case it followed close upon an attack of diphtheria; in the other, the elder, the patient complained in the morning of not feeling very well, and was compelled to go back to his bed. When Dr. Lloyd saw him, he had passed into coma with convulsions on the right side of the body. In this case the patient was a confirmed inebriate. When first seen, coma and convulsions had set in, there were waves of spasms sweeping over to the paralyzed side, there was also extreme lateral deviation of the eyes; right facial paralysis, face being drawn to the left side. Dr. Lloyd was a little puzzled about the case, as he did not expect to find a confirmed drunkard at the age of eighteen years. The boy died in a few hours and the case had to be handed to the coroner. At the autopsy there was absolutely nothing found which would account for the conditions mentioned.

Dr. L. Zenner thought in these cases it was difficult to tell except by the autopsy, whether it was hemorrhage, thrombosis or embolism; he considered that mere symptomatology was not sufficient in these cases for a diagnosis to be based on.

Dr. McNutt spoke of a case in which there were convulsive movements on the body and face of the same side. At the post-mortem the brain was examined very carefully, but there was simply œdema of the brain; there was no hemorrhage on either side of the brain.

Dr. Amidon thought the lesion might occur in the circulatory apparatus, more especially the arteries. The most natural thing to look for would be miliary aneurism as remarked by Dr. Sachs, although he was inclined to think that that was a disease of adult life. He has seen pathological specimens where the aorta was narrowed, the patient dying very suddenly from inter-cerebral hemorrhage. Barié has reported twenty-seven cases in which he states the narrowing of the arteries is almost always below the origin of the left subclavian artery: some of the patients previously suffered from vicarious menstruation or epistaxis.

Dr. Sachs begged attention to a fact in regard to prognosis. He thought it made a great difference whether the child suffered from convulsions or not.

Dr. Zenner, of Cincinnati, presented a case of

AUCTIONEER'S CRAMP,

remarking that it came under that large group of cases termed professional neuroses, which generally affected the muscles of the extremities, but in this case the muscles of the face only were involved, mainly if not entirely those of articulation, and as far as he knew nothing similar had been reported, and, therefore, he thought it of great interest to the profession. The doctor then gave the following history:

Patient a male, 45 years of age, of good family history, had always had excellent health, following the occupation of an auctioneer. In March, 1885, was confined to his house for a month with an ulcer upon one of his legs; during that time his health, with that exception, was good. He had been an exceptionally busy man, calling sales from morning till night, often refusing to leave the sale to obtain his lunch. After recovering from the ulcer and resuming his calling he noticed at the first sale which he cried that he had some difficulty in his articulation but it was not such as to cause him to desist from speaking. After three or four successive sales, during which time the difficulty kept increasing, he was compelled to abandon business entirely. He now began to notice occasional slight difficulty in articulation in ordinary conversation and also some subjective symptoms consisting of a sense of fatigue of the muscles after talking, a sense of throbbing and a dragging sensation at the left corner of the mouth. Dr. Zenner saw him about a month after these symptoms were first felt. At that time there was considerable general nervousness shown, further than this there have been no symptoms of disease, his general health being excellent. His weight is about the same, appetite fair and sleeps well, general motility on application of electricity normal, as are also the tendon-reflexes.

Dr. Zenner presented the patient and drew attention to the fact that when the face was in a state of rest, there was a certain increase of depth of the nasal fold and a drawing-in of the left corner of the mouth, which was due to a tonic spasm; the patient also felt a certain sense of pressure there, as though the cheek were pressed against the teeth. In ordinary conversation the contraction of the muscles are scarcely visible, in fact some of his acquaintances have not noticed anything abnormal.

Dr. Zenner then requested the patient to call five rapidly as in calling a sale. On the rapid repetition of the word the contraction of the muscles upon the left side of the face was very marked, these being tense like a rigid band while the right corner of the mouth was drawn upward making it almost appear as though the contraction of the muscles was upon the right side of the face while the left to an ordinary observer would appear almost normal; the patient also complained of a sense of very painful fatigue on the left side of the face. The orbicularis oris in this case seemed to be the muscle principally involved, but the other muscles were somewhat affected. Dr. Zenner also stated that the patient himself had discovered that by putting the end of a pencil under the lip and pushing it upward to remove the tension he could be much relieved and could articulate much better (this effect was proved by the patient before the meeting). In this case electricity, massage and manipulation have been applied. The muscles respond to the current as promptly upon one side as the other, but this treatment has effected no very satisfactory results.

Dr. Wilder remarked that from where he was sitting the difficulty seemed to be upon the right side of the face.

Dr. Jacoby said the same idea had occurred to him.

Dr. Van Bibber asked if the patient ever had any previous affection of the face or ears.

Dr. Zenner replied that he had not, and that the first thing he had noticed was a slight heavy aching feeling in the left corner of the mouth, which had gradually increased. Dr. Zenner thought that the muscles of the affected side being brought so constantly into action by one continual effort might account for the condition of subjective symptoms presented. Poore, in his analysis of cases of writer's cramp speaks of the neurosis being due to a persistent activity of certain muscles where the act of prehension is brought into play; this somewhat resembles the present case in requiring greater than ordinary effort. The patient himself has never accepted the fact that his calling of sales has produced his difficulty, but rather attributes it to having taken cold while confined to his house for that month, as he was in the habit of sitting by an open window. Dr. Zenner did not dispute that there might be some other elements involved. He concluded that although he had administered the iodides, electricity, etc., that if these were pushed a little further, together with more thorough application of massage and electricity and no better results secured, it would be advisable to resort to stretching of the facial nerves of the left side.

In answer to questions Dr. Zenner replied there were no contractions in drinking unless an effort was required, and no specific history so far as he had been able to learn.

Dr. L. C. Gray inquired if he had been examined by the opthalmoscope.

Dr. Zenner stated that he had sent him to a specialist for that purpose, and there was nothing abnormal in that respect.

Dr. Gray then asked if, on examining him with galvanism, any difference was observed in the contraction of the muscles.

Dr. Zenner replied not in the orbicularis oris, to which he had specially directed his attention.

Dr. Lloyd asked if the patient suffered from vertigo.

Dr. Zenner replied he did not.

The President remarked that the case was one of extreme interest, and that he was inclined to regard it as a professional neurosis, and cited a case in which he had been called in consultation by Dr. C. U. Turnbull, of Philadelphia. The patient was an actor playing in the Mikado at one of the theatres; this man was compelled in his part to distort his face to a peculiar expression requiring great effort. The result of this effort was followed by double vision, which at last compelled him to seek Dr. Turnbull's advice; he was then suffering from paralysis of one of the external recti muscles. There was one peculiarity, and that was that, with an increased voluntary effort, the patient could draw the affected eye into its normal position.

Dr. Mills thought cerebral exhaustion was a factor in this condition, and stated that although this condition lasted some time, the patient had almost recovered.

Dr. Mills also thought this patient of Dr. Zenner presented appearances of secondary contractions, and that this condition was extremely difficult, if not almost impossible to alleviate. The case presented symptoms which he had observed in cases of peripheral neuritis, which had spread and involved a large part of the muscles of the face, and he thought that a slight peripheral neuritis might have been the starting point. The question was whether it was central or peripheral, and if central, whether a disease of the nuclei or the higher centres. Dr. Mills thought the line of treatment suggested by Dr. Zenner very good, rest to the parts and an endeavor to restore nutrition being most desirable; he also thought that if recovery was delayed under these conditions, stretching of the nerve should not be postponed too long, and that stretching of the facial nerve was distinctly indicated when other means failed.

Dr. Gray remarked that he had made a diagnosis of lesion of the facial nerve, and asked if there were any symptoms of aphasia.

Dr. Zenner replied that the patient had never lost the pronunciation of a word.

Dr. Gray remarked it would require a most careful examination by the electric current to form a differential diagnosis, but he had thought, while making his examination, there was a difference of power of the two sides, and that the patient was paralyzed on one side of his face; that there was a difference in the closing of the eyes, and also, when the patient closed his lips upon the speaker's fingers, there was evidently a loss of power upon the left side.

Dr. Zenner, in closing the remarks, said that he would not deny that there was or had been neuritis present, though there was no direct evidence of it, no apparent paralysis or degenerative electrical reactions. He had not pretended to say what was the exact seat or nature of the disease in this patient. In most cases of professional neuroses the nature of the disease is altogether obscure; probably there may be a different pathological basis in different cases. In a number of cases of writer's cramp neuritis appeared to be the cause. But that his own case was properly classified with professional neuroses was based upon the features peculiar to almost all such cases, first, that it seemed to have as its cause the excessive use of the affected muscles, secondly, that the peculiar symptoms were brought out, in each instance, only when those muscles were brought into play by a voluntary act.

When the patient attempts to repeat a word rapidly there is a rigid contraction of the muscles at the left angle of the mouth, pressing it firmly against the teeth, and at the same time some of the muscles on the right side contract, though much less forcibly, pulling the mouth toward the right side. The elevator muscles of the left upper lip alone take no part in the spasm, so that it appears as if there were paralysis of that side of the face, and the face is merely drawn to the other side. But the patient revealed that there was no paralysis of these muscles by exposing upper and lower teeth, by moving the mouth to one side and the other, all of which was as well done on the left side as right. The strength of the elevator muscles of the left upper lip was farther shown by the patient's holding the lip elevated while the examiner made forcible and persistent efforts to pull it down.

The speaker has repeatedly examined the patient for paresis of some of the muscles, which is often the basis of spasms of various kinds, as in cases of writer's cramp and in other kinds of spasms, but has never been able to detect any marked weakness of any of the muscles.

(To be continued.)

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THE REPARATIVE POWER OF THE AGED.

The attempt to give a prognosis as to the duration of life in an old person in whom there is no actual disease, but who is approaching what some one has felicitously termed physiological death, is often a difficult matter. Friends who wish to be present at the closing scene inquire whether they may safely go away for a day or a week with the expectation of finding the patient living when they return, and it often happens that the physician's best judgment as to the patient's probable capacity for holding out is sufficiently at fault to cause the friends the needless relinquishment of business or other plans, for a considerable time before the dissolution takes place.

As persons in whom the vital currents are not strong, often endure operations and confining accidents better than those in rude health, so there is sometimes in the aged a surprising resistance to exhausting influences. From childhood to age the ratio of the force-production to the needs of the economy is constantly growing less, till the surplus available for repair and growth seems well-nigh exhausted. Yet perhaps the actual demands on nutritive activity in the processes of repair are not so very great; and the condition of rest and quietness attending the diminished nerve-susceptibility of old age may be more promotive of reparatory processes than an excess of nutritive force without such quietness. It has been said that over-action is the greatest enemy to repair.

Some two years ago Dr. Humphrey, Professor of Surgery at the University of Cambridge, published the information gathered by a collective-investigative inquiry in one of the branches of the British Medical Association. In the paper containing these data the author endeavored to show that certain injuries commonly supposed to be difficult or impossible of repair in the aged, were so, not so much on account of the age of the victims as from other causes. For instance, the rare union of intracapsular fracture of the thigh, he claimed, is due to the peculiar condition of the part, to the separation of the broken surfaces, to the buried position of the inner fragment in the cavity of the acetabulum which permits the contact of the fragments as well as the formation of any uniting medium around the point of fracture, rather than to the fact of senility. The character of the fracture was compared to that of the olecranon and the patella, and it was shown that bony union takes place firmly and quickly in the aged in extra-capsular fractures, or in any others where the fragments can be kept well in contact. As to whether intracapsular fractures, which are uncommon in earlier life, do as a matter of fact heal much better than those in old age, there is apparently not much evidence attainable.

Dr. Humphrey has gathered more information on the reparative powers of the aged since his previous communuication and he gives some of the results in the *British Medical Journal* for August 7. Among notable cases illustrating this point he cites the following:

> "(1) James Pearson, aged 104, recovered from attacks of diarrhœa at 75 and 90, and from fractured neck of the thigh-bone at 101. In what manner the bones united cannot be determined. He goes about with crutches.
>
> "(2) Rebecca Burn, aged 104, Dr. Whitby, of Hunstanton, relates, had injury to her hip from a fall at 96, which kept her in bed two or three months, and she quite recovered.
>
> "(3) Fanny Covill, aged 100 and six months, whom I saw in Yorkshire, in August last, had a severe fit with loss of consciousness, for which she was bled, at 60; and, again, two fits of the same kind at 70; she quite recovered, and has had none since.
>
> "(4) William Chappell, aged 100, had renal dropsy at 82, which lasted two years, and was cured by elaterium. He had a large slough on the thigh, from a bruise, at 99, and quite recovered.
>
> "(5) Miss Hastings, aged 104, had acute bronchitis at 95, at 98, and 99, each time severely, had pneumonia and erysipelas of the head in her hundredth year. She recovered from all these; and, in her 104th year, had an attack (severe) of pneumonia in both lungs, which passed through its ordinary course, and, in the words of Dr. Pike, of Malvern, she threw off the disease wonderfully, and the lungs cleared up well, leaving only the chronic bronchitis, from which she had latterly suffered; but she did not again fully recover her strength.
>
> "(6) M. L., aged 108, fractured the wrist at 104. Good callus formed, and there was complete consolidation of the fracture. (Information derived from a resident of Nantes; whether medical man not stated).
>
> "(7) William Hodge, aged 101, had shingles at 99, and recovered.
>
> "(8) Ann Trew, aged 101, recovered from a severe attack of bronchitis at 82.
>
> "(9) Mrs. Pallett, aged 104, had severe fever at 84, and quite recovered.
>
> "(10) Dr. Black, of Wimpole Street, tells me of a lady who recovered rapidly and completely from a Colles's fracture at 89, and completely from burns and scalds on the hands at 92.
>
> "(11) Dr. Horder, of Cardiff, relates of a man, aged 92, that he has had two attacks of bronchitis and one of pneumonia in the last four years.
>
> "(12) Dr. Campbell, of Liverpool, relates of a woman, aged 97, that she completely recovered from an attack of acute bronchitis at 95.
>
> "(13) I was told that James Betts, aged 91, whom I saw at Norwich, had severe erysipelas of the head and face at 89, and quite recovered.
>
> "(14) Mr. Ronaldson, of Haddington, states that a man, aged 97, had a severe attack of bronchitis at 88, resulting in complete recovery."

A clear distinction is made by Dr. Humphrey between the power in the aged of bearing up against the first impulses or initial shock of disease and that of recovering from its effects, or, as he expresses it, between the power to withstand the tidal flow of disease and that of repair during its ebb. The depression caused by the onset of an acute malady in the aged is explained by the fact that a febrile temperature means a waste and dissipation of heat, which is exactly what old age has the greatest difficulty in maintaining. Hence the rapidity with which old people succumb to a trifling febrile attack, even a cold. But the onset having been resisted, the patient often develops remarkable reparative power, as also in the case of ulcers, wounds and fractures. Even in senile gangrene, where the nutrition of a part has been so poor that it could not keep itself alive, there is often evidence of much vital energy in the region most nearly adjacent to the separated part.

Of course when there are lesions of any portion of the nervous system, these reparative processes will not occur. Perhaps in other cases Dr. Humphrey is unduly sanguine of the resisting power of old persons, but the cases he has collected, give us warrant in hoping in the care of the aged, if we can fortify them against the first onset of an acute malady, to find in nature a strong and often unlooked for recuperative force.

FUNCTIONS OF THE THYROID GLAND.

Schiff[1] has recently published the results of numerous extirpations of the thyroid gland in animals, from which it would seem that complete thyroidectomy is not the trivial and harmless operation which it was formerly supposed to be. Maignien,[2] in 1842, published a memoir in which he pointed out what he considered as important relations between the thyroid and the intracerebral circulation, a principal office of that gland being "to compress the carotids against the vertebral column, and thus diminish the afflux of blood to the anterior parts of the encephalon," and, according to Schiff's experiments, complete and simultaneous extirpation of the two thyroids in mammals is attended with grave cerebral symptoms, and is almost invariably fatal.

Out of sixty dogs on which the operation was performed only one survived, after severe sickness, and all the others died between the fourth and twenty-seventh day of cerebral disease, the symptoms consisting "of a singular mixture of paralytic (or paretic) and irritative and convulsive phenomena." If only one thyroid was removed at a time, a considerable interval between the two operations being allowed, the symptoms were less alarming, though still grave, and the animal generally survived. The operation was performed in every case with due antiseptic precautions, and all possibility of septicæmia seems to have been excluded. Herzen has lately repeated, and with the greatest care, the experiments of Schiff, and with complete confirmation of Schiff's results. In every instance, within a limited period after the thyroidectomy, the animal was taken with rigors, convulsions, symptoms indicating hallucinations of terror, then cyanosis, coma, paralysis and death. His conclusions are as follows: "The effects of thyroidectomy really and solely depend on *absence of the thyroid*, and they are the expression of a *cerebral affection*, probably cortical."[3]

These experiments recall the paper read by Prof. Kocher, of Berne, at the Twelfth Congress of German Surgeons in 1883, on "Extirpation of Goitre and its Consequences." This paper was based upon one hundred and one cases of partial or total removal of the thyroid in man for goitre. The partial extirpations, as far as they could be followed up, were apparently followed by no unfavorable results, but of the eighteen cases of total extirpation, sixteen showed more or less considerable derangement of the general health of a distinctly progressive character, changes which eventually were highly suggestive of idiocy, cretinism and myxœdema; in the two other cases, unusual conditions were developed which may have accounted for their exceptionally favorable course.

THE SOMERVILLE POISONING SENSATION.

The recent developments in the case of Sarah A. Robinson, of West Somerville, Mass., charged with poisoning successively through a series of years seven members of her own family, the last her own son, an amiable and promising young man twenty-one years of age, indicate, if reports should be confirmed, a degree of diabolical wickedness hardly equalled since the days of Lucretia Borgia, for in this instance, the incitement to the murder of kith and kin seems to have been a cold-blooded and sordid lust for petty life-insurance moneys, and not the eager impulse of envy, hatred or jealousy. Mrs. Robinson also stands accused of other crimes of a similar nature, and we understand that arsenic in large quantities has been found in the stomach of the last of her supposed victims. She awaits her trial at East Cambridge, and if convicted on the principal charges, she will have won for herself a place in history by the side of Hieronyma Spara and the notorious Parisian poisoners of the 17th century.

Professional poisoners are apt to resort to arsenic to accomplish their purposes, and the famous Italian poison of the last century, with which the notorious Toffania is said to have caused the death of more than six hundred persons, was composed of neutral arsenical salts. The celebrated elixir of La Spara, which was secretly sold all through Europe as a sure specific for ridding husbands or wives of uncomfortable partners, and which was stated to be "a slow poison, clear, tasteless and limpid, and of strength sufficient to destroy life in the course of a day, week, month, or number of months, as the purchaser preferred," was an alkaline solution of arsenious acid.

There is also evidence that the famous "succession powder" — the secret of whose manufacture the Marquise de Brinvillers, of the 17th century obtained of her lover, St. Croix, and with which she caused the tragic death of her father, her two brothers and sisters, besides hosts of other victims (according to her own confession) — was a compound of white arsenic with some inert substance. The career of the Marquise excited such terror in France that Louis XIV instituted a distinct tribunal, the *Chambre Ardente*, to investigate cases of poisoning by the "succession powder;" many persons of the first rank, such as the Maréchal de Luxembourg and the Princess Louise of Savoy, were examined on suspicion, but no one was executed except the pretended sorcerer, Voisin, in 1680, after which time there seemed to be no farther call for the "Fiery Chamber."

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[1] Revue Med. de la Suisse Romande, February and August, 1885.

[2] Compt. Rend. de l' Acad. des Sciences, t. xiv, p. 75.

[3] Semaine Medicle, August 11th, 1886.

Moreover, that compound of less romantic associations, sold under the name of "Rough on Rats," owes its poisonous properties to arsenic, and is used not only to destroy vermin, but has frequently proved itself a too convenient tool for both suicide and murder.

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MEDICAL NOTES.

— The foolhardy continue to experiment with themselves with the result of possibly throwing some light on what the human body can endure under certain severe conditions. Two men have, within a few months, gone through the whirlpool rapids at Niagara Falls, one completely enclosed in a cask built for the purpose, and another having his body below the neck similarly enclosed, but with his head left out. Last Sunday a young man made the passage with no external appliance but a life-preserver of cork buckled about his trunk. He was ten minutes in going through the rapids, and was at one time submerged for ten seconds consecutively. He reports himself to have been unconscious several times during his transit, and says that a person utterly unable to swim would stand as good a chance for his life as the most expert swimmer. He does not believe that any one could accomplish the task without the aid of a life-preserver. The only reliable life-preserver for such cases seems to be to stay ashore.

— The *New York Sun* contains the following:

Manager. "How old is your child, madam?"—*Woman*. "Eleven months, sir."—*Manager*. "Male or female?"—*Woman*. "Female."—*Manager*. "What experience has she had as an actress?"—*Woman*. "She was with Foshay's combination two months, sir, and has also played an engagement at the Madison Park Theatre."—*Manager*. "I will assign her a part in our forthcoming play, 'A Father's Crime and a Grandfather's Sin; or, the Lost Child.' First rehearsal Tuesday at 10 A. M."

That this is not altogether an "imaginary conversation" is shown by the fact stated in a newspaper interview by a dramatic star of some note, that he began his professional career in a Philadelphia theatre at the age of six weeks.

— At a recent meeting of the Central Veterinary Society of Paris, M. Nocard stated that all birds, living in contiguity with human beings, were liable to contract a bacillary tuberculosis. He had met with four poultry yards infected with tuberculosis, where the epidemic could only be accounted for in one way, and that way was contact, either direct or indirect, with persons in the last stage of phthisis. In a fifth instance of tuberculosis in a poultry-yard, the element of contagion must have existed in the excrement of tuberculous cows which was devoured by the birds. Experiments proved that inoculation or ingestion of tuberculous products taken from mammalia, rendered birds tuberculous. In tuberculosis produced by tuberculous products of animal origin, the distribution of visible lesions, and the morphology of the bacilli, are identical with those observed in cases of natural tuberculosis.

— In one of the forges of the royal gun factory at the royal arsenal, Woolwich, an appalling accident occurred while a party of men were employed in casting a great ingot of steel for the construction of an 8 6-ton gun. The mould was a cylinder standing on end in a pit of about ten feet square, and the iron floor of the pit formed the bottom of the mould. Into this was poured about eight tons of molten steel from a patent gas furnace, and the casting would have been perfect if the usual period of two hours had been allowed for its growing cool, but in about one hour after the metal had been run, a man descended into the pit to block up the mould casing preparatory to its being removed. The steel had barely set on the outside, and, as soon as the cylinder was raised from the floor, the molten metal poured out in a deluge. The man attempted to reach the ladder by which he had descended, but was caught and overwhelmed by the liquid steel. No trace of the man could be observed in the seething well, and the metal was visibly cooling on the surface, threatening to encase the remains of its victim in a solid block of steel. The men went zealously to work with iron rods and hooks and ladles, and, notwithstanding the intense heat, succeeded in extracting a shapeless mass of human cinder, which was pronounced to be a portion of the trunk. The head and limbs were not recovered but after the metal cooled some portions of them were found projecting above the surface.

◆

Miscellany.

SALICYLATE OF COCAINE IN ASTHMA.

A comparatively new method of treatment in asthma nervosum has lately been tried we learn from the *British Medical Journal*, July 17, by Professor Mosler, of Greifswald. It is now well known that cocaine has not only a local action on the sensory nerve-endings, but also a central one, which, at first stimulating to the nerve centres, may, if the drug be pushed, become sedative or even narcotic. By this peripheral or central effect, it may, therefore, act in such spasmodic diseases as asthma. Early last year Beschorner published two cases of this disease which were much benefitted by cocaine. In three cases, Professor Mosler has obtained excellent results. All these cases occurred in young people of twenty-three to twenty-five years of age, and were uncomplicated by any organic heart or lung disease. The drug was given subcutaneously, in doses of 0.4 gramme, at the commencement of the attack. The first patient, who had a bad family history as regards lung disease, and in whom the asthma has lasted eleven years, was relieved after the third injection; two more doses caused abeyance of the attacks (which occurred previously every day) for a fortnight, when the patient was lost sight of. In the second and third cases, the treatment was more rapid in cutting short the attacks, which in the end were postponed for the three or four weeks during which the patients continued under observation. The injections caused, in one case, a slight sense of faintness and the appearance of dark spots before the eyes; but these symptoms soon vanished. It is, of course, impossible to draw from these cases any conclusion as to the permanent benefit of the treatment. Extended experience will perhaps show that the drug is only a palliative. It is in the hope of inducing other practitioners to try the treatment that Professor Mosler has published the results of his cases.

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STATISTICS OF THE PUBLIC WARDS IN THE UNITED STATES.

The report of Fred. H. Wines, special agent of the tenth census on the defective, dependent and delinquent classes, has been sent to the Senate, and the main points of it are given in the despatches to the daily press. The report contains a large number of interesting tables respecting the criminal and pauper classes of the United States. Among other things, it shows the total number of prisoners confined in jails, workhouses, and penitentiaries, etc., in the United States in 1880 to be 58,609, of which 53,604 were males and 5,005 females, 45,802 natives and 12,807 foreigners, 41,861 whites and 16,748 colored. The number of prisoners to each million of population is given as 1,069. In 1870 it was 853. The number of insane persons in the United States in 1880 is given as 91,959, or 1,833 for each million of population. In 1870, the total number was 37,432, or 971 for each million. Among the insane are 130 males and 138 females, who are also deaf mutes; 245 males and 282 females who are blind, and 16 males and 14 females who are deaf and dumb and blind. The number of homeless children (16 years and under) in 1880 was 57,423, of which 30,171 were males and 27,252 females; 55,613 were native born, and 18,210 of foreign birth. The number of white homeless children is given as 54,883, and that of colored as 25,040.

The number of idiots in the United States reported as receiving special training is 6,809. This idiotic class increased from 24,527 in 1876 to 76,895 in 1880. In the former year, the ratio was 636 to each million of population, and in the latter year it was 1,533. The number of the idiotic deaf mutes is: Males, 1,185; females, 937; idiotic deaf mutes and blind, males, 107; females 110; idiotic and blind, males, 661; females, 525.

The total number of blind in the United States in 1880 was 48,926, or 976 in each million of population. The number of blind reported as receiving instruction is given as 1,691. The number of blind who are also deaf mutes is: Whites, 84 males and 107 females; colored, 28 males and 29 females; blind and idiotic, whites, 595 males, 463 females; colored, 66 males, 62 females.

The number of deaf mutes in the United States in 1880, who are reported to have received special instruction in the various institutions for the deaf and dumb, is 12,154. Of any of the States, New York furnishes the largest number of this class of persons (1809), and Florida and Nevada the smallest number (six each). The Territory of Wyoming has none. The number of outdoor paupers in 1880 is given as, males, 10,290; females, 11,305; 17,902 are natives and 3,693 foreigners: 19,328 white and 2.267 colored.

The number of almshouse paupers in the United States in 1880 was: Males, 35,564; females, 30,639; of which 37,603 were white, and 5,717 colored.

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THE USE AND ABUSE OF TEA.

We make the following extracts from a leading editorial in the *British Medical Journal* (July 24), on this subject:

As might be conjectured from the nature of the physiological action of tea, the effects of its abuse fall chiefly on the nervous and digestive systems. Nervous irritability, palpitation, insomnia, and sense of brain-fatigue are among the most prominent of the neurotic symptoms; and, although it is unquestionable that these symptoms are often etiologically connected with other sources of nervous disturbance as well as tea-drinking, it is not less clear that they are greatly aggravated by the excessive use of tea. The digestive symptoms are impairment of the appetite, pain and flatulence during the process of digestion, and defective intestinal action — the symptoms, in fact, of one of the varieties of atonic dyspepsia. How far these symptoms are due to the thein contained in tea, and how far to its tannin, is a question. Sir William Roberts has shown that the most rapid infusion does not prevent the dissolving out of a large proportion of the tannin, and we are disposed to conjecture that the digestive symptoms may to a large degree be safely attributed, not to any chemical action, but to the same cause which produces the neurotic disturbance, namely, the thein.

The sufferers from excessive tea-drinking may be grouped into three classes:

First, there is the large class of pure brain-workers, who speedily discover that, while alcohol is pernicious to them, tea affords the stimulus which they desire. They indulge in it without fear of mischief, and often to an unlimited extent. Dr. Johnson's tea-drinking was proverbial, and many distinguished writers could tell a similar tale. After a time, the neurotic symptoms enumerated above begin to make their appearance, and, in many cases, do much to impair temper, and to limit the capacity for sustained intellectual effort.

Secondly, there is the large class of women of the better classes who, beginning with afternoon tea, often end by using their favorite stimulant in the intervals between all the meals of the day, and as often as the humor takes them. The result is that appetite becomes impaired, and the prostration due to insufficient nourishment is combated with more potations of the ever welcome stimulant, until the vicious circle is well established.

Thirdly, in all our large manufacturing towns there are numbers of factory-operatives, especially women, who, finding it difficult to provide a cheap and appetizing mid-day meal, fly to the tea-pot, and do a large amount of severe physical labor on this miserable dietary. It is most important to impress upon this class, who are usually profoundly ignorant of everything concerning health and diet, that tea is not a food, and that the delusive sense of satisfaction which it bestows is a dangerous snare.

In addition to the above classes, there is a small group of persons to whom tea seems a positive poison. We know that idiosyncrasy accounts for the most extraordinary departures from the normal rule in matters of diet or the action of medicine; and the number of persons whose idiosyncrasy includes an intolerance of tea is considerable enough to make the subject worthy of professional attention.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 14, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	722	355	32.90	14.42	22.26	.42	5.24
Philadelphia	971,363	362	157	19.04	14.56	14.32	3.64	—
Brooklyn	690,000	331	177	37.20	9.30	26.10	.90	6.00
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	219	105	31.28	11.50	23.46	1.38	4.14
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	177	102	29.12	9.36	19.60	2.24	2.24
Cincinnati	325,000	148	72	33.33	13.60	13.60	4.08	9.52
New Orleans	238,000	107	31	21.39	16.74	9.30	.93	1.86
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	108	59	31.28	19.40	19.32	5.52	2.76
Pittsburgh	190,000	102	49	35.24	17.64	9 80	.98	1.96
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	34	—	70.56	19.68	48.18	2.94	8.82
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	17	8	23.52	21.76	11.76	5.88	—
Charleston	60,145	53	28	22.56	5.64	11.28	—	—
Worcester	68,383	24	17	61.40	—	53.05	8.32	—
Lowell	64,051	34	21	47.04	2.94	44.10	—	2.94
Cambridge	59,660	24	—	33.28	20.80	24.96	—	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	17	8	35.28	11.76	35.28	—	
Lawrence	38,825	14	7	21.42	21.42	21.42	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	13	10	69.21	—	11.52	7.69	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	5	30.76	7.69	—	15.38	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	10	6	70.00	—	70.00	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	25.00	—	25.00	—	—
Brockton	20,783	7	1	14.28	28.56	14.28	—	—
Newton	19,759	11	6	54.54	18.18	54.54	—	—
Malden	16,407	6	4	33.33	—	33.33	—	—
Fitchburg	15,375	5	3	60.00	20.00	40.00	—	20.00
Waltham	14,609	6	3	16.66	16.66	—	—	16.66
Newburyport	13,716	4	1	25.00	—	25.00	—	—
Northampton	12,896	4	3	75.00	—	50.00	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,076: under five years of age 1,239: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 562, consumption 315, lung diseases 133, diarrhœal diseases 562, diphtheria and croup 96, typhoid fever 56, whooping-cough 31, measles 27, malarial fever 24, scarlet fever 21, cerebro-spinal meningitis 11, puerperal fever six, erysipelas two. From measles, New York 10, Charleston five, Baltimore three, Cincinnati, two, Philadelphia, Brooklyn, Boston, and Cambridge one each. From malarial fevers, New Orleans nine, New York six, Baltimore three, Brooklyn and District of Columbia two each, Philadelphia and Nashville one each. From scarlet fever, Pittsburg seven, New York and Brooklyn three each, Philadelphia, Cincinnati, and Providence two each, Boston and Baltimore one each. From cerebro-spinal meningitis, New York four, Pittsburgh three, Cincinnati, District of Columbia, Fitchburg, and Waltham one each. From puerperal fever, New York and Brooklyn two each, New Orleans and Providence one each. From erysipelas, New York and Brooklyn one each.

In the 19 cities and greater towns of Massachusetts, with a population of 907,642 (population of the State 1,941,465), the total death-rate for the week was 24.56 against 25.02 and 26.39 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending July 31st the death-rate was 20.6. Deaths reported 3,593: infants under one year of age 1 399; acute diseases of the respiratory organs (London) 172, diarrhœa 646, measles 83, whooping-cough 59, fever 39, scarlet fever 23, diphtheria 22.

The death-rates ranged from 11.2 in Hull to 31.0 in Leicester: Birkenhead 24.1; Birmingham 18.9; Bradford 17.6; Leeds 18.9; Liverpool 21.2; London 22.0; Manchester 21.9; Newcastle-on-Tyne. 18.8; Nottingham 18.0; Sheffield 14.9.

In Edinburgh 21.3; Glasgow 20.4; Dublin 17.3.

For the week ending July 24th, in the Swiss towns, there were 25 deaths from consumption, lung diseases 10, diarrhœal diseases 18, measles three, diphtheria and croup two, whooping-cough two, typhoid fever two, small-pox one.

The death-rates were: at Zurich 5.7; Geneva 7.1; Basle 17.0; Berne 13 9.

For the week ending July 31st, in the Swiss towns, there were 36 deaths from consumption, lung diseases 21, whooping-cough six, scarlet fever two, erysipelas, typhoid fever, and puerperal fever one each.

The death-rates were: at Zurich 11.5; Geneva 9.1; Basle 28.1; Berne 21.4.

The meteorological record for week ending August 14, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Aug. 14, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 8	30.106	64.7	74.9	56.3	89.0	68.6	83.0	80.0	N.E.	E.	W.	15	6	12	O.	C.	C.	—	—
Monday,.. 9	30.265	73.6	86.0	63.3	83.0	44.0	80.0	69.0	W.	W.	W.	12	10	12	C.	C.	C.	—	—
Tuesday,..10	30.102	74.6	86.0	64.0	73.0	43.0	68.0	61.3	W.	S.W.	W.	12	17	12	C.	C.	C.	—	—
Wednes... 11	29.761	78.1	87.9	65.1	80.0	51.0	83.0	71.3	W.	W.	W.	12	13	9	F.	F.	C.	—	—
Thursday, 12	29.768	77.0	85.7	71.3	73.0	44.0	57.0	58.0	W.	W.	N.	12	8	4	O.	F.	F.	—	—
Friday, ...13	29.916	74.4	82.7	65.4	56.0	49.0	75.0	60.0	N.E.	S.W.	S.W.	4	13	10	C.	C.	C.	—	—
Saturday, .14	29.684	73.5	81.2	66.4	86.0	68.0	53.0	69.0	S.W.	W.	N.	8	13	12	O.	C.	C.	6	1.22
Mean, the Week.	29.943	73.7	83.3	65.3				66.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 14, 1886, TO AUGUST 20, 1886.

Bailey, J. C., major and surgeon. Granted one month's leave of absence. S. O. 111, Division of the Atlantic, August 17, 1886.

Sternberg, George M., major and surgeon. Granted leave of absence for fifteen days. S. O. 186, A. G. O., August 12, 1886.

Bentley, E., major and surgeon. Granted one month's leave of absence, and at its expiration to report for duty as post-surgeon at Little Rock, Ark. S. O. 113, A. G. O., Division of the Atlantic, August 18, 1886.

Tremaine, W. S., major and surgeon. Sick leave further extended six months. S. O. 187, August 13, 1886.

Loring, L. Y., captain and assistant surgeon. Leave of absence granted him in S. O. 59, Division of the Pacific, August 2, 1886; extended two months on surgeon's certificate of disability. S. O. 189, A. G. O., August 16, 1886.

Taylor, B. D., captain and assistant surgeon. When relieved by Surgeon Bentley to proceed to Jackson Barracks, La., and report for duty as post-surgeon. S O. 113, C. S. Division of the Atlantic.

Hopkins, W. E., first lieutenant and assistant surgeon. Ordered from Fort Lowell, A. T., to Angel Island, Cal., for duty as post-surgeon. S. O. 61, Division of the Pacific, August 6, 1886.

Wales, Phil G., lieutenant and assistant surgeon. Relieved from duty in the Department of Columbia, and to report in person at headquarters, Division of the Pacific, for further orders. S. O. 62, Division of the Pacific, August 9, 1886.

Borden, Wm. C., lieutenant and assistant surgeon. Assigned to temporary duty at Fort Bridger, Wyo., during absence of Assistant Surgeon Crampton. S. O. 100, Department of the Platte, August 9, 1886.

Mason, Chas. F., lieutenant and assistant surgeon. Assigned to duty as post-surgeon at Plattsburg Barracks, N. Y. S. O. 113, Division of the Atlantic, August 18, 1886.

PROMOTIONS.

To be surgeon with the rank of colonel:

Magruder, David L., lieutenant-colonel, July 26, 1886, vice Brown, retired.

To be surgeon with the rank of lieutenant-colonel:

Alexander, Chas. T., major, July 26, 1886, vice Magruder, promoted.

To be surgeon with the rank of major:

Cronkhite, Henry M., assistant surgeon, July 26, 1886, vice Alexander, promoted.

APPOINTMENTS.

To be assistant surgeon:

Walker, Freeman V., of Georgia, July 27, 1886, vice Cronkhite, promoted.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 21, 1886.

Stone, Dr. E. P., commissioned an assistant surgeon in the Navy, August 5, 1886.

Wentworth, A. R., assistant surgeon. Ordered to temporary duty, Navy Yard, League Island and Pennsylvania.

Lippincott, G. C., past assistant surgeon. Ordered to Annapolis, Md., for temporary duty, member Medical Examining Board.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING AUGUST 14, 1886.

Carter, H. R., passed assistant surgeon. Granted leave of absence for thirty days, August 12, 1886.

Glennan, A. H., assistant surgeon. Granted leave of absence for thirty days, August 9, 1886. To examination for promotion, August 12, 1886.

Bettus, W. J., assistant surgeon. When relieved at Savannah, Ga., to rejoin station, New Orleans, August 13, 1886.

IN MEMORY OF FRANK HASTINGS HAMILTON.

At the meeting of the Chicago Medical Society, held August 16, 1886, the annexed preambles and resolutions were unanimously adopted:

Whereas, This Society has learned with deep regret of the death of Dr. Frank Hastings Hamilton, of New York, and,

Whereas, In his death the United States has lost one of its most distinguished surgeons, one of its ablest teachers, one of the purest patriots, and in his private life, one of the most amiable men.

Therefore be it resolved by this Society, that we hereby give public testimonial to the many virtues of the deceased, and that we tender his family the assurance of the profound sympathy of this Society with them in the hour of their affliction, and that an *engrossed* copy of these resolutions be furnished them, and a copy spread upon the records.

BOOKS AND PAMPHLETS RECEIVED.

Twenty-Seventh Annual Announcement and Catalogue of the Hahnemann Medical College and Hospital of Chicago, Ill., 1886–87.

Fifth Annual Announcement and Catalogue of the Womans' Medical College of Baltimore. For the Session 1886–87. With an alphabetical list of all the graduates of the college. Baltimore, 1886.

Erysipelas and other Septic and Infectious Diseases Incident to Injuries and Surgical Operations prevented by a Method of Atmospheric Purification (Second Presentation.) With an Original and New Wood-cut, and with a Report of Cases of Laparotomy. By David Prince, M.D., of Jacksonville, Ill. Second Edition. (From the American Practitioner and News for April 3d and 17th, 1886.)

Annual Announcement of the Buffalo College of Pharmacy. Department of Pharmacy, University of Buffalo. For the Session of 1886–87.

Arabic and Hebrew in Anatomy. By F. B. Stephenson, M. D., United States Navy. (Reprinted from New York Medical Journal for July 24, 1886.)

Fifth Annual Report of the State Board of Health of the State of New Hampshire: For the Fiscal Year ending April 30, 1886. Manchester: John B. Clarke, Public Printer. 1886.

Original Articles.

AN EPIDEMIC OF MALARIA IN EASTERN MASSACHUSETTS.[1]

BY ZABDIEL B. ADAMS, M.D., OF FRAMINGHAM.

Of the various theories of the nature of the disease, that of Professor Cantani, of Naples, seems the most complete, if not the most satisfactory, of any. It is, that "the malarial infection depends upon a parasite (once supposed to belong to the family of algæ.) Tomasso Crudeli, Klebs, and especially Marchiafava,[2] claim to have demonstrated the existence of a malarial microbe. It enters into the blood probably more readily by way of the digestive tract than by the respiratory organs. Unquestionably water is the surest vehicle of the infection, and drinking-water is the source from which arise the worst forms of the malady. No other mode of introduction gives such severe infection. It is quite uncertain if it ever enters by the air alone."

However it may enter the blood, the micro-organism finds its way to the spleen, which, under the stimulus of its presence, undergoes a disturbance of its nutrition and becomes enlarged.

In a person with normal spleen and healthy elastic capsule, the germs, entering this organ and multiplying in it, stimulate it until its contractile elements excited to action expel the blood into the general circulation, carrying with its stream the microbes which have collected. The reaction of the organism under the excitement of the presence of this ferment in the blood, produces chill, fever, and sweating. With the fever the germs are destroyed or are eliminated, and thus the access is ended. Then there is a pause, during which the germs may rapidly multiply and again excite the spleen to contract, or there is a stage of relaxation and rest, while the multiplication of the germs goes on until the exhausted spleen recovers its contracility again, and we have another expulsion of its contained blood, and another access of fever.

If the spleen is healthy and capsule elastic, this may be repeated every day, the power of contraction being quickly restored; or with a less degree of sensibility we may have an interval of forty-eight or seventy-two hours.

It follows that the more perfect the sensibility of the spleen the shorter the intervals of rest; and in the quartan form, which is the most obstinate and rebellious, the stimuli become more powerful in their phlogogenic elements.

Thus the enlargement of the spleen in the chronic form of malaria is explained. In this form certain stimuli which act upon the liver may awaken the torpid contractile elements of the spleen, and produce fever. Thus, in those suffering with chronic enlargements, mountain air may cause an access. Certain errors in diet may do the same, especially the abuse of certain fruits; and it is suggested in this connection that some vegetables that ripen upon the ground, such as melons, may give rise to malaria by introducing the germs directly into the intestinal tract. The fever is perhaps the reaction of the body against an enemy which threatens life. An access of fever is fatal, as is well known, to many of the micro-organisms (witness the spirilli of recurrent fever). The fever is in this view a beneficient act of nature.[3] This is the theory of Prof. Cantani.

All the phenomena of the attack point distinctly to a nervous origin. A man in apparent health suddenly has a chill. His fingers and toes turn blue and cold, and shrink as if parboiled. The whole surface has a dusky hue. He complains of headache. is sick at his stomach, and perhaps vomits. He cannot sustain himself, and lies down. Suddenly he is convulsed with a shudder so profound as to shake the bed, the room, and the whole house. The external application of heat gives no relief. While the surface is chilled the internal parts become hot. This goes on for an hour, two hours, perhaps longer. Here is every indication of vaso-motor disturbance or irritation, resulting in driving the current of blood upon the internal organs. Then follows a burning fever. The temperature mounts. The face becomes flushed, headache more violent, thirst intense, and great restlessness. The theory is pretty generally accepted that *fever* is due to some irritation of the nerve centres of heat in the medulla or in the spinal cord. Dr. W. M. Ord, in an address before the London Medical Society last year, gave a striking and ingenious explanation of the origin of pyrexia. In the process of growth, he says, heat disappears. This Dr. Ord demonstrated to his own satisfaction in a growing cucumber. Whenever the constructive processes are arrested or disturbed, heat is set free. In the destructive changes in the body it is known that heat is generated. Fever follows, therefore, whenever nervous force enters to disturb or interfere with the *constructive*, and also to increase the *destructive*, metabolic processes. The sweating stage must be dependent upon the same cause as the preceding chill and fever.

But the intermission, the sudden and complete cessation of all symptoms, almost compels the conclusion that the phenomena are of nervous origin.

Then with regard to the spleen. Experiments by vivisection have shown that the spleen is capable of undergoing great modifications in size by irritants applied to the medulla.[4]

Paralyzing, or inhibiting, the splanchnic nerves caused the spleen to dilate. The volume of the spleen, of course, corresponds to the amount of blood it contains. The malarial infection may, either directly, or by acting as a ferment in the blood supplied to the part, or by stimulation even of the peripheral extremities of nerves, so irritate the medulla as to cause the spleen to dilate by reason of inhibition or paralysis of its nerves. The paralysis ceases and the spleen resumes its normal size, expelling the excess of blood.

This view does not, perhaps, differ irreconcilably from that of Prof. Cantani, as given above.

The modern views of the origin of disease, and especially the germ theory, compel us to recast our ideas of the etiology of intermittent fever.

Until a comparatively recent date it was considered, in spite of much contradictory evidence and some vague theories, that the origin of malaria in any locality was sufficiently explained, if heat, moisture, and vegetable decay, were present and active at the same time.

Now, however, there are found writers on the subject who do not hesitate to deny any and all agency of these factors in the production of intermittents.

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[1] Concluded from page 176.

[2] Prof. Cantani, by thus discriminating, would imply that the claim of Crudeli and Klebs are no longer urged. Vide page 22.

[3] Medical Clinic, Hospital Gesu e Maria Monthly Supplement, Gazetta degli Ospitali, Naples, June, 1885.

[4] Ziemssen's Cyclop., vol. viii. p. 364.

The worst possible sanitary conditions cannot produce an epidemic of small-pox, nor can

> "All the infections that the sun sucks up
> From frogs, fens, flats," ——

generate a single case of intermittent fever: but the germs of these diseases being present, who will deny that the small-pox flourishes best in badly-ventilated houses and where people are filthy, or that malaria will show itself in greatest intensity in the vicinity of swamps and stagnant water.

The study of bacteriology is still in its infancy. The method of investigation seems thus far to have followed only one direction. The cultures are made under conditions similar to those which exist within the animal economy, the germs being developed and studied under the microscope in connection with organic substances, generally animal, acting with heat and moisture.

But is it not clear that there must be modes of being, and probably stages of development, apart from the living animal body, and not dependent upon its blood-globules or albuminoids? Here is a part of the natural history of the microbe which requires notice. Unless we are willing to admit that they may be bred autochthonously, we cannot escape the conclusion that the germs are in existence during the epidemic intervals. Some, it is true, may continue their growth in other organisms, animal or vegetable; but it is a matter of belief that some survive in the graves of the dead, some exist in wearing apparel, or houses, some in dust, and some again in water or floating in the atmosphere.

What causes the microbe to develop into activity at the time of epidemics is a curious and important question. All of them doubtless obey a law of *periodicity*. There is a time of rest when the germ or spore remains neutral and harmless, and again, the conditions being favorable, it develops into virulence. There is, however, in the human organism at the epidemic period some unknown receptivity awakened, when, probably by the law of natural selection, the germ received into the body produces the disease. But must we not admit also this *active state of the germ* at the time of epidemic outbreak?

If those views are correct, two agencies combine to cause an epidemic: first, the presence of germs in a state of active growth, and secondly, a condition of the human body which determines the natural selection. It is probable that neither of these could produce the effect alone, but that both must act together. Hence the statement that zymotic diseases are maintained and spread solely by the contagious principle or germ, and "*that there are no other causes in operation*," requires modification, since, besides a state of the body rendering it receptive, some condition, possibly telluric, must exist which awakes the morbific power of the free microbe.

With regard to the germ of malaria we may infer that we know something of its natural history in its free state, and apart from the pathological phenomena which it gives rise to. First, it is bred into activity by heat, vegetable decay, and moisture, in conjunction, probably, with light and air, and thus resembles organic life in general. Then it has weight and size, since it falls to the ground, is blown about by the wind, and arrested by obstacles. It requires stagnant water for its growth; it cannot live in running streams, nor in large bodies of moving water. It is destroyed by drainage and cultivation of the soil, and is stifled or rendered inert by being covered in as in buildings, and per contra it is liberated by opening up the ground. It is carried to and fro by fog and mist, and very likely by clouds and rain. These facts are not beyond question, but they are attested by countless observers in all countries.

On the other hand we know very little about the history of other disease germs except in cultures. And what do we learn from these? The distinction somewhat insisted upon by bacteriologists between saprophytic and pathogenic germs is not important in this connection, the object being to determine how these things develop when removed from all influence of organic fluids or solids. Equally useless to this investigation are efforts like those of Vogel to harmonize the processes of disease with those of fermentation by artificial methods.

Pleomorphism is the rule, and distinct morphological characters do not indicate necessarily specific differences, which are to be sought in the whole life-history of the microbe. Dr. J. S. Billings says, "as we cultivate bacteria in different media we find a change in their form. It is possible that they may gradually change by alteration of the medium, of its chemical composition, or of its temperature." In artificial cultures in twenty-four hours the cocci are seen to have become rods, in forty-eight hours cocci-chains, in fourteen days zooglœa. Cocci transplanted again become rods. From the fusion of two cells arise, in another case, a host of potential cells each having all the powers of original cells, which powers seem to reside in the nucleus, — "this cell nucleus possessing inherent properties which make it the one essential constituent of the cell itself."

We may assume, without much fear of contradiction, that the free germ or spore or nucleus (as the case may be) exists for an indefinite period in a dry, or at least an inert, state. Further than that we believe that some are made active by contact with filth, some by moisture, others again by heat, or by all of these combined. But beyond this we must wait for the investigations of those who are making this subject a special study. Dr. E. W. Cushing[5] has found that the balcillus tuberculosis cannot live in cultures at a temperature below 85° F. And yet there must be some mode or state of being of these organisms apart from the living animal body.

Looked at in this light may we not conclude that the malarial germ in its free state is more highly organized than other microbes? In a general way the statement may be hazarded that the malarial germ does not require the agency of the animal body for its development, whereas we can scarcely point to a fact in the natural history of other microbes proving their free and independent existence.

The pathological phenomena also indicate important distinctions between malarial germs and those of the zymoses, especially. In the first place malaria never, it is believed, acts by infection or contagion. The germ escapes from the body in an inert or harmless state. While it is the rule in zymotic diseases that the germ acquires increased virulence by residence within the body (at least until the "epidemic constitution," as it is called, has been exhausted), the malarial microbe, like the Giant Antæus, born of Neptune and of the Earth, expires, if its strength be not renewed by a return to the water and to the soil. Malaria, therefore, thrives in the open country, while zymotic diseases spread chiefly in cities.

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[5] And others.

Another frequent rule is that the receptivity of the body, its power of natural selection is destroyed or diminished by the agency of the germ, a first attack preventing a second. Not only is this not true of intermittent fever or malaria, but it may be doubted if natural selection plays a very important rôle in the etiology of its epidemics, unless the fact of a periodicity in all diseases appearing before an outbreak of malaria be cited in proof of this.

Why malaria spares the colored races which are so especially prone to attacks of infectious and contagious diseases, is a question which awaits further inquiry.[6]

In 1849, Professor J. K. Mitchell, of Philadelphia, in a paper "on the cryptogamous origin of malarious and epidemic fevers," suggested a direction for the study of the etiology similar to that intended in this paper. His theory was admitted to be in harmony with the fact, but was never sustained by actual demonstration.

In 1866, it will be remembered that Dr. J. N. Salisbury declared that he had discovered the origin of malaria in the minute spores of certain species of palmellæ, which he found in great numbers in the saliva of those suffering from intermittent fever, and also in or upon marsh mud recently dried.

Others have followed in the same track without greater success. The spores or ovules of various cryptogamous organisms have been suspected. In all cases, however, it could be shown that these minute plants throve abundantly in non-malarious regions, and indeed wherever light and moisture were present. These plants cannot therefore furnish the germ, or essential factor, for which search is to be made.

What of the contagion vivum? Prof. Marchiafava and Dr. Celli claim to have discovered in the interior of the red corpuscles of the blood, in those suffering from malarial fever, minute organisms having amœboid movements, and which can be distinctly stained. These they term pla-modes of malaria. They are capable of transformation, by a process of fission, into granules not possessing motion. As infection progresses these bodies multiply, and are accompanied by an accumulation of pigment. The exhibition of quinine causes them to disappear or deprives them of all motion. They diminish as infection ceases. The intravenus injection of malarial blood will cause them to appear and multiply in the blood of the recipient. They are regarded as of a parasitic nature, and as belonging to the simplest class of protozoa. "As yet their pure culture outside of the body has not been effected, nor their natural source discovered." (*Bos. Med. and Surg. Jour.*)

The effect has been made in this paper, while covering the ground of what is believed to be known with regard to the malarial infection, to draw as near as possible to the borders of its "boggy Syrtis," and by the aid of the germ theory to throw light into the fog and mists which now shroud it from view.

It may not be too much to claim, in conclusion—*First*, that water is almost certain to prove to be its habitat, and the vehicle by which this microbe enters the human organism; *Second*, that by new methods of investigation its life-history may be studied; and *Third*, these two points being gained, that it is possible to attack the free germ, or prevent its admission to the body and thus the disease may be checked.

In the future undoubtedly new devices will be employed for the prevention of epidemic diseases. Thus far the only effectual method has been that introduced by Jenner and vaccination, namely, the exhaustion of the "epidemic constitution" in the human being. In most of the zymoses this factor is first in importance. But to prevent the development of epidemic virulence in the free microbe is probably in certain diseases of equal, if not of greater, necessity. In malaria, for example, may not this parasite be found and destroyed in its dormant, chrysalid, or nascent, state? May it not be sought and studied in water better than in the animal fluids? And, if this be admitted, there seems no clear and sufficient reason why our other senses, smell, taste, perhaps touch, aided by chemistry, it may be, or possibly electricity or mechanical means, should not, in this simple element, help us in accomplishing that which, in the case of bacteria and bacilli, is only possible to the organ of sight assisted by the microscope.

ABDOMINAL CELLULITIS.[1]

BY JULIAN A. MEAD, M.D., OF WATERTOWN.

The term abdominal cellulitis does not appear in the index of any medical work that I have consulted; and its analogue, pelvic cellulitis, is fast yielding to the influence of the modern analytical tendency, which divides and sub-divides each subject until the broad and distinguishing characteristics of the whole are overshadowed by the peculiarities of the part.

Without the least desire to call in question the great gain that this classification has conferred upon our profession, it has seemed to me that something perhaps may be learned by imitating the microscopist, who, by occasionally substituting the lower power for the high, obtains a more comprehensive, if less minute, idea of the nature of the pathological condition under examination.

The abdominal cavity contains a large amount of what is known as cellular or areolar tissue. It surrounds and supports the various organs, and is distributed so universally throughout the abdominal cavity, that it is necessarily concerned in most inflammations, and is the seat of the chief changes that result.

The areolar tissue consists of loosely-interlaced bundles of two forms of fibrous tissue, the white and yellow, with flattened connective-tissue corpuscles adherent to them, together with a great quantity of capillary vessels, nerves, and lymphatics, and, in most places, fat.

According to Gray, the chief use of the cellular tissue is to bind parts together; while, by the laxity of the fibres and the permeability of its areolæ, it allows them to move on each other, and affords a ready exit for inflammatory and other effused fluids.

This tissue, when inflamed, whether in the abdomen or elsewhere, undergoes important changes. The essential changes that take place in inflammation have been satisfactorily demonstrated; the difference in the symptoms depends largely on the seat and intensity of the inflammation, and their variability is not a valid argument against the unity of the process.

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[6] That an acquired melanosis of malarial origin, or that the protection against insect bites afforded by a dark skin, should be accepted as a sufficient explanation of the exemption of the colored races from malaria, seems to the writer to be not consistent with the facts, and not sustained by authority.

[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 8, 1886, and recommended for publication by the Society.

The credit of the modern explanation of inflammation belongs to Cohnheim; it matters not whether or no we admit that a proliferation of the fixed corpuscles takes place, as is held by Virchow, Von Becklinhamen, and Stricher; the only satisfactory explanation of the phenomenon of inflammation is that afforded by Cohnheim's theory. As observed and stated by Cohnheim, the changes in an inflamed tissue are as follows: The vessels, in the order of artery, capillary and vein, at once begin to increase in size, the velocity of the blood, at first quickened, gradually diminishes, and the white corpuscles range themselves along the walls of the veins, where they move slowly along, tumbling over each other until they become stationary. On the outer contour of the walls of a vessel, usually a vein, in which the marginal layers of white corpuscles are well developed, is seen a small projection, which enlarges in length and breadth, and becomes a rounded, colorless lump. This again enlarges, puts out new pointed projections, and gradually withdraws itself from the wall of the vessel until it is attached to it only by a long, narrow stem. Finally this attachment is broken, and we see a colorless, contractile body, with one long and several shorter processes, with one or several nuclei, in fact, a white corpuscle. The white corpuscle in this way passes out of the vessel and becomes a foreign body. The number of corpuscles that pass through a vein in a certain time depends upon the intensity of the inflammation; when, however, the inflammation is fairly acute, six to eight hours suffice to completely surround the veins and capillaries. Red corpuscles also pass through the walls of the veins and capillaries, but neither white nor red pass through the walls of the arteries. The liquor sanguinis soon follows, and the surrounding tissue is soon drenched with it.

The cardinal symptoms of inflammation, heat, pain, redness, and swelling are readily understood and explained, if we bear in mind the above-mentioned minute changes that take place in the vessels. The swelling, heat, and redness are the direct result of the effused corpuscles and liquor sanguinis. The pain is caused by injury to, or pressure of the nerves. The fifth symptom, impairment of function, is accounted for by the size of the exudation, and the lack of the usual nourishment.

Such an inflammation of the cellular tissue cannot occur without causing injury, the extent of which is proportional to the nature of the cause of the inflammation, and the degree to which its harmful influence is felt.

Inflammation ends in resolution, production, or destruction. By resolution is meant complete absorption of the exudation, and restoration of the integrity of the affected part. This process begins as soon as the walls of the bloodvessels are restored to their normal condition. If the inflammation is mild, and the injury of the bloodvessels trivial, the cellular tissue is quickly relieved of the exudation, which is taken up, partly by the lymph-vessels and partly by the bloodvessels. Should the inflammation be more intense and cause considerable exudation, and a slight destruction of the tissue, the process of resolution is more complicated; the fluid part of the exudation and the cells are absorbed as before, but the solid part of the exudation must become softened and liquefied before the lymph and bloodvessels can take it away. This dead tissue, removed by the vessels, is, if not large in amount, replaced by a new and similar growth. Sometimes, indeed, the amount of this regenerative growth exceeds the original loss, and causes a hyperplasia of the diseased tissue.

Inflammation ends in production when the process is more intense than that which results in resolution, but not sufficiently intense to induce the formation of pus, and also when the circulation in the bloodvessel is not materially impaired. According to Ziegler, the cells that form this new productive tissue, granulation or cicatricial, are the same white corpuscles that have passed out of the vessels.

The essential part of the formation of this new tissue is the existence of new bloodvessels, without which the tissue would not be produced or sufficiently nourished. Unfortunately, all inflammations do not run the favorable course above described. Instead of resolution and production, there may be destruction. This happens when the nutrition of the inflamed tissue is cut off by the stoppage of the vessels on which the tissue depends for its support. The more abundant and more cellular the exudation, the more likely is the inflammation to end in destruction. Billroth says, as the inflammation progresses, the entire inflamed part is finally changed to pus, that is, to fluid tissue, consisting of cells with some serous intercellular fluid, which is mixed with shreds of dead tissue. The tissue surrounding the purulent collection is filled with cells, and is very vascular; anatomically, it closely resembles a granulating surface lining the whole cavity.

If the exudation softens and becomes liquid rapidly, it forms an acute abscess; if slowly, a cold abscess. The course of inflammation has been described somewhat in detail, because it will assist to a more intelligent understanding of the nature of the inflammatory process that takes place in the cellular tissue of the abdominal cavity. This pathological change is practically the same, whether the seat of the disease be near the cæcum or kidney, in the abdominal wall, or in the fascia behind the peritoneum. Its course and its results may be, and undoubtedly are influenced by the surroundings, but the inflammation goes steadily on to resolution, production, or destruction, with the formation of pus.

As in diseases of the kidney it is not uncommon to find one type complicated by another, and the most important symptoms obscured by the prominence of the complication, so we shall find that an inflammatory process of the cellular tissue does not in every case run a typical course. The symptoms will show that complications exist which, while they do not change the nature of the disease, modify its course and influence its manifestations.

It is generally admitted that an abscess which originates in the abdominal wall, in the sub-peritoneal cellular tissue or in the region of the loins, and is totally unconnected with disease of bone, or with ulceration of the bowels or with child-birth, is not a very common occurrence.

Dr. Gurdon Buck says that suppuration may take place in the iliac fossa behind its fascia, unconnected with caries of the lumbar vertebræ or pelvis or morbid lesion of the cæcum or colon. The same writer describes the true postfascial abscess originating in the iliac fossa from idiopathic inflammation of the cellular tissue, as follows: It represents itself in a chronic, more rarely in an acute, form, and locates itself in either the right or left iliac region. It is most frequent in adult age. The tumor which it forms rises up from the hollow of the ilium, pushing before it the fascia and outer half of Poupart's ligament so that the crest of the ilium and the anterior superior spinous process can no longer be grasped between the thumb and finger. The outer half of Poupart's ligament, is rendered tense and unyielding, and a deep seated induration may extend two or three fingers' breadth below it. The precise limits of the swelling can only be appreciated by the touch and by percussion over its abdominal portion; upon the surface, the eye perceives only a fulness or a diffuse swelling of those parts.

Of seven cases, in only one was fluctuation unequivocal. In all except one the thigh was retracted and attempts to straighten it caused pain.

The phlegmonous character of the swelling, its anatomical relation to the iliac fossa and Poupart's ligament, the absence of disease of the lumbar vertebræ and the co-existing retraction of the thigh, these points being clearly made out, are sufficient to warrant the conclusion that suppuration has taken place in the fossa behind the fascia.

Oppolzer divided the inflammatory process in the region of the cæcum into perityphlitis and paratyphlitis, the former being limited to the peritoneal envelop of the cæcum and appedix vermiformis, and the latter to the post-peritoneal and post-cœcal connective tissue. This is a refinement in diagnosis that is not warranted by actual experience. A preponderance of certain symptoms, namely, the pressure symptom in the right lower extremity; the flexed thigh; formication, numbness, pain, and sometimes paresis of the right leg; dysuria, and retraction of the testicle, and pressure upon the iliac vein inducing trombosis, show that the tissue behind the cæcum has become affected, but these symptoms do not limit the disease to this locality. In a majority of cases the peritoneal covering of the cæcum and the vermiform appendix participates in the inflammation. An English writer says that there is reason to believe that this malady is often passed over unrecognized, and is of more frequent occurrence than is supposed. This is said to be the case in children, in whom cases of iliac abscess around the cæcum are liable to be mistaken for hip-joint disease, though with perhaps scarcely sufficient reason.

This disease is generally secondary to some affection of the cæcum, but also arises from perinephritic and psoas abscess, vertebral caries, septicæmia, and external injuries such as blows, kicks, or severe compression.

In the admirable "Letters to a Young Physician," by Dr. James Jackson, mention is made of a painful tumor near the cæcum. Dr. Jackson located the pain and tumor on a horizontal line connecting the two anterior superior spinous processes of the ilium at the point where this line intersects the right margin of the rectus muscle on the right side. This tumor is felt on deep percussion. Sometimes it is superficial. Marked tenderness on pressure exists within a circumscribed space over the tumor. According to Virchow, the tumor may be as large as a man's fist, but as a rule it is much smaller. Dr. Jackson frankly admits his inability to form an opinion as to the precise seat and nature of this affection. It is clear, however, that he described what is known as perityphlitis, that is an inflammation of the connective tissue around and behind the cæcum; the accuracy of his localization and description is borne out by modern research.

The nature of this affection has been described in the beginning of this paper, and an intelligent explanation given of the swelling, pain and nervous symptoms. The gradual disappearance of the tumor in one case, and the formation of an abscess in another, was accounted for. The same treatment, namely, rest, poultices, opium, and an early opening of the abscess, that has been found beneficial in inflammations in other localities, is indicated here for the same reason. Opium and incision of the abscess should be resorted to early, on account of the danger of rupture into the peritoneal cavity. The value of opening these abscesses is shown by contrasting the sixty-seven cases, mostly treated without incision, with a mortality of forty-seven and a half per cent., reported by Bull, of New York, in 1872, with the one hundred cases treated by operation, with a mortality of only fifteen per cent., reported by Noyes, of Providence, in 1883.

Another favorite seat for abdominal cellulitis is the loose connective tissue around and behind the kidneys. This affection has received the name, from its location, perinephritis. The inflammatory process generally begins in the connective tissue behind the kidney. Perinephritis, like perityphlitis, is generally secondary, but it may be primary.

In the earlier stage the cellular tissue behind the kidney is suggested; later, as a result of the exudation of the white corpuscles and liquor sanguinis, it becomes solid and firm. This congestion causes from the first pain and tenderness. When exudation has taken place, a hard tumor appears in the lumbar region which, if the inflammatory process continues, becomes soft and fluctuating in the middle, and generally more distinct and superficial.

The inflammatory process may stop short of the formation of pus, and the swelling may gradually disappear. The inflammation is then said to have terminated in resolution. Trousseau in his Clinical Medicine mentions several cases that resulted in this way. If the inflammation goes on to suppuration the tumor should be explored, and the pus, when demonstrated, should be at once removed. An early incision is desirable, as it may anticipate an unfavorable burrowing or pointing of the abscess.

Local inflammation of the cellular tissue may occur in the abdominal walls unconnected with disease within the cavity, and may terminate in suppuration. Such abscesses are generally the result of an injury, and are usually found near the umbilicus. The absence of urgent symptoms referable to the abdomen will distinguish these abscesses from the peritoneal abscess. An effort on the part of the patient that makes the recti muscles tense, such as raising the trunk or forced expiration, will protrude the superficial and obscure the deeper tumor. These abscesses require but little treatment, and the prognosis is generally good. In case they are connected with and dependent upon some intestinal trouble, the progress and treatment depends on the extent and nature of the intestinal disease. Dr. Howell, of England, reported a case of a man with a small, hard tumor, about the size of a hen's egg, lying over Poupart's ligament, about midway between the external and internal abdominal rings. After two days the tumor began to soften, and an incision was made and four ounces of pus were discharged. On the following morning two worms were found in the poultice. Fæces passed by the wound for three weeks. The man recovered within two months. After confinement it is not uncommon to find an extra-peritoneal abscess in the inguinal region. To quote Dr. Coale, its most frequent seat is where the aponeurotic covering of the deep abdominal muscles going to the thigh passes into the fascia transversalis and Pourpart's ligament. Examination by the rectum and vagina rarely affords any information. In course of time the abscess extends upwards towards the inguinal region, where its presence soon becomes manifest. Here, as in other cases of abscess, an incision should be made as soon as its situation is obtained, and the pus removed.

The foregoing are some of the favorite seats of abdominal cellulitis. The experience of the members of this Society will prove that the list has not been exhausted. Perhaps some of those tumors of the abdomen whose character is obscure, and which do not belong to the so-called phantom tumors, nor to that class that disappear after a good cathartic, may be examples of inflammation of the cellular tissue of the abdominal cavity. It is certain *a priori* that a tumor may appear wherever there is cellular tissue, and an exciting cause for inflammation, and that, while the physician, somewhat in doubt as to the nature of the swelling, postpones aspirating, it may by the process known as resolution, gradually disappear. Such a tumor, when the result of chronic inflammation, might simulate a malignant growth, and suggest a prognosis entirely unwarranted by the nature of the case and its subsequent course. If the pathological condition is recognized, and the changes in the inflamed tissue understood, the prognosis becomes more certain, and the treatment more effective. Should the tumor tend to resolution, general treatment, together with morphia to relieve pain, and poultices to assist the resolution, will suffice. But when pus is suspected or actually demonstrated, an effort should be made at once to remove it, either by aspiration or incision.

The object sought in the preparation of this paper has been to call attention to the frequency of abdominal cellulitis; in short, the unity of its course in different parts of the abdomen; to suggest the possibility of mistaking for other diseases; to explain the nature of the disease, and to point out the necessity of an early evacuation of the pus.

— A correspondent of the *Medical Brief* states that Mr. Savory, President of the Royal College of Surgeons, was recently going round his wards at St. Bartholomew's Hospital, when he came to a case of hernia just operated upon. Turning to one of the students following him, he asked: "You have passed, have you not?" An affirmative answer was returned. "What is a good thing after an operation for hernia?" "A dose of opium." "How much would you give?" "Ten grains." "How would you give it?" "The liquid extract." How much of it would you require to give you ten grains of opium?" "Half a drachm." "They will not be long before they require an extra coroner in the district where you settle down," was his comment.

BACKWARD DISLOCATION OF THE FINGERS UPON THE METACARPUS.[1]

BY E. O. OTIS, M.D., OF BOSTON.

Two cases of backward dislocation of the index finger upon the metacarpal bone give me the text of my subject. One refused to allow a proper attempt at reduction on account of the pain, was unwilling to take ether, and can be speedily dismissed.

The other, a student, was practising jumping for an athletic tournament, and fell upon his hand, with fingers extended. He and his companions noticed at once the deformity, and tried to pull the finger into place. Failing in this, he appeared with his friends at my office. I attempted, by the "Crosby Method" — to be described later, and which was first brought to my notice several years ago by Dr. William Ingalls — to reduce it. Not succeeding, I gave him ether and renewed my attempts, but unsuccessfully. I then rested a while, long enough to have made a Levis's apparatus, which, when applied, gives one an artificially lengthened finger by which greater force can be used in extension. Then, again administering ether, I made a careful and prolonged attempt to reduce the luxation. Several times I thought this was accomplished, but the joint, being left to itself, the dislocation always recurred. Finally, I desisted, and allowed the boy to come out of ether. I then told him that the only thing to be done was an operation; an incision of some ligament or ligaments, having a very vague idea myself of exactly what was to be done. His home being not far distant, I advised him to see his parents and family physician and explain to them what I desired to do, and obtain their consent. He went home, and I did not see him again for some weeks. His finger then did not seem to be in place, nor had it regained its original freedom of motion, although he told me his family physician had performed some sort of an operation. This is the last I saw of him, and the ultimate result I do not know. The case, however, left a very vivid impression upon my mind of the possible difficulties in the reduction of a dislocated finger, quite different from that one would obtain from Keetley's single sentence upon the subject: "Dislocation of fingers," he says, "are not common, and may be reduced by extension."

Since, as Billroth says in discussing dislocations, "Everything depends on correct anatomical knowledge," I shall first consider the *Anatomy of the Metacarpo phalangeal* joint, next the *pathology* of the injury, and finally, the *treatment*, based upon the previous considerations. I shall, moreover, refer often to dislocations of the thumb in considering those of the fingers, for the two injuries are anatomically and pathologically in many respects quite alike. I shall make frequent reference to Jalaguier's recent and admirable article on the subject in the *Archives Générales de Médecine* for February, 1886.

The metacarpo-phalangeal joint is an enarthrodial one (Tillaux), characterized by the reception of a head into a cavity, the cavity being much smaller than the head which it contains. The size of the cavity, however, is much increased by the anterior or glenoid (Cruveilhier) ligament. This ligament is thick, dense and fibro-cartilaginous in texture; placed on the palmar surface of the joint, inseparably connected with the phalanx where it is thick and strong, but only loosely united to the neck of the metacarpal bone where it is thin and delicate (x Fig. I. Schüller.)

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[1] Read at the meeting of the Boston Society for Medical Observation, May 3d, 1886.

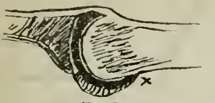

Fig. I.

The glenoid ligaments of the index and middle fingers sometimes contain a sesamoid bone. Constantly, in the index finger, according to M.M. Jalaguier and Polaillon, while two always exist in that of the thumb. There are two powerful lateral ligaments united one with another by the glenoid, and forming thus a continuous band from side to side. The glenoid ligaments are connected one with another by the transverse ligament of the metacarpal bone, which is a narrow fibrous band. The extensor tendon takes the place of a dorsal or posterior ligament according to Gray. Kelly,[2] however, says, with reference to the thumb, that the posterior ligament is a strong, independent structure, perfectly distinct from the dorsal tendons and their expansions, from which it is separated by a bursa.

The mechanism of flexion and extension is as follows, after Jalaguier: In flexion the phalanx glides over the head of the metacarpal bone through an arc of ninety degrees. The glenoid ligament is relaxed as well as the fibres of the lateral ligaments which are attached to its sides, while the phalangeal part of the latter ligaments, on the contrary, is put upon the stretch, and limits the movement of flexion.

In extension the phalanx glides from before backwards upon the head of the metacarpal bone, which, in extreme extension, almost entirely corresponds to the glenoid ligament, which becomes more and more stretched along with the glenoid fibres of the lateral ligaments. The tendon of the flexors and transverse ligament also contribute to limit extension.

If now extension is exaggerated violently, a rupture is produced at the weakest point, which is at the metacarpal attachment of the glenoid ligament (x Fig. I). In a hundred trials upon the corresponding joint in the thumb, M. Farabeuf found that the phalangeal insertion of this ligament was not once ruptured. Schüller[3] also says, in reference to the same joint, that the palmar capsule, as he calls this ligament, regularly ruptures at its metacarpal insertion in backward dislocations. In my limited experiments upon the cadaver (through the kindness of Professor Dwight and of Drs. Newell and Conant) the glenoid ligament was always ruptured at its metacarpal attachment in case of the fingers. With the thumb, however, the sesamoid bones seemed to make a difference, and in the few experiments tried, the ligament was ruptured nearer its centre, once directly through the sesamoid bones.

It is upon this pathological fact — the rupture of the glenoid ligament and its place of rupture — that all procedures for reduction must be based, and from ignorance of it that all the trouble from wrong procedures has arisen, just as in the case of the hip joint before Bigelow discovered the part played by the Y ligament. Indeed, there is quite a striking analogy in the case of the two joints in the matter of ignorance of the exact cause of the dislocation, and consequently of wrong procedures in the reduction. In attempts to reduce the hip by extension alone, the femur has been fractured, and irreparable injury done. In attempts to reduce the first phalanx by extension alone, it has been torn off, according to Hey.

The glenoid ligament, being ruptured then at the point named, the head of the metacarpal bone escapes through the rent, and the phalanx, with the torn ligament hanging to it, ascends the dorsum of the metacarpal bone. At the same time, also, the anterior fibres of the lateral ligament are torn, though Schüller says these are not necessarily ruptured. In my own experiments, it seemed necessary that these ligaments should be more or less ruptured in order that the head of the metacarpal bone should escape entirely through the rent

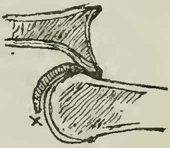

Fig. II.

Having, then, a complete dislocation, the disposition of the parts is as follows for the index finger, according to Jalaguier. The phalanx rests by the anterior part of its articular face, upon the neck or dorsal surface of the metacarpal bone (Fig. II). It is held there by the flexor tendon, deviated within by the extensor tendon, which raises the skin, and by the remnants of the lateral ligaments. The glenoid ligament, which has followed the phalanx, is in contact with the head and dorsal surface of the metacarpal bone (Fig. II). Its palmar surface has become dorsal, and corresponds to the anterior face of the dislocated phalanx, with which it forms an angle with its apex above; open if one apply dorsal flexion, and closed by palmar flexion. Its articular face rests upon the neck, or even upon the dorsum of the metacarpal bone (Fig. II).

Such being the disposition, the glenoid ligament must be brought into its place, and this can only be done by using the phalanx as a lever, and pushing before it the ligament which followed it in the act of dislocation.

The technique of the procedure is as follows: Carry back the phalanx in forced extension, keeping its base closely applied to the dorsum of the metacarpal bone. Then slide its articular surface upon the dorsum of the firmly-fixed metacarpal bone until it reaches the head of the latter, and finally flex the phalanx, when reduction ensues. All attempts at extension in a straight or flexed position, although they may be followed with success, offer the risk of making the dislocation irreducible, and are based upon a wrong conception of the part played by the glenoid ligament.

This is called the Roser or dorsal-flexion method, and also in this country, the Crosby method. Dr. Cutter quotes Dr. Crosby as saying in his lectures — "that he had never failed in the few cases which had occurred in his practice, although, in several instances, all other methods usually adopted had been tried without effect." Dr. Cutter, in the *Boston Medical and Surgical Journal* for 1857, Vol. XVII, p. 172, gives so admirably his procedure with this method, in case of the thumb, that I will reproduce it here: — "I placed the patient," he says, "in a common chair, and took a seat in another at his side, both of us facing the same way. An assistant sat behind us to hold the patient's elbow fixed. I then took hold of the metacarpal bone with my right hand, my forefinger passing between his thumb and forefinger, and my thumb resting on the top of the metacarpal bone, with the end touching the dislocated end of the phalanx. With my left hand I tipped the phalanx back until it stood perpendicularly on the metacarpal bone; then pressing the phalanx forward by the end of my right thumb, it was readily carried by flexion into place, and the joint restored to its natural condition. The manipulation was performed in a twentieth part of the time taken to describe it."

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[2] Notes on Dislocations of the Thumb, reprinted from Dublin Journal of Medical Sciences, May, 1883.

[3] Chirurgische Anatomie, part I, 1885.

If the method of dorsal flexion, when carefully and thoroughly applied, does not succeed, the indication is that the dislocation is a *complex* one, as Jalaguier terms it. This condition is generally, if not always, induced by improper manipulation, namely, by first flexing the phalanx, and then making traction upon it.

This procedure has a tendency to raise the phalangeal border of the glenoid ligament, instead of pushing the whole ligament towards the extremity of the metacarpal bone. The ligament then becomes completely reversed, its palmar surface resting upon the metacarpal bone, and its articular surface looking upward and towards the phalanx. It is interposed between the articular surfaces, and is spread out over the dorsum of the metacarpal bone, extending about a centimeter backwards from its phalangeal attachment (Figs. III and IV), thus forming an insuperable obstacle to the reduction of the dislocation. Ranke,[4] quoted by Jalaguier, opened the joint on the palmar surface in an irreducible dislocation of the index finger, and also of the thumb, and in both cases, found the glenoid ligament interposed between the two articular surfaces. The two sesamoid bones in the glenoid ligament of the thumb, and the single one in that of the index finger, when it exists, offer an additional impediment to the reduction, says Tillaux, as one would suppose. Schüller, says, with reference to the thumb, that it has been made perfectly clear that the difficulty in re-position most frequently depends upon the interposition of the capsule, as he calls the glenoid ligament. Far more seldom, he continues, upon the interposition of the tendon of the long flexor, or upon the incarceration of the head of the metacarpal bone between the muscles inserted upon the phalanx (flexor brevis pollicis). Lawrie, quoted by Kelly, also says that the interposition between the bones of the passive anterior wall of the articular fossa (which is practically the glenoid ligament) is the cardinal difficulty in reduction.

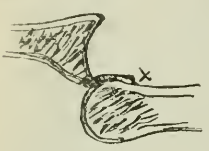

FIG. III.

Numerous are the anatomical reasons which have been given to explain this difficulty of reduction. In the "Encyclopædia of Surgery" (Vol. III, p. 679), it is ascribed to the imprisonment of the phalanx by the lateral ligaments. In Holmes's "System of Surgery," the author, upon the subject, states that the majority of writers have agreed that the flexor brevis pollicis is in some way the chief obstacle to reduction in case of the thumb. Hyrtl says that the head of the metacarpal bone is encircled by the two heads of the short flexors of the thumb as in a tightly-locked vise. Hamilton gives the reasons of many other authors.

In a complex dislocation, then, when the glenoid ligament is reversed and interposed between the two articular surfaces — a condition which is rarely primary, but due to traction made upon the flexed phalanx — what is to be done? The only chance of success, and that a small one, is an attempt to disengage the glenoid ligament, and change the dislocation from a complex to a simple one.

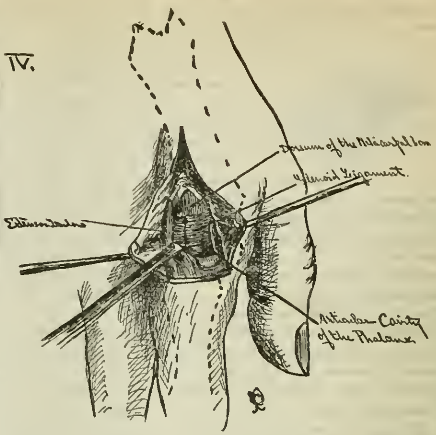
IV.
Dorsum of the Metacarpal bone
Glenoid Ligament.
Extensor tendon
Articular Cavity of the Phalanx

FIG. IV. (Jalaguier). The arrow indicates the line of incision.

To accomplish this, the same method of dorsal flexion is to be used to an extreme degree. The phalanx must be carried, if possible, beyond and behind the torn metacarpal border of the glenoid ligament, and so establish the immediate contact between the articular surface of the phalanx and the dorsal face of the metacarpal bone; then the phalanx can be carried forward, pushing the ligament before it, and finally flexed.

If this does not succeed, then the patient must submit to the inconvenience of a dislocated joint all his life, or recourse must be had to surgical interference. To apply extreme extension by means of such arrangements as the Levis apparatus, Indian puzzle, or the clove-hitch seems to me to be hazardous and irrational. Surgical interference being determined upon — as it should always be when the luxation is irreducible — what should it be, and how executed?

Numerous operations have been devised and done. Resection; section of one or both of the heads of the flexor brevis muscle, in case of the thumb; or of one or both of the lateral ligaments; or section of both muscle and ligaments; and finally, by M.M. Farabeuf and Jalaguier, dorsal subcutaneous section of the glenoid ligament, a method which they declare is both simple and absolutely efficacious. This can be done either subcutaneously or by open wound; the former would naturally be chosen.

The only instrument required for this operation, M. Jalaguier says, is a strong tenotome, with a short blade and a rather blunt point. The landmarks for the index finger are the posterior border of the glenoid cavity of the phalanx, which can be easily felt on the dorsum of the hand, and the extensor tendon. One must also determine the exact situation of the dorsal face of the metacarpal bone in its relation to the phalanx, to see whether or no the two bones are in the same axis as they should be, in order that the middle of the glenoid ligament may lie upon the middle of the dorsal face of the metacarpal bone. In order to favor this, M. Jalaguier suggests that the phalanx be brought back upon the dorsal face of the metacarpal bone. In my experiments with the operation, I found that the exact position, antero-posteriorly, of the phalanx did not make so much difference, but the two bones must be in the same axis; perhaps the best position of the phalanx is that of an obtuse or nearly right angle with the metacarpal bone. An assistant should hold the finger firmly, and making traction upon it, M. Jalaguier says, which did not seem to me to be necessary. In the thumb, and when a sesamoid bone exists in the index finger, it must be avoided. The tenotome is to be entered about two centimeters behind the base of the phalanx, and immediately outside of the extensor tendon.

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[4] Berliner Klinische Wochenschrift, 1877.

Being kept flat upon the dorsum of the hand, the knife is glided under the integument until the articular surface of the phalanx is reached. Then the handle of the knife is raised so as to lower the point, and bearing hard down upon the dorsum of the metacarpal bone, the section of the glenoid ligament is made by withdrawing the knife about a centimeter (Fig. IV). In my trials, I did not always find it necessary to incise the whole extent of the ligament, but sometimes a small incision upon its torn edge seemed to be all sufficient to allow the head of the metacarpal bone to slip back into place. If the reduction does not immediately and easily follow, the knife can be entered again and the operation repeated, for perhaps some portion of the glenoid ligament escaped incision in the former attempt.

It is hardly necessary to say that antiseptic precautions should be used. The finger should be fixed in flexion upon a tampon or wad of some light material placed in the palm of the hand. This, then, is the simple and successful method of operation in irreducible dislocations of the fingers, as proposed and executed by M.M. Farabeuf and Jalaguier, the latter of whom says in recapitulation, that, given a *complex* backward metacarpo-phalangeal dislocation of the thumb, or any one of the four fingers, attempt at first to reduce it by dorsal flexion. In case of failure, do not hesitate to use the bistoury to divide the obstacle. It is irrational to attack the muscles and lateral ligaments whose preservation is precious. The incision of the glenoid ligament made on the palmar surface is difficult and dangerous. The simplest and surest method is to cut this fibrous band on the dorsal face, subcutaneously.

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RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

RACE-CHARACTERS IN THE SPINAL COLUMN.[1]

Professor Cunningham has studied the lumbar curve of the spine in different races of men, in a few anthropoid apes, several lower ones, and some quadrupeds. He has used both frozen sections and measurements of separate bones as methods of investigation. He considers that the lumbar curve is a characteristic of less importance than is usually supposed, as he finds it in not only the higher but in the lower apes, and apparently sometimes in quadrupeds. Still it is less marked in the lower than in the higher races of mankind. In the lower races as well as in the higher it is greater in women than in men. The difference between the height of the front and back borders of the vertebræ is stated to be so slight that it cannot cause the curve, but, on the contrary, is a result of it. Though the lower races of men have the curve. the vertebræ are not moulded in accordance with it, as in the higher. It is evident that the deeper the front of the vertebræ, so much more stable must be the curve, and at the same time there must be a loss of power in bending forward. As to the origin of the curve, Professor Cunningham holds that it cannot be due to an immediate and mechanical influence operating upon the vertebral bodies during the life of the individual, for in that case the same character would be found in the lower races and even in anthropoids. It is, according to him, a hereditary condition. In the European, flexibility, which is a necessity with the savage, is sacrificed to stability. We fail to see anything in this theory that accounts for the early stages of the stronger curve of the Caucasian with the longer anterior surfaces of the bodies, but it is fair to say that the original paper, as read before the Academy, has not reached us.

In another paper the same author gives some very interesting results of studies of the spinous processes in the cervical region. "It will generally be noticed that in low races the cervical neural spines are relatively shorter and more stunted than in the European. More especially can this be observed in the case of the neural spine of the third cervical vertebra. This condition is obviously for the purpose of allowing greater freedom of movement in the cervical section of the spine, and is to be associated with other peculiarities present in the lumbar region of the low races, which give to the loin segment a greater flexibility and suppleness." The point, however, which he particularly considers in this paper is whether or not the spines of certain cervical vertebræ are forked at the end. The long spine of the axis is almost invariably bifid, that of the seventh is always simple, and that of the sixth almost always. Those most likely to vary in this respect are those of the third, fourth and fifth, but Professor Cunningham has included the second in his series. The following tables are the most important ones. The first shows the nature of these spines in 15 European skeletons, the second in 24 of lower races.

Second	Cervical	Vertebræ,	15 bifid,	0 feebly bifid,	0 non-bifid.
Third	“	“	10 “	3 “	2 “
Fourth	“	“	9 “	4 “	2 “
Fifth	“	“ .	9 “	5 “	1 “

Second	Cervical	Vertebræ,	18 bifid,	5 feebly bifid,	1 non-bifid.
Third	“	“	3 “	6 “	15 “
Fourth	“	“	2 “	7 “	15 “
Fifth	“	“	3 “	10 “	11 “

These tables speak for themselves, and show the greater tendency to simplicity in the spines of the lower races. The single case of an absolutely simple spine of the axis was in a negro. The author points out that the processes least frequently bifid in the lower races are those of the third and fourth, which are also the smallest, and this arrangement allows greater extension of the neck, as the longer spines above and below can close over these shorter ones.

AN ABDUCTOR LONGUS OF THE LITTLE FINGER.[2]

Dr. Colson has observed this anomalous muscle three times. In the first case the muscle arose from the inferior third of the inner border of the ulna and lay against the *flexor carpi ulnaris*. Becoming tendinous, it passed on the outer side of the pisiform, which it grooved, and was inserted into the inner side of the first phalanx of the little finger. It sent also a tendinous expansion to the head of the metacarpal.

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[1] The Lumbar Curve of Man and Apes, by Prof. D. G. Cunningham. Nature, February 18, 1886. Abstract of paper read before Royal Irish Academy.

The Neural Spines of the Cervical Vertebræ as a Race-Character, by the same. Journal of Anat. and Phys., Vol. xx, part 4, July, 1886.

[2] Annales et Bulletin de la Société de Médicine de Gand, 1886.

In the two other cases the insertion was the same, but in one, instead of arising from the ulna, it arose from the fascia of the *flexor carpi ulnaris*, and, in the other, owing to an accident, its origin could not be determined. Its action appears to be to abduct the little finger. These observations are believed to be unique. The muscle, moreover, is not found in apes, and the author is inclined to think it a case of a progressive anomaly, that is to say, the first appearance of a new muscle.

THE MINUTE ANATOMY OF THE BRACHIAL PLEXUS.[3]

The abstract of this paper, which was read in March, is all we have as yet seen, but we hope the entire paper will soon appear. Mr. Herringham has undertaken to trace the fibres of the spinal nerves through the intricacies of the plexus, and in some cases at least to their ends. He has made 55 dissections of which 32 were of fœtuses. The labor that this implies is great indeed. We do not give his results, which would be of no interest to most readers, but pass on to the laws which he has formulated.

"First. Any given fibre may alter its position relative to the vertebral column, but will maintain its position relative to other fibres.

"Second (*a*) Of two muscles, or of two parts of a muscle, that which is nearer the head end of the body tends to be supplied by the higher, that which is nearer the tail end by the lower nerve.

"(*b*) Of two muscles, that which is nearer the long axis of the body tends to be supplied by the higher, that which is nearer the periphery by the lower nerve.

"(*c*) Of two muscles, that which is nearer the surface tends to be supplied by the higher, that which is further from it by the lower nerve."

The following law applies to sensory nerves:

"Third (*a*) Of two spots on the skin, that which is nearer the præaxial border tends to be supplied by the higher nerve.

"(*b*) Of two spots in the præaxial area, the lower tends to be supplied by the lower nerve, and of two spots in the postaxial area, the lower tends to be supplied by the higher nerve."

The author states that similar results have been reached by others by means of other methods of research.

THE NERVE SUPPLY OF THE FLEXOR BREVIS POLLICIS.[4]

It is well known that the cutaneous distribution of most nerves is very variable and that it is far from uncommon to find more or less of the area usually supplied by a certain nerve occupied by the branches of a neighboring one, but on the other hand, there is very little variation in the nervous supply of muscles. A muscle has indeed been defined as the terminal organ of a nerve and the nerve supply has been made a criterion of the nature of anomalous muscles. Mr. Brooks's paper, in which he shows that variation is common in the nerve supply of the short flexor of the thumb, is a very important one. According to the text books, the outer head is supplied by the median nerve, and the inner by the ulnar. Mr. Brooks gives the result of 31 examinations, of which 5 present the above "normal" arrangement. In 5 more the ulnar supplies both heads; in 2, the median besides supplying the outer head supplies a part of the inner, and in 19 or more than half the cases, the inner head is supplied by the ulnar, and the outer by both ulnar and median.

THE MORPHOLOGY OF THE THYROID GLAND.[5]

This exhaustive paper is based on observations made at Basle where goitre is endemic, and as the author says, it is relatively uncommon to find a normal thyroid at an autopsy. Hence the paper is in a sense a pathological one, but as will appear it belongs also to normal anatomy. The first point considered is the pyramidal process, which is a projection upward from the isthmus or from one of the lateral lobes. Accounts differ as to its frequency. Gruber found it in forty per cent, Luschka in one third, and Zuckerkandl in seventy-four per cent of all cases. Streckeiser found it 104 times in 153 subjects. In 16 of these cases there was also an accessory thyroid. Besides these, there were in 17 cases an accessory thyroid without a pyramidal process. As these accessory glands were in all probability portions separated from the main organ either before or after birth, they may properly enough be held to represent pyramidal processes. If this be admitted, our author finds this process in seventy-nine per cent. As to its origin, it sprang from the isthmus 7 times, from the right lobe 49 times, from the left 47, and once from each lateral lobe. The pyramidal process is usually connected with the hyoid either by the glandular tissue reaching directly to it, or by the interposition of fibrous or muscular tissue. A connection of some kind was wanting only 16 times in these 104 cases. Of the remaining 88 cases, in 55 the connection was by a continuation of the glandular structure, in 26 by ligament and in 7 by muscle. The point of attachment is usually a little to one side of the middle line. An important point in view of the development of the organ is that the connection is usually with the posterior, concave surface of the hyoid bone.

Dr. Streckeiser divides accessory thyroids into true and false; the former being free from the chief gland, while the latter are joined to it by fibrous tissue. Both as a rule have, according to him, a similar origin, being pieces cut off from a pyramidal process. As a larger percentage of true accessory glands is found in persons over forty years old than in the younger, he believes that the separation occurs often long after birth.

The *levator glandulæ threoideæ* is a well-known occasional muscle, but one of which we do not know the relative frequency. Streckeiser has looked for it in 120 subjects and found anomalous muscles 73 times in 46 individuals; which shows that though such a muscle is absent in nearly two-thirds of the cases, when it is found it brings other irregularities with it. Very certainly we do not find it with any such frequency in our dissecting rooms and it is not unlikely that the enlargement of the gland has to do with the development of the muscle.

We pass over the description of the arteries, merely mentioning the relations of the inferior thyroid to nerves. It may pass either before or behind the recurrent laryngeal nerve and very often incloses it more or less completely in a loop.[6] With regard to the sympathetic also, there is apparently no certainty on which side of the artery it is to be found. A middle thyroid artery was observed 12 times in 120; precisely ten per cent, the proportion given by Gruber.

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[3] W. P. Herringham, M.R.C.P. Proceedings of the Royal Society, Vol. xl, 1886.

[4] By Mr. H. St. John Brooks, Journ. of Anat. and Phys., Vol. xx, part 4, July, 1886.

[5] Virchow's Achiv. Bd., 103, 1886, by Dr. Streckeiser.

As was stated in this series of "Reports" both Zuckerkandl and Kadyi discovered in 1879 glandular tissue near the hyoid bone, sometimes before the fascia of the mylo-hyoid, sometimes deeper between the genio-hyoids, or in the insertion of one of them. Kadyi described particularly a supra-hyoid gland below the *septum linguæ* and occasionally prolonged into it. These glands were of the same structure as the thyroid and occasionally cysts were found in their place. All cysts of this region, however, do not have the same origin and, not to trench on the domain of pathology, we will leave them out of the question. Streckeiser classifies as follows the accessory thyroids of this region which, it is needless to say, are usually very small. First, those before the mylo-hyoid: *præ-hyoid;* second, those between the genio-hyoids or inside one of them: *supra-hyoid;* third, those nearer the tongue above the genio-hyoids: *epi-hyoid;* fourth, those in the hyoid bone: *intra-hyoid.*

The last of these is the most curious. To see it properly, microscopic sections should be made of the decalcified hyoid. It appears to be derived from the *supra-hyoid gland* which may grow into the ossifying or into the ossified bone. It is not found in the fœtus. The intra-hyoid does not show the normal structure of the thyroid but is always in a state of cystic degeneration. One would be inclined to think that this might be accounted for by supposing that a diseased *supra-hyoid* grew into the bone, but this is not supported by observation.

It is known that the thyroid is developed from an outgrowth from the pharynx, though contradictory statements have been made as to the details. According to Kölliker and others, the outgrowth is, or soon becomes, solid in mammals and as it enlarges is connected by a long stem with the epithelium of the pharnyx which at last is cut off. It is known that Bochdalek found in many cases a canal in the tongue running from the *foramen cæcum* and cysts also occur in this region. For these reasons, Streckeiser believes that the *foramen cæcum* represents the starting point of the diverticulum that becomes the thyroid. The gland grows down the neck in front of the hyoid bone, those parts that are found behind it being secondary growths. This theory sheds much light on the origin of certain cysts. The author adds a postscript to his article to state that since he has finished it, the third fasciculus of His's work on the anatomy of human embryos has appeared in which that great authority demonstrates the relation of the central starting point of the thyroid to the *foramen cæcum.* His, however, teaches that the course of the thyroid is behind the hyoid.

— A Pennsylvania man lately attempted suicide with Paris green, and the physician who was called said that he could not have saved him if the poison had not been adulterated. "It's an ill wind," etc.

Clinical Memorandum.

OVERDOSE OF HYDROBROMATE OF HYOSCIN.

BY S. G. WEBBER, M.D.

Immediately after breakfast Miss —— took a teaspoonful of a solution of hydrobromate of hyoscin by mistake for a diuretic. The formula of the preparation was

℞	Hydrobromate Hyoscin	gr. ss.
	Alcohol	ʒ iss.
	Aq.	q. s. ut ft. ʒ x.

thus each ten minims contained a hundred and twentieth of a grain. The teaspoon, being measured, was found to contain one hundred minims, so that the amount taken was about one-twelfth of a grain.

Finding she had taken the wrong medicine, she immediately took a teaspoonful from the right bottle, one containing acetate of pottassa. About an hour later it was noticed that her face was flushed, and on being questioned, she told what she had done. I was sent for. I found her with face much flushed, pulse 120, and very weak; she complained of feeling strange in her head and dizzy, said her hands and feet felt cold, but the hands seemed warm; later she spoke of numbness in hands and feet, and the sound of our voices seemed distant and muffled.

She was given two drachms of wine of ipecac, and within ten minutes mustard and water. Emesis was assisted by draughts of warm water. Whether owing to the food in the stomach or the action of the drug, it was difficult to empty the stomach, and a large quantity of mustard and water was given before all the breakfast was ejected.

About half an hour after the treatment was commenced, her hands and feet felt much more numb, she was very sleepy, it was difficult to keep her awake. The pulse was still rapid and weak. A fifteenth of a grain of morphia was given subcutaneously, and the pulse soon was reduced to 108. In about twenty minutes another fifteenth brought the pulse to 84. The sleepiness continued all day, and there was a distaste for food. The night was quiet, she slept soundly, and the next day simply had a headache.

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Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, SECRETARY.

May 3, 1886.

Dr. E. O. Otis presented a paper on

BACKWARD DISLOCATION OF THE PHALANGES UPON THE METACARPUS.[1]

Dr. J. E. Kelly expressed great interest in the paper which he had heard, especially as he had given much attention to the subject some years since in connection with dislocation of the thumb. He corroborated the anatomical description, except with regard to the posterior ligament of the metacarpo-phalangeal articulation, which, in the thumb, had a distinct identity, while, as Dr. Otis had said, it was replaced in the other digits by the extensor-tendons and their expansions.

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[6] Vide last number of Journal.

[1] See page 202 of this number of the Journal.

The specimen which Dr. Otis exhibited corroborated this assertion which Dr. Kelly had made, contradictory to other anatomists in a paper which was published in the *Dublin Journal of Medical Science*, May, 1883, and containing many other original anatomical observations.

In numerous instances of digital luxations, Dr. Kelly had only experienced difficulty in very few cases, and by the strangeness of surgical coincidences, two children fell under his observation shortly after he had written his paper, but in both the dislocation was lateral towards the mesial line of the hand. The resistance was most remarkable, and in these cases, could not be muscular. He considered that the metacarpal head had been forced through a lateral "button-hole" opening in the aponeurosis formed by the ligamentous structures, and the expansions from the numerous tendons surrounding the metacarpo-phalangeal joint, a portion of which intervened between the displaced bones. Acting upon this assumption, Dr. Kelly reduced the dislocations, although with extreme difficulty, by an adaptation of the manœuvre which he has described in his "Notes on Dislocations of the Thumb."

He had also proposed the operation which Dr. Otis had quoted in almost identical phraseology, although an interval of more than two years and a half had intervened between Dr. Kelly's article and that of Dr. Jalaguier, which appeared in January last. Dr. Kelly showed some appliances which he had invented, and which also were figured and described in his paper, and he claimed for them superiority over all other instruments intended to aid in the reduction of dislocation of the phalanges, owing to the absolute control over the dislocated phalanx which they afforded the operator, and to the economy of force consequent on the lesser or more proximate curves which the hand described in the evolutions necessary for the reduction. To his forceps he had added a clip or ratchet, which prevents the phalanx from being crushed by the immense power at the disposal of the surgeon, and he expressed his disapprobation of Levis's apparatus, which was defective as an instrument of fixation of traction and of leverage.

Dr. Nichols said that prior to the introduction of ether in Paris, he saw Nèlaton attempt to reduce a dislocation for over an hour by all the various methods unsuccessfully, and subsequently accomplish the reduction by cutting the lateral ligaments.

Dr. Blodgett mentioned the frequent occurrence of this accident among base ball players, and the ready and immediate reduction by the methods of forced flexion, as described by Dr. E. O. Otis.

SUFFOLK DISTRICT MEDICAL SOCIETY.
SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

April 21, 1886, Dr. James R. Chadwick in the Chair.

Dr. S. W. Driver read a paper entitled

OBSTETRIC GLEANINGS; OR EXPEDIENTS AND MISTAKES.

Dr. Weeks, in opening the discussion, said that it was his custom to give fifteen-grain doses of chloral repeated every twenty minutes until forty-five grains had been administered, in those cases where the os was rigid and unyielding. He found by this practice that the labor was shortened and that no unpleasant effects followed the use of the drug.

Dr. Kingman mentioned the method of delivering the shoulders of the child as it is practised in Prague. The anterior arm is delivered first by carrying the head well back, this bringing the posterior shoulder into the hollow of the sacrum. As the anterior shoulder descends, two fingers of the hand corresponding to the child's back are carried into the axilla, where traction can be made if necessary, and then being advanced along the humerus, the arm is easily swept down past the pubic arch.

The result of this procedure is to greatly diminish the danger of laceration of the perineum by the shoulders and facilitate the delivery.

Dr. J. L. Sullivan said that in those cases in which Dr. Driver proposed using the muriate of cocaine, namely, where there was great and unusual sensitiveness of the os uteri so that each pain is a dreaded agony, he has used morphine in one-half hourly doses with the effect of not only relieving the excruciating pain, but of causing rapid dilatation of the os. In such cases dilatation is ordinarily tedious unless relief of suffering is by some means afforded.

Dr. Chadwick remarked that he was skeptical about the amount of dilatation of the cervix that could be accomplished with the fingers in an ordinary labor; the hand being without the vagina. If the os is small and the cervix thin something may be gained, but if the external os is rigid and the cervix is not thin then but little will be gained by pushing in two or three fingers. The finger may be hooked over the os and draw it down so as to change its relations to the outlet of the pelvis. If the os is directly under the presenting part it will dilate better and possibly it might dilate if it is pulled forward. If the anterior lip of the cervix is œdematous much may be gained by pushing it up above the pubic ramus. He had found that when an occiput posterior would not stay rotated that if the posture of the woman was changed, for instance, from the right to the left side, then the head would remain where rotated.

Dr. Weeks stated that he had tried dilating the os with the fingers but he had noticed very little benefit therefrom, so that now he has given up interfering with the os and finds that it obviates the frequent use of the forceps. If the cervical lip is swollen something may be gained by pushing it up, and by preventing pressure upon the bladder, paralysis of that organ will be avoided. Dr. Weeks said that he had probably been more fortunate than most practitioners for he had never been obliged to perforate a head, and but twice had he turned a child. In these cases the pains were not good, and the forceps were of no avail. There was no narrowing of the pelvis the fault being with the planes.

Dr. Reynolds remarked that the expedient of turning was sometimes of great value in occiput posterior positions. He spoke of the plan recommended by Dr. William L. Richardson of putting the forceps on upside down in order to flex the head when rotation would usually take place itself in a few moments. It was not the intention to rotate the head with the forceps. The strong point in Dr. Richardson's method was that rotation would take place when the head was flexed unless there was some great disproportion between the head and the pelvis.

Dr. Driver, in closing the debate, said that he thought the small manœuvre of dilating the os assisted labor very much. If the anterior lip should be pushed up he would be afraid that the head would slip through and produce a lateral tear of the cervix. He liked to be sure that the os was thoroughly dilatable.

Dr. Charles Sedgwick Minot then spoke as follows regarding

THE ACTUAL AS COMPARED WITH THE SUPPOSED STRUCTURE OF THE PLACENTA.

The human placenta is composed chiefly of the fœtal chorion, and is not a modification of the allantois, which, as shown by Hix, extends only to the chorion. In its earliest stage the chorion consists of two layers — the external epithelium or ectoderm and the inner connective tissue. The epithelium shows no really distinct cell boundaries. The connective tissue consists of a glistening matrix in which lie the rounded cells; both these layers are found in the villi, which grow out from the chorion, and abut, by their tips, against the decidual surface of the uterine wall. The umbilical vessels ramify in the connective tissue layer of the chorion, the branches penetrating the villi. These relations are all persistent, hence, the placenta consists of 1, the chorionic membrane; 2, the chorionic villi, with their extreme tips slightly imbedded in 3, the decidua serotina. Contrary to all previous writers, Dr. Minot found the chorionic epithelium to persist normally through the whole period of gestation, and over all parts of the chorionic membrane and villi; it undergoes, however, remarkable metamorphoses, being transformed in spots, which often fuse into larger areas, into a thick layer of cell (Langhan's *Zellenschicht*) which may further be partially or completely degenerated, so forming the layer known as the canalized fibrine layer. The decidua subchorialis is only part of the modified chorionic epithelium. No maternal layer covers the chorion or any part of the villi, except the very tips. The villi do not grow into the glands. The decidua serotina contains very few blood-vessels.

The maternal circulation in the placenta is not yet understood. It is very doubtful whether blood is normally present in the inter-villous spaces during life; if it is present it may enter *per diapedesin*, there being no channels known for a maternal inter-villous circulation. It is possible that the nourishment of the fœtus is really accomplished by a uterine milk similar to that found in ruminants.

Dr. Minot included a summary of the results obtained by the best investigators, and pointed out that the descriptions of the placenta in the standard text-books were, he believed, inaccurate, often extremely so. He related his surprise at having been unable to find in any manual at his command an account of the placenta which would enable one to even identify the prominent parts as seen in sections of the placenta examined under the microscope.

Dr. Minot replied to a question that the same decidual development took place in the uterus and Fallopian tubes, because they have the same tissues. There is a decidua in the Fallopian tube.

Dr. Chadwick remarked that the exfoliation of the decidua at the third or fourth month and the enlargement of the uterus were chief diagnostic signs of extra-uterine pregnancy.

Dr. Reynolds asked if the ends of the villi are embedded in the mucous surface of the uterus to be dragged out in early abortion and leave a broken, depressed surface.

Dr. Minot replied that the villi do go a little ways into the placental decidua, and when torn off may take away some of the latter tissue.

Dr. E. W. Cushing asked whether Ercolani's view, that the covering of the placental villi is maternal and that the decidua is a "new formation," is tenable, and also what is found between the villi.

Dr. Minot replied that Ercolani was in error in regard to both points; that the villi are covered at all times by the fœtal epithelium of the chorion must be regarded as certain; the speaker knew of no reason for considering the decidua as anything more than the altered mucosa of the uterus. Between the villi very often the placentæ examined by Dr. Minot had contained nothing but fluid, or, again, the inter-villous spaces are surcharged with maternal blood; it must be deemed doubtful whether the blood is normally present *intra vitam*. He remarked that even in regard to the gross anatomy of the placenta many of the text-books present certain erroneous statements.

FIBROID TUMOR.

Dr. E. W. Cushing showed a fibroid tumor, with the following history: Mrs. X., fifty years old, had suffered for several years with menorrhagia, which, during the last few months, had been so severe that her physician, Dr. F. E. Corey, of Westboro, had advised her to seek relief in an operation; therefor he had brought her to Dr. H. O. Marcy. On examination, a tumor much larger than a child's head was found, filling the upper pelvic and lower abdominal regions. It presented at the os uteri, like the head of a fœtus (the os being about two inches in diameter); it was, however, submucous and not pedunculated. As it was evidently too large to remove in one piece, the question of laparotomy was discussed, but it was finally decided to remove it per vaginam, and the operation was performed by Drs. Marcy and Cushing at their hospital, aided by Drs. Corey, R. J. P. Goodwin and M. Greely Parker. The vagina was irrigated before and during the whole operation with a hot solution of corr. sublimate 1:2000. There was very little hæmorrhage. On cutting through the mucous membrane, the tumor itself presented, and was seized with the strong Martin double hooks, and brought down as far as possible; then with powerful scissors a wedge-shaped piece was cut out, and the same process repeated until fourteen pieces had been thus removed. In order to accomplish this the spoon-saw was used to shell the tumor out of its capsule, and afterwards Dr. Marcy passed his hand into the opening made with the spoon-saw, and further separated the mass from the uterine wall. By prying the tumor to one side and the other it was possible to reduce it as above, until the fifteenth and last piece was delivered edgewise, being larger than a man's two fists. The cavity was well washed with sublimate solution, powdered with iodoform and packed with iodoform gauze (Grosvenor and Richard's), as was also the vagina.

There was serious shock, relieved by repeated subcutaneous injections of brandy and ergot. On the third day, the temperature, which had remained normal, rose suddenly to 103°, with acute cystitis. This attack was caused by the passage of a catheter, by the nurse, without previous cleansing of the urethral orifice with sublimate solution. The catheter was clean, but microbes from the vaginal orifice were carried into the bladder, setting up a cystitis, just as it frequently happens after childbirth. Repeated injections into the bladder of sublimate solution 1:5000 soon stamped out the cystitis. During the latter the urine showed great numbers of long, thin rods, some of which were one two-hundredth of an inch in length, with pus cells in abundance. In nutrient gelatine this organism grew rapidly on the surface, not in the needle-track, not fluidifying the gelatine.

Except for this accident the patient did very well, temperature nearly normal, the wound or cavity diminishing rapidly and granulative. The treatment was by careful sublimate irrigations, and iodoform gauze packing, as above.

On the eleventh day, when everything was progressing favorably, the husband of the lady foolishly, and against strict injunctions, persuaded her to get up and put on her clothes, and walk to a chair, he being alone with her while the nurse was at church. That night her temperature went up to 103°, and the next day to 105°. Careful exploration showed that there was a sort of pocket formed by the doubling forward of the uterine wall; this may have been there and contained secretion for some time, but did no hurt until, probably from her getting up, the cavity became septic.

For a few days it was a hard struggle to keep down the trouble, the temperature jumping up from 101° to 105° repeatedly, but plenty of sublimate solution and iodoform, at short intervals, stamped out this trouble also, and the patient was discharged on the fifth week, well enough to return home safely. The tumor was carefully matched and sewed together, forming a round regular mass $4\frac{1}{2}$ x 5 inches, weighing four pounds after some blood had drained from it. The separate pieces as it was removed, averaged about 2 x 3 x 1 inches. The perineum, vagina and cervix were not wounded.

A PIECE OF SILK LIGATURE HALF AN INCH LONG DISCHARGED FROM AN ABDOMINAL SINUS TWO YEARS AFTER AN OVARIOTOMY.

Dr. **Farlow** showed a piece of silk ligature half an inch long, with the knot still visible, which had remained in the abdomen for two years after an ovariotomy, and which had probably been one of the causes of the long continuance of an abdominal sinus, which closed immediately after the discharge of the ligature. Carbolized silk ligature were used at the operation. The patient made a good recovery, with the exception of a sinus opening near the umbilicus, and into which a probe passed deeply toward the pelvis.

Various attempts were made to cause this to close, but without avail, until one morning, two years after the ovariotomy, the patient, when bathing the sinus, noticed a small piece of what she took to be a bit of tissue. After washing this, she saw that it was a piece of silk, and sent it to me to see if it could possibly have come from the operation. The sinus immediately began to close, and has not opened again although it is nearly seven months since the silk came away. Under the microscope the silk fibres are seen to be in perfect condition. Bearing in mind in what a disintegrated condition we usually find ligatures, even a week after an operation, and the fact that silk ligature is presumed to be absorbed very quickly and completely, we must wonder what conditions enabled this to remain in the body for two years, and apparently in a suppurating cavity.

ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.[1]

JULY 21, 22, 23, LONG BRANCH, N. J.

JULY 23, MORNING SESSION. — THIRD DAY.

EXHIBITION OF THE MEDISECTED ALINJECTED HEAD OF A MURDERER.

Dr. **Wilder** exhibited a very beautiful specimen of the above mentioned head, and remarked that the features of the brain which was thus hardened and exposed in situ are to be discussed at a future meeting in comparison with another murderer's brain; the specimen shown is an illustration of the value of the method and continuous arterial alinjection which has been applied to a head, to brains and to larger bodies, (a child, a chimpanzee, etc.), in the anatomical laboratory of the Cornell University. The doctor remarked the main features of the method were:

(*a*) Reception of the head within twenty-four hours after death.

(*b*) Preliminary marking out of the vessels with chloral to which perhaps weak alcohol might be preferable.

(*c*) Continuous alinjection for a week.

(*d*) Continuity secured by a pressure of 80 mm. of mercury which was afterwards reduced to 40 mm. when the flow became somewhat free.

(*e*) Gradual increase of the alcohol from 65 to 90 per cent.

(*f*) Maintenance of a low temperature 8° to 11°C.

(*g*) Accurate division of the head with a fine saw acting in a mitre box.

(*h*) The small cost. The injected alcohol represented 41.5 liters and 95 per cent., but about two-thirds was regained; so at three dollars per gallon it would not cost eleven dollars, and at seventy-five cents (free of box) only three dollars.

Dr. **Mills** stated that he did not care to use alcohol for the preservation of specimens, but used in this way it might be different in its results.

Dr. **Amidon** remarked that a little corrosive sublimate put in the alcohol might secure still better effects.

Dr. **Mills** asked if there would not be great difficulty with a brain preserved in this manner in separating the pia-mater from the surface of the brain; whether the brain would not be considerably torn. The old method was to put the brains in a solution of chloride of zinc, the membranes could then be readily stripped off in a few days.

Dr. **Wilder** replied that the question of Guiteau's brain could have been more fully discussed if it had been hardened in the skull, and he felt this very desirable in order to preserve its shape. He hoped to combine with this process the preservation of the brain so that the gyra and fissures could be studied. He had been preparing brains for the Museum of the Cornell University for some years and found alcohol to answer all requirements for the purpose of microscopical examinations. He insisted also that the brain should be in the dura, in its own bag, so to speak, then hanging the brain over a pail by the dura, alinjection is commenced; the brain then immediately fills the dura as though it were in the skull and no pressure upon any one point exists.

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[1] Concluded from p. 190.

Dr. James H. Lloyd, Philadelphia, read a paper on

MORAL INSANITY: A PLEA FOR A MORE EXACT CEREBRAL PATHOLOGY.

The paper was devoted to a criticism of those who—in the manner referred to by Locke in his "Essay concerning Human Understanding"—confuse in their psychology the *power* with the *agent*. They personify the "faculties" and regard them as distinct agents, each with its own province and powers. This method was inherited from the philosophers, and is shown to have produced the artificial distinctions between "mind" and "brain"—and to have worked confusion, especially in the Scotch School, in the use of such terms as "consciousness" and "idea." The alienists in their writings have not escaped these errors—and many of the artificial distinctions, classifications and symptomatologies which abound in the books are directly traceable to them. Brief allusion was made to the definitions and tests which have been promulgated in the courts, and are found in the writings of Coke, Hale, Blackstone, Shelford, and Chitty.

To these we are indebted for such distinctions as "civic and criminal" and "partial and total" insanity. Also to such tests as "delusion" and "knowledge of right and wrong." These were all shown to be more or less artificial and incomplete from the very standpoint of Locke's Criticism—that is they ignore the individuality of the brain as one acting "substance," and grant to the faculties, or several activities, of the cerebral organ each its own autonomy, and its own disorders and diseases. They erect one symptom into a whole disease, and insist upon the presence or absence of this as a test.

The writer proceeded to an examination of the claims of so-called *moral* insanity as presented by some of the most advanced medical psychologists. This claim proceeds upon an abstraction just such as the reader was cautioned to avoid. It presupposes a distinct moral faculty—which may remain undeveloped in a mind intellectually normal, or may become diseased without affecting the other faculties. This was almost the worst form of abstraction and personification that had appeared in psychology. It is impossible to conceive of a moral or emotional act of mind which does not include the so-called intellectual faculties. In fact, in these acts it is the cerebrum taking on only different (and rapidly changing) modes of action. To say that it is diseased in one of these modes and not in the other is a sophism. It is more nearly correct to say that in an insane man it is the whole mental (cerebral) act—memory, judgment, emotion and will—which is wrong, as that these are all but modes of action of one diseased substance—the cerebrum. More careful analysis would prove this in the cases which are cited in the books as "moral imbeciles"—and which include evidently such diverse types as hysteria, katatonia, paranœa, imbecility, melancholia, and even delusional insanity. The subject has importance because it is often relied upon to acquit a certain class of lunatics in the courts, and almost invariably proves to be a broken reed to him who leans upon it. The paper closed with a reference to the labors of the experimental physiologists—especially Ferari—who have demonstrated the localization of many sensory and motor areas. It is not possible for them to demonstrate the localization of "judgments" and "emotions." These are phases of all cerebration, and, as Ferari distinctly states, exist both in the sensory and motor regions.

Mr. Jastrow remarked that he thought the public at large began to understand this subject better and were more and more in sympathy with the physicians.

The President stated he had great respect for the metaphysical and practical knowledge of Dr. Lloyd, but he must differ with him on some points: though perhaps it might be differences upon terms or expression rather than facts. He did not see what was to be gained by carrying out the ideas as expressed by Dr. Lloyd in regard to nomenclature and classification. In using such terms as monomania, paranœa, and coming to kleptomania or typhomania and even some of those small forms of so-called phobias: we do it understanding what we are doing, but do it as a matter of science and study. Again, Dr. Lloyd remarked that he did not bring forth the cases to prove the propriety of the use of such terms. The speaker thought Dr. Lloyd might not be thoroughly acquainted with all the cases produced in literature which led us to say that there are cases which deserve this designation of moral insanity. Men who have advocated the term moral insanity are perfectly well aware that in every case, unless it is where you have general paralysis, physical and mental, you must have exhibited mental impairment.

The cases to which this term, "moral insanity," should be applied, are cases which have all through life exhibited a preponderance of moral defect, a decided evidence of moral impairment, though in many cases you may find but little intellectual impairment. He agreed with Dr. Lloyd that the term had been used and had been made to cover cases of hysterical insanity, katatonia, etc. The President thought that while paying tribute to Dr. Lloyd's scientific and literary abilities, an acceptance of his ideas would rather retard than aid the advance of science in this direction.

Dr. Gray remarked that there were three classes of insanity; mania, melancholia and dementia: all other forms being simply forms of degrees of these. He did not see how we were to do away with the term, as it was an extremely difficult matter to draw the line sharply: but still we should know what it means and understand it.

Dr. Parsons thought the laity objected to it because it embraced so many forms of disease, it may mean emotional or wicked insanity. But in speaking of a man as having a diseased liver we do not mean to say that he is not sick. His views he thought had been well expressed by Drs. Gray and Mills.

Dr. Mills said he would like to ask a few questions. First whether in discussing the question of insanity, we have any right to use such terms as moral and immoral insanity. If so, in what sense should they be employed.

Do not those who see cases of insanity, frequently see those who present overwhelming predominance of moral or immoral phenomena? In a case, the trial of which lasted four weeks, the man being what we would term a delusional monomaniac plead his own case before the courts and the jury declared him sane. There was little or no immoral defect in this man's case, you could not use those terms.

Dr. Gray asked why we could not have localization in regard to the actions of the mind. If we can have mental symptoms by means of impairment of localized areas why can we not have localized insanity by impairment of certain areas?

Dr. Lloyd in closing the discussion remarked that he had in his paper already answered the subject of moral insanity, that it was something more than mere difference in terms; you quote a case of sudden murder and it is impossible for the man to know why he should do so unless there is something the matter with the brain. As to our courts we should not despise them; they have a right that a physician should express himself intelligently. In the case of a man killing his wife after years of happiness and affection on either side, he may say he killed her because he loved her, his brain is affected, his mind, his intellect is affected. It is, as was said in the paper, a mere word differentiation; it is not a differentiation of things. As to the subject of paranœa, it is a congenital defect of the mind; it comes from the mother's womb; it is hereditary. I do not say there is nothing in a classification.

Dr. Jacoby presented for Dr. Rudisch a new portable battery, the chief point being that the cells containing the fluid can be left at home and the zincs and carbons replaced in the box. A current can be obtained from them after being once charged as late as at the end of four weeks. Between the carbons and the zincs a piece of stout asbestos paper is fastened by means of a few thin rubber bands. The fluid used in the battery is composed as follows: sal ammonia one and a half pounds, add six pints of water. The asbestos paper retains in its pores a large amount of moisture acting as a large voltaic pile.

A paper from Dr. Dercum was read, by title

FACTS AND DEDUCTIONS ON THE ACTION OF THE NERVOUS SYSTEM.

This closed the session of 1886.

Recent Literature.

Diseases of the Stomach and Intestines. A Manual of Clinical Therapeutics for the Student and Practitioner. By Prof. Dujardin-Beaumetz. Translated from the Fourth French Edition by E. P. Hurd, M.D., with illustrations and one chromo-lithograph. New York: William Wood & Co. pp. 389. 1886.

Disorders of Digestion: Their Consequences and Treatment. By T. Lauder-Brunton, M.D., F.R.S. London: Macmillan & Co. pp. 389. 1886.

Lectures on Dietetics and Dyspepsia, Delivered at the Owens College School of Medicine. By Sir William Roberts, M.D. London: Smith, Elder & Co. 1886.

These three books have appeared about the same time, and treat of similar subjects. They were all three the reproduction of lectures, and the first two, by a whimsical accident, contain precisely the same number of pages, though in other respects differing materially. They are all three suggestive and instructive books which deserve the space they may take in any physician's library, or the number of cerebral cells which may be required to store up their teaching in the brain. They not only show, however, what great progress has been made in the last ten years by physiology, physiological chemistry, and clinical therapeutics in the elucidation of dietetics and the disorders of the digestion, but also indicate how much remains that is still obscure or but faintly illuminated. The general term, dyspepsia, like the great African continent, is being pierced from various quarters by enthusiastic investigators, who are slowly forcing it to yield up its secrets, and are replacing the vague and the imaginary in the territory which it covers by the precise and the real. The buccal, the gastric and the intestinal dyspepsias are now recognized as perfectly distinct divisions, with distinct causes and subdivisions.

The lectures of Professor Dujardin-Beaumetz, of which there are twenty-five, form a complete and continuous treatise on the diseases of the stomach and intestines from the standpoint of clinical therapeutics. Dr. Dujardin-Beaumetz has published in French a series consisting of three volumes under the title of *Leçons de Clinique Thérapeutique.* The book before us, translated by Dr. Hurd, is really the second part of the first volume of that series; the first part, relating to diseases of the heart and aorta being omitted. This volume originally appeared in 1879, but the translation is from the fourth and revised edition of 1885, and the book profits by the latest discoveries, such as those of Selmi, Gautier, Bouchard and Brieger as to the production by the living cell of toxic alkaloids, ptomaines, leucomaines, etc. Especial attention is given to hygienic therapeutics, to food, and to alimentation.

The translation is well done, and the translator has arranged the notes — which are copious and contain a vast amount of information — at the end of each chapter or lecture, references being made to them by consecutive numbers in the text. There is a good index, and the title-page is preceded by a schematic table of the composition of the principal aliments in chromolithograph. This volume forms the May number of Wood's library of standard medical authors.

The basis of Dr. Lauder-Brunton's book is three lectures delivered as the Lettsomian Lectures before the Medical Society of London last year, January and February, 1885. When requested to publish them, the writer found they contained so many references to papers published by him at different periods, from 1873 to 1885, that he decided to include these between the same covers. The book, as presented to the public, consists, therefore, of the three Lettsomian lectures on disorders of the digestion, their consequences and treatment, occupying some eighty-two pages, and fifteen papers on a variety of subjects, more or less nearly correlated, occupying, with the index, the remaining three hundred and seven pages — a paper on "How to Make a Poultice" being among those less nearly related to disorders of digestion. A paper on "Poisons formed from Food, and their Relations to Biliousness and Diarrhœa," though written subsequently to the Lettsomian Lectures, is an important supplement to them. Lauder-Brunton, in common with Beaumetz, anticipates the probable results of a further study of the alkaloidal products of albuminous decomposition, and even suggests in his second lecture on indigestion, biliousness, and their consequences, the possible formation in the intestine of alkaloids having an action like that of some of the known cardiac poisons as an explanation of some cases of sudden death — as in gouty patients; that alkaloidal poisons exerting a slower action are formed is no longer questioned. Poisoning may yet become a finer art than in the days of the Borgias.

These lectures and papers make a volume which is not only instructive, but eminently readable.

Sir William Roberts's lectures delivered at Owens College School of Medicine, Manchester, do not aim at covering so broad a field as the two preceding books, and are published in an unpretentious little volume. They treat mainly of the dietetics of difficult digestion, and the physiological action of the more common articles of consumption. They contain many useful facts and tables, and many suggestions which should prove fertile. Tea, coffee and alcohol are all shown to be retarders of digestion, and an explanation is offered of their universal and constant use in the too easy and rapid digestion and appropriation of food procured and prepared in highly civilized countries.

On some Forms of Paralysis from Peripheral Neuritis; of Gouty, Diphtheritic, or other Origin. By Thomas Buzzard, M.D., of London. Small octavo. 147 pp. London: J. & A. Churchill. 1886.

This little volume, which is a delight to handle and to read, contains the Harveian Lectures for 1885, with "a considerable amount of material which was unavoidably omitted in the lectures" as delivered, and as published in the *Lancet.* The possibility of the publication of such a book is a mark of the progress that has been made in nervous diseases, and especially of the diseases of the peripheral nerves, for until within two or three years, neuritis was a subject which occupied only two or three pages in our largest text-books, while to-day it is one of the most important of the diseases of the nervous system. After a few brief, but clear pages on the functions of the peripheral nerves, Wallerian degeneration, and the electrical reactions, the author begins with the description of cases of neuritis involving one or more nerves in gouty subjects, which he explains by the local irritation of urate of soda in the nerve-trunks. There can be no reasonable question of this form of neuritis in the gouty, although, naturally, it is a form that the American neurologist rarely meets. In this, as in all forms, the author states that any one of the typical symptoms — pain, numbness, muscular atrophy, or reaction of degeneration — may be absent.

Coming to the multiple forms of neuritis, he states that "there is now ample evidence that a more or less widely spread paralysis may depend upon a degeneration of the nerve-fibres themselves, most pronounced towards the periphery, and independent of any recognizable change in the nerve-centres or roots," which seems to us to be as absolutely proven as that paralysis may result from a lesion of the cord or of the internal capsule. "Such cases may occur in connection with chronic alcoholism, diphtheria, enteric fever, syphilis, tuberculosis, and apparently the widespread disease of Japan, called Kakké or Beriberi, is an endemic form of the same affection. There is some reason, too, to think that exposure to cold, which is a frequent antecedent, may be a factor in the production of the disease."

The author, however, omits to describe that form of multiple neuritis which is not connected with any of the diseases mentioned, and which, as a rule, is of a more acute character, closely resembling an acute infectious disease. Dr. Buzzard seeks to explain the fact of the limitation of the morbid changes to the peripheral portions of the nerves by a toxic influence upon the vaso motor centres in the cord, diminishing the blood-supply to the nerves. He then gives a clear and correct account of the symptoms of multiple neuritis and of Beriberi, and of the alcoholic form, which, of late, has attracted so much attention. In this form, the prognosis, he thinks, is extremely grave, the muscular atrophy is more pronounced, and there is often much mental disturbance. In alcoholic paralysis, too, there is one symptom which he considers as characteristic of alcohol as wrist-drop is of lead, namely, foot-drop, and when it is present, the question of abuse of alcohol must always be investigated. As regards syphilitic neuritis, his experience as to its frequency has been somewhat different from our own, for he lays but little stress upon it. He justly considers diphtheritic paralysis to be of peripheral origin, and quotes a number of interesting cases. In the section on diagnosis, especial stress is laid upon the differentiation of the alcoholic form from locomotor ataxia, and upon the danger of confusing neuritis and anterior poliomyelitis. The prognosis, after the acute stage, with its dangers to the cardiac and respiratory apparatus, is usually good, except in the alcoholic form. Here, after apparent recovery, further excess may bring on a fatal relapse. The treatment recommended is either symptomatic, or directed against the primary disease. Later on, he advises massage and galvanism. P. C. K.

Materia Medica and Therapeutics. By Charles D. F. Phillips, M.D. Philadelphia: P. Blakiston, Son & Co. 1886.

This volume, of more than one thousand pages, is devoted chiefly to remedies found in the vegetable kingdom; about two hundred pages are given to a consideration of organic compounds and drugs derived from the animal kingdom.

The work is a revised and almost entirely rewritten edition of "The Vegetable Kingdom," by the same author, and completes the treatise on materia medica, the earlier portion of which, on inorganic substances, was published in 1882.

The classification of the drugs derived from the vegetable kingdom is a botanical one and many things are well and briefly outlined which are not found in some of the other treatises on therapeutics. Much care has been taken to arrange the subdivisions of each subject in a way to promote clearness in exposition and to facilitate ready reference to such portion of any subject as the reader may wish to consult.

The most recent remedies are mentioned and receive such consideration as their worth justifies.

In this work there is much to recommend, but it is not pre-eminently superior to the books which we already possess and does not give a more careful and judicial summary of what is known in therapeutics than may be found in other treatises on this subject.

A Manual of Dietetics. By J. Milner Fothergill, M.D., Edin. New York: Wm. Wood & Co.

In the short preface to this book the author says: "The time, indeed, is at hand when systematic lectures on Food will be a part of medical education; while the value of feeding in disease is admitted to be as important as the administration of medicines." On this text we have a book of some two hundred and fifty pages in which the physician will find much of profit, although something of repetition.

The first part treats of the processes of digestion, and the different forms of food with their preparation, and many a practitioner will here find some useful hints not only for his patient's diet but for his own table.

The second part includes a detailed account of the best dietary for various acute and chronic diseases, from indigestion to diabetes; the need is also shown for a diet which must be varied to correspond to the different stages of development of man from infancy to old age. The book is a valuable contribution to an important subject, and it is a pity that there is no index to make its contents more easy of reference.

The Management of Labor and the Lying-In Period. A Guide for the Young Practitioner. By Henry G. Landis, A.M., M.D. 12mo. pp. 334. Philadelphia: Lea Brothers & Co. 1885.

This book was intended by the author as "a guide to practice, divested of all superfluous or irrelevant details"; in short, a treatise for the physician who thinks he has not time to consult larger and more comprehensive works. It seems to us that if the young practitioner has been well instructed, he will have no use for the class of books to which this belongs, as they contain nothing not found in the larger treatises he is presumed to have used as a student: if, on the contrary, he feels the need of systematic teaching, he would do well to seek it in one of the schools of post-graduate instruction or in the standard works of great masters. It should be said of this book, however, that it is one of the best of its kind: the teaching is sound in the main and in accord with modern practice. The book is clearly written and well printed, and we doubt not will prove serviceable to many busy general practitioners.

— The practised giver of testimonials can always find something gratifying to say of any article submitted for his approval. For instance, the hero of the Lady Franklin Bay expedition, who experienced slow starvation for several months, writes to the proprietor of a canned food: "I regretted that a larger quantity had not been taken by me."

— During the late war, at a period when the success of the Union cause was pretty well assured, President Lincoln was invited by some distinguished engineers of the army to inspect a plan which had been drawn for a very elaborate and expensive system of defence for the city of Washington. After examining the drawings attentively he inquired what was the necessity for the works. "The defence of the capital," was the reply, "in the contingency of a Confederate invasion." The president thereupon was reminded of a story of a debating society of a Western town, where the question was discussed "Why does a man have breasts?" Several nights of debate failed to elucidate the problem until the matter was submitted to a referee who decided "that if under any circumstances, however fortuitous, or by any chance or freak, no matter of what nature or by what cause, a man should have a baby, there might be breasts to nurse it."

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 2, 1886.

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THE STATE BOARD OF HEALTH TO INVESTIGATE RAGS AS CONTAGION CARRIERS.

The subject of the danger to public health through the medium of rags, foreign and domestic, employed in the manufacture of paper, is one which, as our readers are aware, has received a large share of the attention of sanitarians (and we may perhaps add, of speculators in patents for disinfecting appliances) during the past few years. The somewhat protracted series of hearings on the subject before the joint committee on Public Health of the Boston City Government has been concluded, and the committee has reported at considerable length to the Board of Aldermen.

The committee reach the conclusions that the existing regulations of the Board of Health should be modified so as to allow the admission of foreign rags into this port without special treatment when collected in countries where contagious diseases have not prevailed during the six months prior to their shipment, if accompanied by proper evidence of origin; that all other rags should be admitted without special treatment or be disinfected in such manner as the Board of Health shall determine in each instance; that all disinfection should be done under the direct supervision of the Board of Health by their duly authorized agents employed and paid by the city, and only the actual expenses of disinfection be charged the owners or consignees of the rags; that where a difference of opinion in the Board of Health exists as to the necessity or process of disinfection, the State Board of Health should be consulted, and the joint action of the two Boards shall finally determine the matter.

We shall return to this subject again in considering the full text of the committee's report.

The importance of the paper manufacture among the industries of Massachusetts makes it extremely desirable that the facts be ascertained regarding the actual occurrence of contagious diseases fairly ascribable to rags as their source of conveyance. Some work of this sort was done in England by Dr. Bristowe in 1866; and in 1882 by Dr. Parsons, which was published in the supplements to the reports of the Local

Government Board for these respective years. It is with pleasure that we note that the newly organized State Board of Health of Massachusetts, a body especially qualified by its personnel and by the conditions of its appointment for undertaking such a work, has commenced an investigation of this subject.

Circulars have been issued within a few days, to the manufacturing companies using rags, asking for data regarding the kind and amount of rags used, and the number of persons employed in the handling of the rags prior to the time when the latter undergo boiling or chemical treatment, which of course is the limit of viability of any possible contagion that may cling to them. Questions are also asked regarding the precautions as to vaccination, the ventilation of dusting rooms and other means for protecting the health of employees, as well as regarding the occurrence of actual cases of infectious disease among the operatives.

The latter class of questions are, of course, likely to receive the most satisfactory replies through the medical profession. Hence a circular has been prepared for physicians practising in the paper towns, asking for particulars of cases of small-pox among such operatives, with any details that have been learned regarding the source of the contagion, whether from other cases in the neighborhood or with no other evident cause than the rags. Also, in regard to other infectious diseases, especially cholera, whether when epidemic they have appeared sooner or more generally among rag-workers than in the community at large. Moreover, the occurrence of locally infectious or non-infectious diseases, particularly of the skin or of the lungs, due to mechanical irritations are made the subject of inquiry.

It is obvious that investigations such as are here contemplated involve considerable difficulty. For instance, given a case of small-pox in a rag-worker, it is often hard, even if we can exclude any outside source of infection, to assign the responsibility, as between foreign and domestic rags. Most mills now mix the two varieties and it rarely happens that an employee has handled exclusively any grade or packing of rags for a period long enough to cover the period of incubation of small-pox. The only satisfactory solution of any such questions can be made at the time of the occurrence of a case of epidemic disease. In a circular issued by the State Board some months since for the reporting of cases of small-pox, one question has reference to the tracing of the disease to infection by rags. When a sufficient time has elapsed we may hope to gather some useful information by this source though in the present fortunate rarity of the disease it will be long before many cases of this sort can be collected. Meantime it is to be desired that physicians whose field of practice covers the paper-mill towns will make special effort to elucidate the etiology of all the cases of infectious disease which occur in rag-workers. Any physicians who have not received this circular can, we learn, obtain a copy by addressing the State Health Office. The manufacturing corporations also can do a good service at once to sanitary science and to their own interests, by favoring such investigations; inasmuch as the accurate determination of the limits of danger from this commodity is the best guarantee for the removal of all unnecessary quarantine interference with the important commercial interests involved.

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THE HYGIENE OF HOT WEATHER.

The excessive heat of a considerable portion of the summer is likely to injure man in two ways, first by its direct effect on himself, and second, by rendering his environment unsuitable for the promotion of the most complete health.

The most direct effect of heat on the human system is a lowering of muscular tone; this manifests itself by general muscular relaxation and vascular dilatation. Under the influence of heat the sphygmograph shows a feeble blood pressure; the capillaries are unduly filled; this is especially true of the cutaneous circulation. If the functions of the skin seem thereby, to be rendered more active (witness the increased perspiration of hot weather, and the wonderful mechanism for bodily cooling connected therewith), it is also certain that those functions are more easily deranged from heat than from cold, and it is in tropical climates that we see such cutaneous affections predominate as lichen tropicus, erythema caloricum and solare, lepra and eliphantiasis.

The relaxed condition of the bloodvessels of the alimentary canal and liver favors hyperæmias and fluxes. There is a physiological congestion peculiar to the liver in hot weather and in hot climates; this organ removes from the blood combustible material in the form of taurine and glycocol, and stores away in its cells glycogen, thus opposing over-production of heat in the economy. To this hyperæmia natural to the hot season, there is added a congested condition of the portal and mesenteric veins, hence the liability to catarrhal fluxes. Excesses in eating and drinking are sure to increase the engorgement, whence often result hepatitis, bilious diarrhœa and intestinal catarrh.

As for the action of external heat on the nervous system, if the impressionability of the reflex and seasonal centres is heightened, it is owing to the vascular hyperæmia resulting from the diminished tone, and neither the nutrition of the nerve centres, nor their capacity for the performance of function is up to the level of completest efficiency. Hence the languor which is experienced in hot weather, the difficulty in the execution of mental tasks, and the often disturbed sleep; in fact it is a matter of common observation that the sleep of summer is less in amount and less profound than that of winter. Excessive heat has been known to cause meningitis, and exposure to extreme heat certainly predisposes to cerebral affections. It is worthy of note in this connection that in some experiments of Claude Bernard the long-continued application to the heads of animals of heat a few degrees above the temperature of the body was sufficient to induce attacks of acute meningitis.

As far as the respiratory function is concerned, it has been proved that a high temperature determines a more feeble consumption of oxygen and a diminished excretion of carbonic acid, hence it is that the conditions for the production of organic and voluntary force are less completely realized in hot than in cold weather.

The second way in which an elevated temperature can injure man is indirectly, by making his environment unwholesome. The summer is the season when decompositions are rife and the atmosphere is pervaded by mephitic vapors, and bacteria of both benign and morbid kinds abound. The air, moreover, rarefied by the heat, contains less oxygen than cold air.

Not to mention pestilential diseases frequenting certain localities (the grave bilious fevers of Madagascar, the yellow fever of the delta of the Mississippi, the cholera of the banks of the Ganges, the malaria of some parts of our own country), it is a common experience that a large part of the duties of sanitary boards consist in the endeavor during the hot months to render the atmosphere of our crowded cities less unwholesome, and this, by suppressing some of the multitudinous foul sources of contamination.

The hygiene of hot weather may be summed up in a few words. There is a diminished demand for, and diminished ability to digest, food, hence the indulgence of the appetite should be moderate. Foods should be chosen which give the maximum of nutrition with the minimum of work on the part of the digestive organs. An excess of fats deranges especially the stomach, an excess of sweets and proteids the liver; alcohol congests the entire portal system. A moderate allowance of fresh meats or fish, bread, succulent fruits and vegetables with milk, cocoa, tea and coffee seems to be the most judicious dietary, and all late suppers and supplementary lunches are to be avoided.

The habit of eating ice-creams and drinking ice-water at all hours is to be deprecated. Over indulgence in ice-water has produced not a few attacks of nausea, indigestion, diarrhœa and syncope, and has even caused death. Bottle-fed infants are especially liable to suffer from indigestion during the hot weather, not only on account of the depressing effect of heat on the vital functions, but from the difficulty of obtaining milk of a pure quality (at least in cities), and of keeping the bottle scrupulously clean; here we often witness the triumph of pancreatized milk, so much praised of late by leading authorities in Pædiatrics.

As the muscular and nervous systems are enfeebled by excessive heat, the propriety of great moderation in labor both of body and mind is obvious. At this time of the year, common sense and sound physiology dictate to denizens of the town the propriety of spending a season at the beach or among the mountains; the benefits of such a sojourn are too universally known to need insisting on.

The importance of frequent cold ablutions is also everywhere recognized. By judicious cold douches, cold baths and especially sea bathing the tone of the voluntary muscles and bloodvessels is promoted, visceral congestions are relieved, the general blood distribution is equalized, and the functions of the skin are favored.

Many a literary, business and professional man keeps himself in trim for hard work (which during the hot season he is unable to shirk) by the invigorating effects of cold bathing, with just enough exercise in the cool of the day to keep the muscles in a fair state of nutrition and tonicity.

Lastly, it is the plain duty of every man to do his utmost, by attention to the cleanliness of his premises, and removal of all sources of foul smells and rank emanations (which, if they are not the bearers of disease germs, may yet poison the air of respiration and disturb digestion), to make his surroundings wholesome to himself and others; to provide for himself a plentiful supply of pure air and water; and keep the apartments in which he spends most of his time thoroughly ærated and if possible cool. Such are some of the rules pertaining to the hygiene of hot weather; they are not, however, applicable to all classes of society, such as the pork-and-bean-fed haymakers on the salt marshes, or even to physicians at the fashionable watering-places.

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THE HEAT CENTRE.

At the recent session of the Helvetian Society of Natural Sciences at Geneva, Professor Girard gave an interesting account of some late experiments of his in Schiff's laboratory to ascertain the location of the heat centre. These experiments which were made on hares, have led him to conclude that the cerebral centre of thermogenesis is the corpus striatum. Every lesion affecting this body in its median part produces a pronounced hyperthermia, which does not result from spasm of the vaso-constrictor nerves of the skin, but from an augmentation of caloric production. Electric excitation of this region, which is followed by a marked augmentation of heat, justifies the assertion that the hyperthermia is a phenomenon of excitation and not of paralysis. Moreover, after puncture and irritation of this region of the cerebrum, there was a considerable increase in the quantity of nitrogen excreted in the urine, indicating an acceleration of the organic combustions; this was accompanied by notable emaciation of the animal. Girard considers the thermogenetic centres as including not only this median portion of the striate body on both sides, but all the subjacent parts to the base of the brain. There is here, according to him, an apparatus whose excitation increases the production of animal heat and which probably concurs under physiological conditions to regulate heat productions. In answer to the question, "Is the artificial hyperthermia thus obtained identical with fever?" he answers, No. Augmented heat production and diminished heat emission — such in his view, are the two necessary factors of that pathological calefaction which constitutes fever. But the last of these factors was wanting in his experiments.

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DR. OLIVER WENDELL HOLMES.

(PHŒBO ANTE ALIAS DILECTUS.)

All the friends and admirers of Dr. Oliver Wendell Holmes — and among them we know all the readers of this Journal may be counted — will rejoice at his safe return to his native land and his own home after an absence of four months, most of which time has been passed in England. The return voyage was happily completed upon the seventy-seventh birthday of our honored colleague and fellow-citizen. The added year seems to be borne with the elasticity to which we have so long been accustomed, and even the new honors heaped upon the Autocrat have failed to bend his erect figure. Oxford, Cambridge and Edinburgh have all three bestowed distinguished honorary degrees upon him, and the many other marks of respect and appreciation of which he has been the recipient were well merited and well and gracefully bestowed. He must indeed be a churlish chauvanist who begrudges either them or the pleasure which they have given. There is no truer American and none more devoted to the best interests and highest standards of his own country than Dr. Holmes, as the past fifty years of his life and work may prove to any one who considers them.

On the anniversary of the battle of Bunker Hill, and the anniversary of the death of Addison, the orator of the day in the Senate House of old Cambridge, when conferring upon this American the degree of Doctor in Letters, after referring to him as one who "Phœbo ante alias dilectus" had received from Apollo both the gift of medical learning and those of eloquence and soul, concluded his felicitous Latin in the following words:

"Videor mihi vatem quendam canentem audivesse, illum cujus in corde æstas æterna floreret, non vocandum esse senem. Equidem juventutis perpetuæ fontem illum quem trans æquor Atlanticum, Hispanorum nautæ frustra quærebant, nautam hunc feliciorem, non fabulosas inter insulas sed Academicæ juventutis in amore perpetuo, in amore mutuo, invenisse crediderim. Trans occidentis amplum illum sinum, levi phaselo vectus, diu naviget; nautili illius ritu, quem versibus tam pulchris descripsit, indies 'per ampliora ad altiora' tendat. Suam Academiam, per tot sæcula feliciter conservatam, intra paucos menses carmine sæculari iterum celebret, diuque superstes ipse exornet; nostræ denique Academiæ honoris causâ adscriptus, diu et nostrum et totius litterarum reipublicæ ad fructum floreat, vigeat, valeat, litterarum doctor, Oliver Wendell Holmes."

In due time, perhaps, Dr. Holmes's travels may bear fruit in print, and we will wait patiently to know whether he found "that Englishman precisely like himself," for has he not said: "I have no doubt each one of us has somewhere our own facsimile, so like in all things, except the accidents of condition, that we should love each other as a pair of twins if our nature could once fairly meet. I know I have my counterpart in some State of this Union. I feel sure that there is an Englishman somewhere like myself — I hope he does not drop his H's."

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MEDICAL NOTES.

— The Spanish Ministry of Justice has arranged for the establishment in Madrid, Barcelona, and Seville, of laboratories of forensic medicine. After the middle of September, analyses which may be ordered by magistrates will be conducted in the new institutions — a provision enabling experts nominated in the interests of accused persons to be present during the performance of such analyses.

The *Nation* tells an excellent New Haven story of a Hartford business man so anxious to get back to work after his mid-day dinner, that he asked his guest "whether he would mind eating his pie in the street." It being a "New Haven story," the scene is perhaps necessarily laid in Hartford, but there is, unfortunately, good reason for believing that the *locus* of the story could be with truth extended pretty widely over the country.

— Mr. Thomas Smith, of England, recently performed successfully the supra-pubic operation of lithotomy, and removed a stone weighing twenty-four and a half ounces. This was claimed to be the largest stone that had been extracted during life, but in the *Lancet* of January 16th last, Dr. W. B. Hunter, of Londonderry, reported a case of calculus weighing twenty-five ounces, removed by Joseph Hunter, M. L. S., from a native in the Madras Presidency. The patient lived three days. Mr. Smith's patient recovered.

Mr. Reginald Harrison exhibited at the late meeting of the Surgical Section of the British Medical Association, a uric and calculus removed *supra pubem*, and requiring obstetric forceps for its extraction. The size was not given, though Mr. Harrison stated it to be the "largest on record."

— At the last Manchester Assizes in July, says the *Lancet*, a solicitor and a builder were sentenced, the former to ten and the latter to seven years' imprisonment for arson. In December last they took a shop in Hulme, fitting it up as a cigar shop, but not living upon the premises. The stock was valued at about £2 10*s*. and the fixtures were of the thinnest wood, and under the counters were large quantities of shavings. They insured the stock and fixtures for £950 in April last, and in the night of the 19th of June a fire broke out, and on the arrival of the fire-brigade, there were found to be three distinct fires in different parts of the shop and house. The two firemen who first entered were nearly suffocated by a dense white smoke, and applied to Mr. Heslop, Divisional Surgeon, Manchester police force, a day or two after, complaining of a rawness of the throat and chest, very different from anything they had experienced before. On account of what they told, Mr. Heslop burned some phosphorus in their presence, and they at once recognized the smell. Some phosphorus was then placed in some shavings, and it ignited spontaneously in about eight or ten minutes, and in sawdust in about twenty minutes. The gas-pipes had been cut, and the ends joined with India rubber tubing. The defence was that there was no evidence that the prisoners were the men who set fire to the place.

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Miscellany.

THE FRENCH ACADEMY'S REPORT *vs.* LIQUORS AND LIQUOR SALOONS.

THE French Academy of Medicine has recently taken action respecting the alcoholization of wines, adopting the report of a committee appointed to inquire into the public danger from the use of the wines of commerce. The government is urged to take the strongest measures to prevent the introduction of artificially alcoholized wines into France. The report also calls for a large reduction in the number of wine shops, and for a rigid enforcement of the laws for the suppression of drunkenness.

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THE OFFSPRING OF THE BLIND.

MR. SIMEON SNELL, writing in the *British Medical Journal*, August 7, gives the results of investigations undertaken to ascertain the influence upon the offspring of the marriage of the blind. In every instance, to inquiries as to sight and the formation of the eyes of the children, he was assured that vision was perfect and the ocular condition normal. A similar answer was returned to questions respecting hearing and bodily deformities. The latter were absent, and hearing was always stated to be good.

The results obtained are somewhat at variance with those recorded by other observers. Magnus investigated fourteen instances of married couples in whom one or both were born blind, or became blind at an early age, and found that, out of thirty-four children begotten of these marriages, eight, or 23.5 per cent., were either blind or weak-sighted.

He mentions, moreover, that a man who had lost his sight by blennorrhœa neonatorum had two children affected with microphthalmus. Fuchs states that he was acquainted with a physician who had congenital microphthalmus of right eye, and whose father had lost an eye by irido-cyclitis, when a child. He says, also, that the connection of the eye-disease between father and child is indubitable, for Deutschmann obtained analogous results in his experiments on animals.

The author gives in tabular form the facts regarding the various families, sixteen in number, in which his inquiries were made.

He properly admits that the numbers are too small to be anything else than an instalment to an interesting inquiry. As to the case of retinitis pigmentosa, no evidence was elicited of children suffering from nyctalopia.

Another point will hardly escape notice, and that is the small proportion of births. The experience of managers of blind institutions is that the workers are very disposed to wedlock, and this notwithstanding that, in consequence of the small wages they can necessarily earn, marriage is, at all events in some places, discouraged.

Of those couples who were both blind, after excluding the recently married, there are three, and only one has children (two). One young man has had two blind wives, and neither has borne children to live; triplets by the first wife died immediately after birth. There are ten men with sighted wives, and, excluding one whose wife had ceased to bear children before his blindness came on, there are left nine, with twenty-six children between them, or less than three per family. Adding to this number the three blind couples with two children, there are a total of twelve, with twenty-eight children, or two and one-third per family. It would almost seem, therefore, that, though prone to marry, such marriages are less than usually fruitful. Farr placed the number of children per wife in England at 5.2.

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POISONING BY ICE CREAM.

V. C. VAUGHAN, writes in *Science* as follows:

"No chemist certainly would suppose that the same poison exists in all samples of ice cream which have produced untoward symptoms in man. Mineral poisons, copper, lead, arsenic, and mercury, have all been found in ice cream. In some instances these have been used with criminal intent. In other cases their presence has been accidental. Likewise, that vanilla is sometimes the bearer, at least, of the poison, is well known to all chemists. Dr. Bartley's idea that the poisonous properties of the cream which he examined were due to putrid gelatine is certainly a rational theory. The poisonous principle might in this case arise from the decomposition of the gelatine; or with the gelatine there may be introduced into the milk a ferment, by the growth of which a poison is produced.

But in the cream which I examined, none of the above sources of the poisoning existed. There were no mineral poisons present. No gelatine of any kind had been used in making the cream. The vanilla used was shown to be not poisonous. This showing was made, not by a chemical analysis, which might not have been conclusive, but Mr. Novie and I drank of the vanilla extract which was used, and no ill results followed. Still, from this cream we isolated the same poison which I had before found in poisonous cheese (*Zeitschrift für physiologische chemie*, x, heft 2) and demonstrated its poisonous properties by experiments upon cats. Moreover, by adding a piece of the solid portion of the poisonous cream, about the size of a filbert, to some normal milk, and making cream with this milk, following the details of the maker of the Lawton cream, omitting, however, all flavoring, I obtained a highly poisonous cream. Does this not prove that the poison may be produced by fermentation in good milk? A detailed account of my experiments may be found in my report to the Michigan State Board of Health."

Correspondence.

ON GLYCOGENESIS.

Mr. Editor, — In this venerable German town I read your highly instructive article on "Glycogenesis and Glycosuria" with so much more interest as I myself suffer from glycosuria. Will you allow me then to make a few remarks on one or two points in your paper about which I do not quite agree with you. You state, "Into this substance (glycogen) all the saccharine products of digestion must be converted before they are available for the uses of the organism."

Now, Mr. Editor, I feel very much like calling this sweeping assertion into question, as it is opposed to the results obtained by experiments, which have been carried on later than those of Bernard. I allude to Harley's experiments (the urine and its derangements), that led him to an entirely opposite conclusion as far as the *omnivora* and *herbivora* are concerned. Whilst Harley, of course, agrees with Bernard that *animal food* cannot be transformed into sugar (glucose) without *an intermediate stage* (glycogen) between the proteid substances on the one hand and glucose on the other, he finds in the case of *amylaceous foods and saccharine meals that there is no connecting link at all.* According to him, all starchy and saccharine foods, as they pass along the alimentary canal, are transformed into *glucose at once.* Says Harley, "The transformation of amylaceous matters into glucose during their sojourn in the alimentary canal is not the result of accident, but the sequence of an unalterable law, which is equally in force in or out of the body, so long as the physical conditions necessary for its action are in operation. Thus, if an ounce of boiled arrowroot in a test tube be mixed with a little saliva, or have added to it half a dozen drops of pancreatic juice, all the starch contained in the arrowroot will infallibly be changed into sugar in the course of a few minutes, and for this operation the intervention of no other agency than that of a temperature equal to that of the human body is required. A precisely similar change occurs in the animal organism, and the sugar thus formed is absorbed by the mesenteric veins and lacteals, and of *necessity forms part of that met with in the circulation.*"

Dr. Harley arrived at this conclusion, so opposite to the doctrine that all the sugar met in the circulation is manufactured by the liver, by finding a great amount of sugar in the blood of the *portal vein* and *chyle* of the *thoracic duct* of animals fed on saccharine food three hours after they had partaken of it. Whereas it is true, that in the case of *carnivora* there is no sugar to be found in the portal, but a great amount in the hepatic vein; in the case of omnivora sugar is met with in either of them, a fact that demonstrates that not all the saccharine or amylaceous products of digestion must first be converted into *glycogen* before they are of any use in the complex nutritive process of our organism. The *modus operandi*, how cane-sugar is converted into grape sugar (glucose) by means of the digestive juices (pancreatic juice, etc.), is at least not shrouded in greater mystery than that of the metamorphosis of proteids into glycogen and (sugar afterward) by the agency of the liver.

G. Liebmann, M.D.

Augsburg, Germany, August 15, 1886.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 21, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infections Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	736	352	33.30	16.38	20.58	.70	4.90
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	330	178	29.10	13.50	18.90	1.50	4.80
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	215	99	27.73	23.03	20.21	1 88	3.76
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	169	74	28.32	11.80	20.06	2.36	1.77
Cincinnati	325,000	138	69	34.31	10.22	27.01	2.19	1.46
New Orleans	238,000	120	40	31.32	15.83	16.66	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	84	37	27.37	17.85	15.47	7.14	4.76
Pittsburgh	190,000	103	68	45.59	3.88	20 37	8.73	5.82
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	71	31	28.16	14.08	22 46	2.82	1.41
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	21	7	33.32	19.04	9.52	—	4.76
Charleston	60,145	47	23	17.04	6.39	12.78	4.26	—
Worcester	68,383	19	11	42.08	10.56	36.82	—	—
Lowell	64,051	40	18	35.00	17.50	30.00	2.50	2.50
Cambridge	59,660	22	16	40.95	9.10	31.85	—	4.55
Fall River	56,863	32	22	50.00	—	43.82	2.13	2.13
Lynn	45,861	18	8	16.66	27.77	11.11	—	—
Lawrence	38,825	11	5	—	9.09	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	11	3	45.45	9.09	36.36	9.09	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	—	27.27	9.09	18.18	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	—	16.66	16.66	8.33	—	—
Taunton	23,674	17	9	41.16	5.88	23.52	—	5.88
Haverhill	21,795	8	3	37.50	—	12.50	12.50	12.50
Gloucester	21,713	9	5	22.22	22.22	11.11	—	—
Brockton	20,783	7	3	42.84	28.56	28.56	14.28	—
Newton	19,759	5	2	20.00	—	20.00	—	—
Malden	16,407	6	2	16.66	33.33	—	16.66	—
Fitchburg	15,375	5	3	80.00	—	80.00	—	—
Waltham	14,609	5	2	40.00	20.00	20.00	—	20.00
Newburyport	13,716	8	3	25.00	—	25.00	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,310: under five years of age 1,093: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 697, consumption 329, lung diseases 105, diarrhœal diseases 467, diphtheria and croup 82, typhoid fever 46, malarial fever 26, whooping-cough 28, measles 19, scarlet fever 18, cerebro-spinal meningitis 10, typhus fever one. From whooping-cough, Brooklyn nine, New York eight, Pittsburg six, Baltimore three, Lynn and Chelsea one each. From malarial fevers, New Orleans 13, New York eight, Brooklyn and Baltimore two each, Providence one. From scarlet fever, New York six, Pittsburgh four, Cincinnati, three, Boston two, Brooklyn, Providence and Taunton one each. From measles, New York 10, Nashville two, Brooklyn, Boston, Baltimore, Cincinnati, Pittsburgh, Cambridge and Salem one each. From cerebro-spinal meningitis, New York and Nashville two each, Boston, Baltimore, New Orleans, Worcester, Taunton and Gloucester one each. From typhus fever, Cincinnati one.

In the 21 cities and greater towns of Massachusetts, with a population of 957,625 (population of the State 1,941,465), the total death-rate for the week was 23.50 against 24.56 and 25.02 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending August 7th the death-rate was 19.9. Deaths reported 3,472: infants under one year of age 1,373; acute diseases of the respiratory organs (London) 148, diarrhœa 657, measles 62, whooping-cough 55, scarlet fever 43, fever 38, diphtheria 13, small-pox (Liverpool) one.

The death-rates ranged from 10.0 in Halifax to 31.4 in Leicester; Birmingham 16.2; Hull 10.4; Leeds 22.5; Liverpool 21.6; London 20.4; Manchester 24.4; Newcastle-on-Tyne, 16.8; Nottingham 16.8; Sheffield 16.4; Sunderland 19.6.

In Edinburgh 19.3; Glasgow 20.6; Dublin 17.6.

For the week ending August 7th, in the Swiss towns, there were 23 deaths from diarrhœal diseases, consumption 22, lung diseases nine, whooping-cough four, erysipelas, diphtheria and croup each two.

The death-rates were: at Zurich 19.1; Geneva 13.1; Basle 17.0; Berne 16.0.

The meteorological record for week ending August 21, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Aug. 21, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...15	29.981	65.7	75.9	57.9	56.0	30.0	58.0	48.0	N.W.	N.W.	N.W.	13	10	4	C.	C.	C.	—	—
Monday,.. 16	29.905	67.5	76.7	56.5	58.0	50.0	80.0	62.7	N.W.	S.	S.	2	15	16	F.	O.	R.	—	—
Tuesday,..17	29.875	59.9	70.7	57.2	87.0	77.0	85.0	83.0	N.	S.E.	S.	15	10	2	O.	C.	O.	—	—
Wednes... 18	30.138	61.8	64.6	56.2	73.0	66.0	85.0	74.7	N.E.	S.E.	S.	4	10	6	C.	F.	C.	—	—
Thursday, 19	30.242	61.5	69.3	57.1	77.0	74.0	84.0	78.3	W.	S.E.	W.	6	16	4	C.	C.	C.	—	—
Friday, ...20	30.330	61.6	67.2	55.7	76.0	62.0	66.0	68.0	N.W.	S.E.	S.W.	5	13	6	C.	C.	C.	—	—
Saturday, .21	30.256	62.0	69.7	55.2	68.0	66.0	73.0	69.0	W.	S.E.	S.	1	12	4	C.	C.	C.	9	0.48
Mean, the Week.	30.104	62.9	70.6	56.4				69.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 21, 1886, TO AUGUST 27, 1886.

Woodhull, A. A., major and surgeon. Granted leave of absence for fourteen days, to take effect on or about September 1, 1886. S. O. 197, A. G. O., August 25, 1886.

Taylor, M. K., major and surgeon. Leave extended one month. S. O. 195, A. G. O., August 23, 1886.

Landerdale, J. V., captain and assistant surgeon. Granted leave of absence for two months, with permission to apply for one month's extension, when his services can be spared. S. O. 195, A. G. O., August 23, 1886.

Gandy, Charles M., first lieutenant and assistant surgeon. On expiration of his present leave of absence, relieved from duty in the Department of the East and assigned to duty in the Department of Texas. S. O. 195, A. G. O., August 23, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 28, 1886.

Clark, John H., medical inspector. Ordered to special duty Portsmouth, N. H., and Widow's Island.

Kindleberger, D., medical inspector. Ordered to hospital, Washington, D. C., October 1, 1886.

Gihon, A. L., medical director. Ordered to hospital, Mare Island, Cal., October 15, 1886.

Robinson, Somerset, medical inspector. Detached from hospital, Mare Island, Cal., October 15, 1886, and wait orders.

Spear, J. C., medical inspector. Ordered to naval laboratory, New York, September 28, 1886.

Bloodgood, Delevan, medical director. Ordered to hospital, Norfolk, Va., September 29th, 1886.

Taylor, J. Y., medical director. Ordered to naval laboratory, New York, September 29, 1886.

Dean, R. C., medical director. Detached from naval hospital, New York, and wait orders.

Simon, W. J., surgeon. Detached from United States Steamship "Constellation," for special duty at Naval Academy, Annapolis, Md.

Henry, C. P., assistant surgeon. Ordered to hospital, Philadelphia, Pa.

Fitts, H. B., passed assistant surgeon. Detached from hospital, Philadelphia, Pa., and wait orders.

Stone, E. P., assistant surgeon. Ordered to Receiving ship, "New Hampshire."

SOCIETY NOTICE.

Gynæcological Society of Boston. — The next regular meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on September 9th, at 4 o'clock, P. M. Papers: Dr. J. E. Kelley, "The Ethics of Abortion as a Measure in Legitimate Practice." Dr. W. Thornton Parker, "The Removal of a large Vaginal Tumor."

H. J. Harriman, *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Annual Announcement of the New York College of Veterinary Surgeons and School of Comparative Medicine. Session 1886–87. New York. 1886.

Pennsylvania State Board of Health; Report of Organization and Minutes of First and Second Meetings, July 3 and November 11, 1885.

The Diseases of the Prostate, Their Pathology and Treatment, comprising the Jacksonian Prize Essay for the Year 1860. By Sir Henry Thompson. Sixth Edition. Philadelphia: P. Makiston, Son & Co. 1886.

Spasm in Chronic Nerve Disease. Being the Gulstonian Lectures delivered at the Royal College of Physicians of London, March, 1886. By Seymour J. Sharkey, F.R.C.P., etc., etc. London: J & A. Churchill. 1886.

A Reference Handbook of the Medical Sciences. Embracing the entire range of Scientific and Practical Medicine and Allied Science. By Various Writers. Vol. III., Fac to Hys. 813 pages. Illustrated by six chromo-lithographs and 718 fine wood engravings. Edited by Albert H. Buck, M.D. New York: William Wood & Co.

The Relation of Hospitals to Medical Education. By Charles Francis Withington, M.D. Being the Boylston Medical Prize Essay for 1886. Boston: Cupples, Upham & Co. 1886.

Original Articles.

THE TREATMENT OF LATERAL CURVATURE.[1]

BY EDWARD H. BRADFORD, M.D., OF BOSTON.

The principles of treatment of any disease depend largely upon the theory of causation. This is particularly true of lateral curvature, and it is for this reason impossible in dealing with the subject to avoid referring to the vexed question of etiology. Although many other theories have been advanced, it may be accepted as more than probable that the distortion is the result of superincumbent weight pressing upon a weakened spinal column, held in a position out of the vertical line. This view is supported by clinical facts as seen in a series of cases of varying grades of severity; by the fact that in early cases the deformity disappears when the weight is removed from the spinal column (by recumbency or suspension); by the observation that in quadrupeds where the spinal column is horizontal lateral curvature does not occur.[2] Pathological specimens would also confirm this view, and the results of experiments demonstrate the fact that lateral curvature can be produced by downward pressure [3] (Fig. 1).

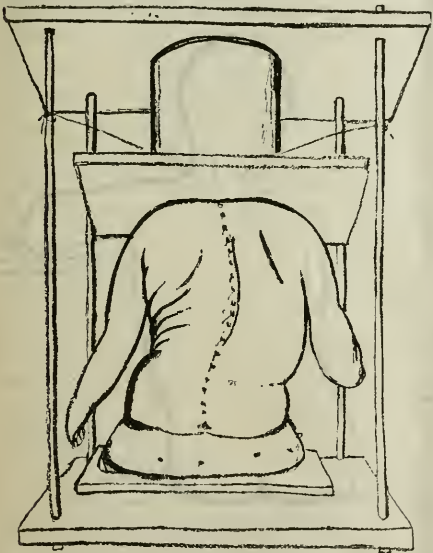

Fig. 1.

No better illustration can be furnished than the accompanying specimen from the Warren Museum, which shows the effect of weight falling upon a weakened skeleton. The lower extremities and the spinal column have bent under their load, while the long bones of the upper extremity, which have no weight, have remained straight (Fig. 2).

That weight rarely falls in a vertical line on the spinal column an inspection of figures in action makes evident (Figs. 3 & 4), as well as an examination of the exact modelling of the antique statues, notably the Borghese Achilles, the Farnese Hercules, the Dying Gladiator, the Germanicus. In fact the spinal column is rarely, if ever, in a vertical position; and the superincumbent weight would induce a deviation to the right or left, varying in extent in different attitudes. Whether the curve should be a long upper with a short lower curve, or the reverse, or compensating curves of equal size, will depend partly upon the favorite attitude, and partly without doubt upon the power of resistance of certain parts of the spinal column.

The treatment of lateral curvature should vary according to circumstances of the case, and largely according to the stage and degree of the affection. It is manifestly as irritational to incase in a stiff corset, certain to promote muscular atrophy, a trunk dropping to one side from a want of muscular development, as to attempt to correct a fixed curve with osseous change by muscular exercise. Cases should be treated according to the indications. Bearing in mind the factors which cause the distortion, the aim of treatment would be,

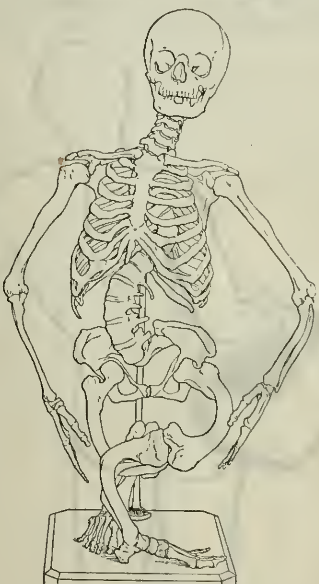

Fig. 2.

1st, To remove the superincumbent weight.

2d. To develop the strength of the structure of the spinal column.

3d, To keep the spine as far as possible from deviating from the vertical line.

The two means for accomplishing the first are recumbency and suspension, and they can only be employed as adjuncts. For it is manifest that it is impossible to make quadrupeds of patients, or to imprison them to a couch during the growing years, or until danger of the yielding of the spine has entirely past. Suspension is evidently only of temporary assistance. Little or nothing can be done by drugs in the way of strengthening the tissue of bone. The distortion, however, is essentially one of childhood, beginning in the majority of cases at from seven to ten years of age.[4] and in the process of growth the bone will gradually develop to the normal strength. A great deal, however, can be done towards maintaining a proper position of the spinal column, and it is in this direction that the chief efforts in treatment should be directed.

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[1] Read at the annual meeting of the Massachusetts Medical Society June 9, 1886, and recommended for publication by the Society.
[2] Berl. Klin. Wochenschr., May 17, 1886.
[3] Boston Medical and Surgical Journal, March 16, 1886.

There are three methods worthy of consideration, namely:

The postural,
The gymnastic, and
The mechanical.

The postural treatment is that method where correction is sought by instruction in proper attitude. As a raw recruit is taught the position and carriage of the soldier, so children are to be drilled into standing and walking erect. This method is suited for the simplest cases. To be thoroughly carried out, it requires that the patient should daily be exercised in walking, standing and sitting properly for a specified time under the direction of some competent person. The back should be bared, and any deviation from the proper position in standing, sitting and walking should be carefully noticed. When resting during the hour of drill the patient should remain incumbent. After the drill is over such precaution should be taken as will prevent the persistence for any length of time of a faulty attitude. This should not be done (out of the drill time) by constant correction, but by the proper arrangement of the play hours, a supervision of the chairs when reading and studying. Walking, running and active games should be encouraged. Reading, except in proper position, should be discouraged. A certain amount of time should be given to proper rest of the back. A fruitful source of faulty attitudes in sitting is furnished by the chairs, which, not fitting the child or supporting the back properly, induce the patient to sit sideways, the trunk being supported on one tuberosity of the ischium and on one elbow. The chair which the child is to sit in for any length of time should be narrow, and not deeper than the length of the thighs or higher than the length of the legs; its back should not be above the shoulders and should be arched so as to fit in the hollow of the back; or if this is not practicable, hard cushions should be replaced on the back of the chair, so fitted as to act as a proper support. An ordinary steamer-chair, furnished with a swinging book-rest, gives an excellent and ready means of reading without great danger of improper attitude. In school it should be seen that the seats are not too far from the desks nor too high; and foot-rests should be fitted for both feet. Counteracting a tendency to sit sideways, the desk or table should be near enough to the chair to prevent lounging. Children at home are usually expected to sit in chairs made for adults, and the chairs do not, as a rule, fit properly. In cases where great care is needed, chairs suitable to age and size of the child should be furnished.

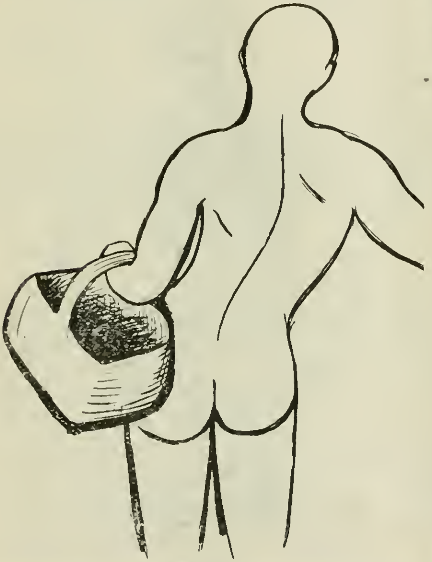

Fig. 3.

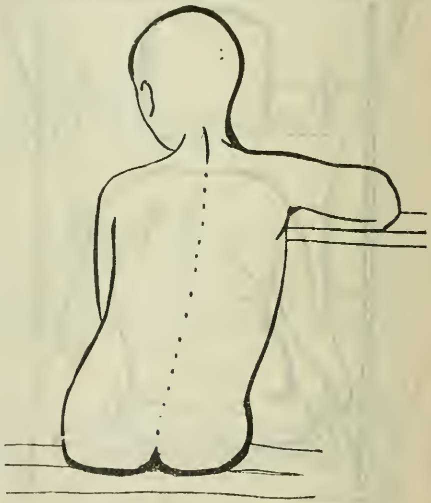

Fig. 4.

It is not so easy to prescribe rules for the avoidance of faulty position in standing as in sitting, when the chair in a measure regulates the attitude. Standing with the weight chiefly on one leg probably results more as a matter of habit than from a unilateral muscular weakness; when it becomes habitual and instinctive, it is with difficulty corrected. Under these circumstances, the child should not be restricted in walking or active play, which give a constant change in attitude, but should, so far as practicable, be prevented from standing for any length of time.

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[4] Eulenberg (Die Seittiche Rüchgrat's Verkrümmungen, Berlin, 1876). Ketch, New York Medical Record, April 24, 1886.

The usual bad habits of position are as follows: standing on one leg, at too low a table, sitting in a twisted position, sleeping always on one side, with too high a pillow for the head.

In most early cases the faulty attitudes are clearly the result of muscular weakness. The growth in size has not been accompanied by a corresponding development of muscle. This condition is frequently met in rapidly growing children, and is one of the most common causes of lateral curvature. Here proper gymnastics are indicated, but they should be prescribed and carried out with much care. In cases of gravity, the children are unable to bear much exercise without fatigue. Those exercises, therefore, chiefly needed in correcting the deformity, should be the only ones prescribed. The usual class-work of the gymnasia is to be avoided, as such cases require the individual attention of a competent person, who will see that no faulty position is taken during the exercises.

Mr. Bernard Roth, of London, has devoted much time and attention to the development of proper simple gymnastics, combined with postural treatment, the efficiency of which he has demonstrated by a series of successful cases. He has pointed out that in each individual a certain attitude can be voluntarily assumed by the patient, which is the nearest approach to the normal. This attitude varies to a degree in each case. The first step in treatment should be to determine this position, which he calls the "key-note" position. All exercises should be made in such a way as to develop the muscles involved in this attitude, or while the attitude is maintained. The following are the exercises which he prescribes, varying in a measure in individual cases: —

(1) Lying on the back, arms by the side, hands supinated, very slow, deep inspirations by the nose, expirations by the mouth.

(2) The same, with arms extended above the head.

(3) Position the same as No. 1, head rotation, lateral flexion of head.

(4) Position the same, simultaneous circumduction of both shoulder-joints from before backwards, elbows and wrists extended.

(5) Position the same, one hip circumducted both ways (knees extended).

(6) Lying on back, simultaneous extension of both arms upwards, outwards, downwards, from a position of the elbows flexed and close to the trunk.

(7) Lying prone, one hip circumducted both ways, knee kept extended.

(8) Sitting on a couch, with the back at an angle of 45°, ankle circumducted in, up and out, while the toes are inward the whole time.

(9) Lying on back, with arms extended upwards by the sides of the head, flexion of both arms (surgeon resisting). (The patient's knees, flexed over the ends of the table, fix the trunk.)

(10) Patient astride a narrow table, with the arms down and hands supinated, trunk-flexion at lumbar vertebræ (patient resisting), followed by trunk extension (surgeon resisting).

(11) Patient, with arms extended upwards, leans against a vertical post with pegs on each side; these he grasps. The surgeon gently pulls the patient's pelvis forward by his hands on the sacrum (patient resisting), also pelvis rotation on its axis to right and left alternately (surgeon resisting), with the hands on each side of the pelvis.

(12) Lying on back, with head and neck projecting beyond the end of table, the head is gently flexed by the surgeon's hand on occiput (patient resisting).[5]

One merit of the method of posture and exercise is its simplicity and ready applicability by every practitioner. There is great danger of making the matter appear unduly complicated, and this is the case if an attempt be made to differentiate the different bellies of the individual muscles, on the convexity of the different curves. The fact of the matter is that the curves are the result of static laws, and that the muscles are only at fault in so far as they do not hold the trunk erect, and thus allow the superincumbent weight to fall unequally. The muscles chiefly engaged in keeping the trunk erect are the large ones of the back, the latissimus dorsi, with the trapezius and the erector-spinæ.

It is not a difficult matter to devise simple and practicable exercises to develop these back muscles. The strength of a patient's back muscles can be determined in a ready way by attaching a cord to the front of a cap tied to the head, and fastening this cord to a spring balance. The patient, seated at the proper distance from the spring balance, held firmly by an assistant, is directed to bend backwards, keeping the back straight so far as is possible, and the amount of the pull is indicated upon the dial.[6] A record of this registers any increase in the strength of the patient, and as a clinical fact, it will be found that an improvement in carriage will correspond to an improvement in the indicated strength.

The round shoulders of growing children present a typical illustration of what is termed flexible curves (Fig. 5). The deformity is clearly an exaggeration of the normal physiological curve, and due to muscular weakness of the muscles, which would hold the head erect, to which is usually added a lack of tone of the muscles holding the scapulæ back, namely, the trapezius serratus.

Round shoulders may also be secondary to the curve in the hollow of the back, lordosis, that is, the arching back of the body, which is seen in the effort to rest the spinal muscles, weak from any cause, by balancing the weight of the trunk. This is particularly noticeable in Duchenne's paralysis.

Scoliosis, lateral curvature proper, is not due primarily to muscular weakness, but as has been shown, is the secondary result of a back imperfectly supported and of improper attitudes, which are due frequently to muscular weakness, which latter presents a rational indication for treatment.

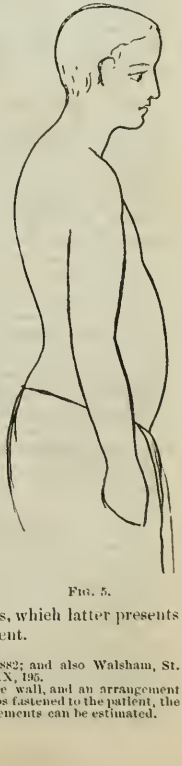

Fig. 5.

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[5] British Medical Journal, May 13, 1882; and also Walsham, St. Bartholomew's Hospital Reports, Vol. XX, 195.

[6] By fastening a spring balance to the wall, and an arrangement with pulleys and cord connected to straps fastened to the patient, the actual amount of force in different movements can be estimated.

The management of cases of this sort may be described in a general way as follows:—

After a careful inspection of the deformity, diagnosis as to the flexibility of the curves, and examination of the faulty attitudes, the child's height and weight should be taken, and a comparison made with the standards established by Bowditch's tables, in order to determine whether any excess of growth in height or deficiency in weight existed. It should be considered that if a child has grown with unusual rapidity, or if the height had increased without a proportionate increase of weight, greater care should be exercised in the management of the case. The patient should then be directed and taught to sit and stand and walk in as nearly a normal position as possible, and be drilled to assume this position. It should be the object of the attendant to see that all exercises taken during the exercise hour should be done without an assumption of a faulty attitude. The exercises assigned should vary in each case. In addition to those already mentioned, the following will be found of use:

(1) The patient sits facing the assistant who holds a strap passing about the patient's occiput (prevented from slipping by a cross strap around head and chin). The patient bends forward and back, keeping the spine straight. The backward movement is resisted by the assistant.

(2) Same as above, except the straps cross the shoulders.

These exercises may be carried on with a weight and pulley, or rubber exercising tubes instead of the resistance of the assistant, but the amount of force is less readily regulated. The assistant should correct any arching of the back.

(3) The patient stands facing a wall at arm's length from it; places the left hand upon the wall at the height of the chin, the hand being in a direction across the body. The patient, supported by the arm, slowly brings the face towards the arm, bending at the ankles, keeping the whole body in line; the face should be turned so that the left ear touches the hand, and the standing position slowly resumed, the body being still kept from bending at the hips.

(4) The patient stands with the heels, back and occiput against a projecting corner (of furniture or doorway), and places the elbow (the arm being flexed) as far back as possible.

(5) The patient, seated on a stool or chair, should place the feet behind, and on the inner side of, the front legs of the chair, and slowly bend sideways; the assistant, resisting on the head, determines the strain on the muscles of either side.

For children accustomed to stand upon one leg, the best exercise is to drill them to stand upon the other for a specified number of minutes, and standing on one leg to lower and raise the body, bending at the knee.

In almost all flexible cases, and in a majority of cases with commencing osseous curves, all the treatment that is required is postural or gymnastic, thoroughly carried out. In certain cases of this class, and in most of the severer cases, treatment by some mechanical aid is needed. This help is indicated in curves which may be considered as threatening, even if flexible, for gymnastics and postural supervisions are only possible for a limited time during the day, and it is desirable in such cases that at no time should faulty positions be assumed. It should, however, always be borne in mind that mechanical supports are injurious in so far as they take the place of muscular support, and therefore defeat the object to be arrived at in an ultimate cure. They should never be used to the exclusion of gymnastics.

A great variety of spinal supports, corsets and appliances for this purpose have been devised. The chief defects of most of these are that besides being cumbersome, they are not fixed in their bearing upon the pelvis, and allow the patient to lean to the side and to assume faulty positions.

If a patient with a flexible lateral curvature be examined, it will be found that in endeavoring to push the spine straight, pressure will be exerted on the right side of the back, a little below and behind the axilla, and counter pressure in the front of the trunk, upon the pelvis, just below the anterior superior spine (Fig. 6). It will also be necessary in some cases to push the right shoulder down, and to pull back the right shoulder blade. Sometimes also it is desirable to push up the left shoulder. These points vary necessarily in different cases, but in the typical lateral curvature with the upper convexity to the left, they are as here indicated. Mechanical support and pressure should therefore be in this direction, and as far as possible there should be no support or pressure at any other place, and motion in every other way should not be limited, that free play of the muscles be allowed for their development.

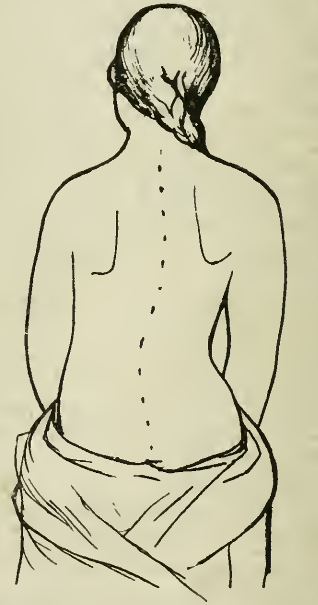

Fig. 6.

In cases of pronounced fixed curves with marked change in bone, the matter is a different one. This condition of the spinal column is readily recognized by the fact, that the curves do not diminish when the patient is recumbent or suspended, and that rotation is indicated by projection of the ribs when the patient bends forward (Fig. 7).

In these cases a cure that is a complete correction of the deformity is not to be hoped for; in some severe cases an arrest of the increasing curves is difficult, and all that can be done is to relieve the symptoms presented, as far as is possible. In many of these cases, plaster corsets, applied with the aid of suspension, are of assistance; or better, leather glue or silicate corsets, made from casts of the trunk in an improved condition, are of great help. Ordinary stiff corsets, or any support which constricts and steadies the trunk, will often relieve the symptoms of pain in aggravated cases.

Some of these cases are also relieved by gymnastic exercises, massage and electricity.

Two errors of prognosis are common in regard to lateral curvature:

(1) To regard the affection as of little moment, and likely to correct itself.

(2) That the affection is one of immediate gravity.

The latter view is less frequently entertained, and is due to a confusion of the disease with caries of the spine, but the former error is quite wide spread.

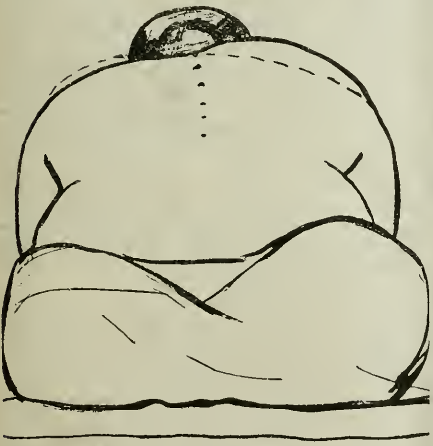

Fig. 7.

In a majority of cases of scoliosis, the curvature becomes self-limited, and a slight twist of the spine is of no great importance. This may be said of most of the diseases of childhood, but it is impossible to predict that an increase of the curvature may not take place in any given case. It is certain that no spontaneous rectification of a pronounced lateral curvature has ever been observed, while a progressive increase to a stage of permanent and incurable disability is, unfortunately, not rare. Instances are occasionally seen where a curve which has occasioned little or no trouble during girlhood and early womanhood, increases and gives rise to much discomfort after middle life. It may therefore be said that every patient with a laterally curved spine, even if not suffering from the deformity, is in danger from it of discomfort and partial disability, and that the danger is the greater the poorer the patient's health and strength.

The subject may be summed briefly as follows:

Of the two chief factors determining lateral curvature, superincumbent weight and faulty attitudes, the latter in the early stages of disease is the one which offers feasible indications for continuous treatment.

Faulty attitudes can be corrected by properly directed gymnastics and by drill.

After pronounced osseous curves have been formed, a complete correction is difficult or impossible.

Gymnastics are of great help in correcting any tendency to increase of the deformity.

The gymnastics should be carefully prescribed and efficiently carried out daily.

Proper appliances may be required, but they should be regarded as an adjuvant to gymnastics, and as a means of retention in severe cases.

The affection is one which is easily prevented, but cured with difficulty, and treatment cannot be begun too early.

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A METHOD OF TREATING PLACENTA PREVIA, SOME POINTS OF WHICH ARE NOT TO BE FOUND IN THE STANDARD WORKS ON MIDWIFERY.

BY PHANUEL E. BISHOP M. D., PAWTUCKET, R. I.

Doubtless every physician at the commencement of his practice, has looked forward with great concern to his first case of placenta previa.

When we consider the great danger to both mother and child, and the hopes and fears of the medical attendant, all cases become formidable even to obstetricians of skill and experience. Taking it for granted that every practitioner is familiar with past and present literature upon this interesting subject, I will omit from this paper all that is usually found in standard works upon obstetrics.

Very early in my practice, some thirteen years ago, my first case of placenta previa occurred. A physician of large experience saw the case with me, and confirmed my diagnosis. The method of treatment then discussed was strictly adhered to in this and seven other cases which have since occurred in my practice, or been seen in consultation.

On account of this experience, and the uniform success attending each one, I deem it my duty to present this paper to the public.

The above mentioned method of treatment can be best described by reporting my last case in detail.

On May 16th, 5 P.M., I was called to attend Mrs. B. who had nearly completed the seventh month of her fourth pregnancy. She was under my care during her last two confinements which were normal in every respect. While quietly sitting in a chair, without any pain or other warning whatever, a profuse hemorrhage from the vagina occurred, which continued about ten minutes. It had nearly ceased upon my arrival. No examination was made at this time. She was put to bed and the precautions taken which are customary in cases of accidental or unavoidable ante-partum hemorrhage. At 10 P.M., I was called again. Another gush had taken place at 9 o'clock, which had now ceased. An examination was now made. After removing a small clot, the os and cervix were carefully examined by both touch and speculum. There was little or no dilatation of the former or obliteration of the latter. I did not try to pass my finger into the cavity of the uterus. Strongly suspecting placenta previa, the possibilities and probabilities of the case were frankly stated to the patient and family, and the former cheered up, and assured that I would safely take her through her peril. Deeming it my duty to remain for the present, I gave Mrs. B. a full dose of morphine combined with atropine, and lay down for a nap, leaving orders to be called immediately should flowing occur. In the morning I left her quietly sleeping. No hemorrhage during the night. Saw her at noon. Found her very comfortable, encouraged her, and promised to call the next day. Was summoned again the same evening at 10 o'clock. Hemorrhage quite brisk, pulse rapid, great restlessness and other symptoms alarming. I decided to do my duty at once, namely, *empty the womb and save my patient's life.* One grain of morphine combined with one-fiftieth of a grain of atropine was now put under the skin; thirty grains bisulphate quinine administered in wafer paper; the urine drawn, and the following enema given: spts. turpentine, one ounce; castor oil, two ounces; yolks of two eggs; castile soap suds, one quart thoroughly mixed. After the enema had operated, the patient was placed upon her back in the usual position for instrumental delivery. One hand was passed into the vagina, the first finger of which was gently but firmly carried into the womb, dilating the os as I proceeded. My fears were now confirmed. I was dealing with a case of placenta previa centralis. Continuing to dilate gently and rapidly until two fingers could be easily passed, I soon had the placenta separated from one side for quite a space, as far up as my fingers would reach. Taking a silver male catheter, No. 18 American scale, I now passed the curve into the uterus between the placenta and my fingers until it reached the tips of the latter. Then with a gentle rocking motion, it was carried still higher, separating the placenta as it advanced, until the upper margin of the same was passed and the membranes reached. These were now easily and thoroughly ruptured and the liquor amnii allowed to escape. Mrs. B. now received a copious douche of hot water, had her linen changed, and was placed in a clean, dry bed, in order to get a little rest before labor should commence, which I knew would not be long delayed. She went to sleep almost immediately, the pulse and respirations assuming a better character directly. After watching her for half an hour, during which time not one drop of blood escaped, I lay down to get a little rest myself. It was now midnight. I was awakened at 3.30 A.M. Pains commenced at 3. Child and placenta born almost simultaneously at 5. Child born alive premature and feeble, and lived only a few hours. Mrs. B. received a good generous diet, with Wine of Coca ad libitum. She arose on the tenth day feeling well but rather anæmic. With the exception of bisulphate quinine twice daily, she required no medicine. I will now briefly notice the other seven cases.

CASE I. Mrs. J., multipara, second child. Placenta previa lateralis. Catheter used, morphine and quinine exhibited. No pains before operation. Labor commenced half an hour afterwards. Child born dead about an hour later. Afterbirth removed with the hand. Have attended her three times since. Confinements normal.

CASE II. Mrs. N., tertipara, eighth month. Placenta prævia lateralis. Had slight hæmorrhages at different times for the past two months. Labor had commenced before my arrival. Flowing profuse, pains weak. Patient pulseless, and well-nigh bloodless. Ruptured membranes with finger. Morphine and quinine exhibited in large doses at once. Hæmorrhage ceased immediately. Pains frequent, sharp and decisive. Child and afterbirth born almost together. Child born alive, and living to-day, eleven years old. Mrs. N. has had four children since. Labors normal.

CASE III. Mrs. M., nonipara, seventh month of gestation. Placenta prævia centralis. Had "flowing spells" at intervals for three weeks back. No pains. Patient very pale and anæmic. No large gushes of blood but almost a constant "dribbling" as she expressed it. Dilated os, ruptured membranes with catheter, and gave morphine and quinine. In this case the "dribbling" continued until after labor commenced, but the amount was so small as to cause no anxiety on my part. Child born alive eight hours after operation. Afterbirth expelled naturally in ten minutes. Child did well and is living to-day, eight years old. Mother recovered very slowly.

CASE IV. Mrs. D., primipara, eighth month. Hæmorrhage at intervals for four weeks. Loss of blood slight. Placenta prævia lateralis. Dilated os with difficulty. Ruptured membranes with catheter. No signs of labor before operation. No hæmorrhage after. No morphine or quinine given. Had attended patient before her marriage and during the early months of gestation. Could not take either morphine or quinine. Labor delayed two days. Child born with forceps fifteen hours afterwards. Child did well. Mother had mammary abscess which greatly retarded her recovery. Attended her once since. No trouble.

CASE V. Mrs. A., tertipara, eighth month. Placenta prævia lateralis. Slight hæmorrhage at intervals for six weeks. In bed about all the time. Tried to carry her through to full term. Hæmorrhage suddenly becoming very alarming, and no pains, I proceeded as in Case III. Labor terminated two hours after operation. Child dead born. Mother had phlegmasia dolens. Recovery slow. Have attended her twice since. She died of phthisis six months ago one year after birth of last child, and seven years after birth of third.

CASE VI. Mrs. C., nonipara, seventh month. Placenta prævia centralis. Had been "unwell" every month since becoming pregnant. Had lost more blood than common, especially at the last two periods. Labor had commenced before I was called. Hæmorrhage steady and severe since pains began. I proceeded as in Case III. Child born alive one hour afterwards, and lived eight hours. Mother made an excellent recovery.

Case VII. Mrs. M., multipara, third child, between six and seventh month. Was seized with hæmorrhage while out riding. She was taken home, and I attended her for accidental hæmorrhage for one week, at the end of which I made a thorough examination. Placenta prævia centralis. No pains, although the os was very soft and easily dilated. Proposed delivering her at once. Patient and family refused my proposition, as I told them the child would probably be born dead or live but a short time after its birth. I requested my dismission from the case which was granted. Saw her again in four days. Operated at once in order to save patient's life, which was in great jeopardy. Family not so anxious now as they were four days before concerning welfare of child. Conducted this case precisely like No. VIII, which is reported in detail. Child dead-born. Mother did well, far better than I thought she would.

I will close this paper with the following remarks: As it seems to me the first thing to work for, in treating placenta prævia by the above method is to secure the entire confidence of both patient and family. Perform the operation without anæsthetics if possible, for they both favor hæmorrhage and take away from the pains that force which we are so anxious to secure. Have nothing whatever to do with ergot. It is worse than useless. We never can tell how it will act. It is liable to cause the os to contract and lock every thing up just when we want to keep it open so that we can empty the womb. Don't bother with the tampon. It cannot do any harm when introduced properly, but will do little or no good, and then again we are wasting precious time. What we want, is no hæmorrhage and good effective pains. Can we secure these? I answer emphatically and without hesitation, yes. Separate the placenta from one side as far as possible. If the os is not open, dilate. Rupture the membranes thoroughly. You have now fulfilled the first indication. Morphine and quinine in large doses have in my hands always fulfilled the second. A woman lies at death's door from ante-partum hæmorrhage. There is nothing like a full dose of morphine to help her rally and get a fresh grip on life. Bedford says: "Be not afraid of this remedy, it is the sheet-anchor of hope in cases in which the patient is almost sinking from exhaustion consequent upon profuse hæmorrhage." It is also oxytocic. Narcotism is almost impossible. It is well enough to combine atropine as has always been my custom. Experience has taught me that quinine in large doses *is the oxytocic* par excellence. I have used it thus in a great many cases. In my hands it almost never fails to produce just such pains as are required. Then, again, it wards off chills, acts as a tonic and prevents septicæmia.

— An American ward of the Guild of S. Luke, Evangelist and Physician, has been recently formed in Rhode Island, Dr. W. Thornton Parker, Provost.

— The papers that hoist before the public the figures of their circulation — apt to be fathomless lies — bear the same relation, remarks a lay contemporary, to admirable journalism that John L. Sullivan, whose circulation is much greater than Oliver Wendell Holmes's, bears to that intellectual autocrat.

REPORT ON PROGRESS IN SURGERY.[1]

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

END RESULT OF CARCINOMA OF THE LIP AFTER OPERATION.

A. Wörner[2] has collected and tabulated 866 cases from Brun, Thiersch, von Bergmann, Billroth, Winniwarter, Fischer, Kocher and Partsche. His results show that

782 cases (90.4%) were in men.
84 " (9.6%) " " women.
— " (94.4%) " " under lip.
— " (5.6%) " " upper "

The average mortality was 7 per cent.; the minimum being 2.81 per cent.; the maximum 14.9 per cent., both of which results were obtained from data of the preantiseptic period. Permanent recovery occurred in 28.1 per cent., but among all cases of recurrence 87.6 per cent. occurred within one year after the operation, and cases which had escaped without recurrence for three years could, with great certainty, be considered cured. Wörner mentions one case where a secondary operation was performed nine years after the primary one, the patient surviving eleven years without recurrence.

OPERATIVE TREATMENT OF FRACTURE OF THE PATELLA.

The operative methods now in vogue are:

(1) Evacuation of articulative effusion by aspiration or puncture.

(2) Tendon ligature, (Volkmann.)

(3) Bone suture. Introduced by Lister in 1877, either open or subcutaneous, the most recent plan of which is that of Ceci.[3]

(4) Malgaigne's Hooks.

(5) Morton's Method.

Dr. Conrad Brunner,[4] of Zurich, has recently published an exhaustive and carefully-written article intended to show the comparative value of simple and operative treatment of fractures of the patella. The data from which he has formed his conclusions consist of detailed histories of forty-four cases treated by the former method and statistical tables containing the essential points in ninety cases of fracture treated by suture.

The operative method being a comparatively modern procedure the final results cannot be so fully learned as those of the older plan. However, the results, as far as can be obtained, show that the opening of a knee-joint to suture a patella is entirely unjustifiable in the great majority of cases. Brunner finds that the simple method gives practically as good results and hence concludes that there is no real necessity for the operation, for the primary object of treatment is in his opinion to restore the function of the limb and not to secure bony union. And in regard to this point the operative method cannot show any better results than those obtained after the older method. Since among the cases operated upon records exist of eight cases of suppuration, two requiring subsequent amputation of the thigh, nine resulting in anchylosis, and three deaths. It can scarcely be regarded as a method of treatment unattended by danger, and the danger thus incurred by the patient is not compensated for by a better functional result than can be obtained by a simpler method devoid of risk.

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[1] Concluded from p. 190.

[2] Centralblatt für Chir., No. 25, 1886, s. 432.

[3] Eine neue Operation der Patellar Fracture. Subcutane Metallnaht der Kneescheibe. Deutsche Zeitschrift f. Chirurg. Bd. xxiii, Heft. 3–4.

[4] Ueber Behandlung und Endresultate der Querbrüche der Patella. Deutsche. Zeitschrift für Chirurg. Bd. xxiii, Heft, 1–2.

Chauvel[5] has reported forty-three cases with severe arthritis in twenty; 120 amputations and three deaths.

According to the final results now on record it seems to be unwarrantable to transform a simple fracture into a compound one, to secure bony union which does not give the patient a better functional result than is obtained in a case of ligamentous uniting of the fragments. The claim that the duration of treatment is shortened is not supported by statistics.

The conclusions to be drawn from the above are that all cases of this injury should be treated by the "simple" method, except when a free communication with the fracture already exists or where a badly united fracture or useless limb demands a more effectual treatment.

DISLOCATIONS OF THE SHOULDER.

Neil Macleod[6] describes what he terms "a new, easy, rapid and painless method of reduction of dislocations of the shoulder, without an anæsthetic," in the following terms: Let the patient lie down on his back on the floor, with the dislocated arm outstretched at right angles to the trunk, and also on the floor. Having told the patient to lie quite still and make no effort, let the surgeon, placing the approximate heel in the axilla, make traction gently and steadily at right angles to the line of the trunk; and, as there may be no jerk or evident intimation of the return of the head of the bone to its place, let him ascertain its position, if necessary, adducting the limb to make sure. This method it is claimed is painless.

TRANSPLANTATION OF BONE.

Ferrari[7] arrives at the following conclusions: That pieces of bone inserted in the diaphyses of long bones may become completely united to them, and continue to live and grow. The re-union of grafting takes place by a true vascularization, which forms between the piece inserted and that to which it is applied. Around the piece inserted, a bony, peritosteal, and medullary callus is formed, which has only a temporary vitality, and after the lapse of time the callus is absorbed and the engrafted bone can only be recognized by its greater vascularity. Complete antisepsis is essential to success. A favorable result is obtained even when the smallest pieces are inserted. Moderate pressure should be used on the engrafted bone to maintain contact between the medulla and the piece of bone transplanted.

DIAGNOSIS OF INJURIES TO THE SACRO–ILIAC ARTICULATION.

Lewis[8] calls attention to the liability of overlooking injuries to the sacro iliac articulation. He considers the following to be the principal points in diagnosticating this injury. The history of the injury. Any force which rotates the pelvis under severe pressure, or any force which acts as a wedge between the sacrum and innominate bone, is liable to injure the sacro-iliac articulation, although it does not cause separation and deformity. The symptoms are usually associated with those of contusion of the hip, but differ in this, that the patient must lie on the back for a long period of time, the slightest lateral pressure on the pelvis being unbearable. The patient is able to be assisted to the erect posture and to move about on crutches for some time before being able to lie on either side. Many months elapse before the patient can walk with ease, and frequently the injury is permanent to the extent of rendering him unable to do any active work. The walking is peculiar, the uninjured side being used as a pivot on which to swing the pelvis, and thus save strain on the affected articulation. Dr. Lewis cites two illustrative cases of this injury.

INTRA-CRANIAL TUMORS.

The Pathological Society of London, in February, held a special meeting for the exhibition and consideration of intra-cranial tumors.[9] From a surgical standpoint, the meeting was of interest, as there was a large number of tumors exhibited, and "they illustrated the tendency of cortical gliomata to remain limited to the gray matter, and the opposite infiltrating characters of these tumors in the white substance; the rarity with which it is possible to localize with certainty the site of tumors; the difficulty of determining their size, and the extent to which they infiltrate their surroundings; the vast variety of clinical phenomena, and the variations in their anatomical and histological structure."

Dr. Goodhart considered that the number of tumors which could be removed with any probability of success was very limited.

DISINFECTION OF HANDS.

Kümmel,[10] of Hamburg, has performed an elaborate series of experiments to ascertain the best method of making a surgeon's hands absolutely aseptic. He found that contact with soiled dressings, or at autopsies, rendered this result more difficult. Sublimate, one-tenth per cent., was inefficient. The following conditions are necessary for satisfactory disinfection of hands:

(1) Five minutes' vigorous or thorough scrubbing with brush, soap, and water, as hot as can be borne.

(2) A thorough two minutes' brushing of the hands in freshly-prepared officinal chlorine water or carbolic solution, five per cent.

In operating, the fore-arm should be cleaned, as well as the hand.

REMOVAL OF MOLES AND WARTS BY ELECTROLYSIS.

Voltolini[11] uses a battery of five elements. Two kinds of needles can be used, one of platinum, the other of steel. The latter needle is intended for very hard warts, and must be attached to the negative pole to avoid oxidation. Moles and warts must be soaked in water. The needles must never be introduced deeper than the level of the skin, nor be allowed to touch one another. The action of the galvanic current may be continued from five to ten minutes at most, the needle being pushed in different directions, whilst water is allowed to drop on to the part operated on. In from two to four minutes, the substance of moderately soft warts become pulpy. This is the indication for the operation to stop. This pulp dries up, becomes black, and in a week or fortnight falls off.

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[5] De la suture osseuse dans les cas de fracture transversale de la rotule avec écartement. Centralblatt für Chirurgie, 1884, S, 377. Referat.

[6] Brit. Med. Jour., 1886, Jan. 30, p. 195.

[7] Lon. Med. Rec., Jan. 15, 1886, p. 31.

[8] N. Y. Med. Jour., Dec. 26, 1885, p. 715.

[9] Lancet, February 6, 1886, p. 271.

[10] Centralblatt f. Chirurg., April 24, 1886.

[11] Deutsche Med. Wochen., No. 7, 1886.

TOTAL EXTIRPATION OF THE SCAPULA.

Shutz [12] has recently published the result of a case of complete removal of the scapula, the acromial end of the clavicle, and the head of the humerus for extensive caries. The result is a useful arm. His review of the subject has resulted in a collection of twelve cases, of which six (fifty per cent.) show a favorable result; two deaths, two failures (loss of arm from gangrene); two cases result not known.

Gies [13] published in 1880, a table containing eleven cases, in which the complete extirpation of the scapula, and simultaneous removal of the head of the humerus was performed. The causes for operation — caries, necrosis, fractures, gun-shot injuries, enchondroma, osteochondroma, and cancer. The results show four deaths, three within ten days, one from recurrence; four complete recoveries; one case with favorable result at end of three months; two, result not given.

AMPUTATION AT THE KNEE-JOINT BY DISARTICULATION.

In an interesting discussion at the Royal Medical and Chirurgical Society, following a paper on this subject by Mr. Bryant,[14] the following views were expressed. Mr. Bryant considered the operation of disarticulation required for its success that the disease or injury should be confined to the leg, that the condyles of the femur be involved, or very slightly affected, and that there is a sufficiency of healthy soft parts below the knee for the formation of a good stump. The cicatrix was always placed well behind the femur. The patella was preserved, its removal being found quite unnecessary. Of the three different methods of operating, namely, that of Pollock by the long anterior flap, Pick's plan by lateral flaps, and Stephen Smith's method by lateral hooded flaps, Mr. Bryant preferred Smith's method. He gave tables of thirty cases, with the results. He considered that the leaving of the semilunar cartilages *in situ* was a great advantage. The advantages of this form of operation he summarized as follows:

First. The lessened shock of operation.

Second. The lessened section of tissues, and the non-exposure of the muscular interspaces of the thigh.

Third. The escape from the necessity of sawing the femur, with attendant risks.

Fourth. The preservation of the attachments of the thigh muscles, and consequently, the greater mobility of the stump.

Fifth. The useful character of the resulting stump.

Sloughing of the flaps was considered by many of the speakers to be quite common. Early and efficient drainage for the first days was considered to be very important, for sometimes much synovial fluid was secreted.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

This comparatively rare injury is considered by Henry B. Sands [15] in a paper based upon the observation of thirteen cases. He advocates a departure in our treatment of this injury from the use of mechanical apparatus designed either to prevent the knee from being bent or, to make an artificial extension by elastic force. In two cases he has operated and united the ligament and it will be of interest to record his method of procedure. A longitudinal incision, six inches in length, was made in the median line on the anterior aspect of the knee, the centre of the incision being opposite the lower edge of the patella. The cut was subsequently lengthened both upward and downward to nine inches. On exposing the injured parts, in doing which the knee-joint was freely opened, it was found that the ligamentum patellæ had been torn away from the spine of the tibia, which was now covered by only a small amount of dense fibrous tissue, sufficient, nevertheless, to allow a firm hold for sutures. A little more than an inch of the ligament in good condition, was normally attached to the patella. Before the upper end could be drawn down and placed in contact with the lower one, it became necessary to make many deep oblique and transverse incisions into the median and lateral portions of the quadriceps; and even when this had been done as far as was deemed prudent, considerable force was required to secure apposition, which was maintained by two sutures of stout silver wire. The mucous and alvar ligaments were found redundant, and were partly removed with curved scissors. The incisions in the capsule of the joint were closed by catgut sutures, and the external wound was united, except at its upper and lower ends, in the same manner. Two bone drains, one on each side, were inserted into the joint through openings made for that purpose, and one into each extremity of the median incision.

Antiseptic precautions were observed. The first four days the patient complained of pain, this was so severe that on the second day the dressing was removed and the wound was examined The drainage-tubes were cleaned of a few clots of blood, and a fresh dressing was applied. The pain after the fourth day gradually diminished and finally disappeared. At the end of seven weeks the wound was found healed, the patella movable, as was also the knee-joint. Two weeks later the patient was allowed to get up with a water-glass bandage. At the end of five months the bandage and the splint was laid aside and the knee had assumed nearly its natural size, the continuity of the ruptured parts having been reëstablished. A table of cases concludes the article.

RUPTURE OF TENDONS. TREATMENT OF DIVIDED TENDONS.

Hagar [16] has operated for a so-called spontaneous rupture of the tendon of the extensor of the longus pollicis thumb. An exploratory incision was made for the purpose of finding the divided end. Failing to discover the proximal end (on account of retraction) the distal end was cut obliquely and sutured by catgut to the tendon of the extensor indicis after opening the sheath of the latter and denuding a suitable surface by scraping of the epithelium. Under antiseptic treatment primary union followed. The operation was performed seventeen days after the occurrence of the lesion. In two months after operation extension of the thumb was nearly restored and in six months the movements of the hand were nearly normal.

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Reports of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated meeting, June 21, 1886.

Dr. Edward G. Janeway read a paper on

CERTAIN POINTS IN THE DIAGNOSIS OF SOME OF THE INFECTIOUS DISEASES.

The subject, he said, was one which did not have the merit of novelty, and although it had been suggested to him by the President of the Association, he would not have ventured to present it had it not been that for a number of years he was so placed (as one of the Health Commissioners of the city of New York) that it was necessary to give a great deal of attention to the matter, and that he was, moreover, enabled to see those circumstances which were most likely to lead to erroneous opinions, and at times to witness the sad effect of some of these.

The diagnosis of small-pox, when it presented itself with all its usual features was a matter of no special difficulty to one who had seen even a few cases; but students of medicine in this country had, unfortunately, owing to the stringent isolation and quarantining laws, but little opportunity to become acquainted with the ordinary physiogomy of this complaint. Besides, owing to the system of persuasive vaccination carried on in the city of New York, and presumably to somewhat the same extent in other cities of the country, for nine or ten years there had been comparatively little of the disease. Systematic vaccination in general, vaccination in the neighborhood where a case of small-pox had occurred, isolation or removal of the patient, disinfection of premises, and subsequent careful outlook for other cases in the vicinity, had been successful to an extent appreciated by few. But the outlook for the future he did not think so assuring, as the work of vaccination had been crippled to a considerable extent during the past year; and a large contingent of unprotected persons existed, who might become victims to, and spreaders of the disease.

Dr. Janeway had known the start of a considerable outbreak of small-pox to be traced to a single erroneous opinion. Another very unfortunate circumstance had happened which would tend to delay the prompt action desirable in dealing with the disease. The law had been invoked to inflict a penalty upon a physician who had reported a case of suspected small-pox to the Board of Health, and though an appeal had been taken which would probably be successful, yet the effect was unfortunate. It seemed to him that the case of the physician dealing with disease, and particularly with one which was dangerous to the public health, ought to be protected by law.

One of the greatest safeguards against an error of diagnosis as regards small-pox consisted in having such a classification of the disease fixed in the mind as should serve to take account of the various methods of its manifestation. In a number of the text-books important facts bearing upon the method of development of certain forms of small-pox were omitted. A satisfactory classification he had found as follows:

Purpura variolosa.
Variola-vera. Confluent.
" Semi-confluent.
" Discrete.
" Corrymbose.
" Hæmorrhagic.
Varioloid.
" Variola Varicelloidis.

The distinction between purpura variolosa and the ordinary hæmorrhagic type, where the blood is extravasated into the vesicles, should be kept in mind, and it could be best accomplished, he believed, by making such a classification as the one referred to. In his experience the failure to recognize, or even to have any knowledge of the existence of this form of the disease had led to very serious consequences. The danger consisted in mistakes between this form of the disease and the malignant type of some of the other infectious diseases, particularly measles, and, much more rarely, typhus fever, ulcerative endocarditis, and purpura hæmorrhagica.

A careful cross-examination of the patient and his friends should be made, and at the same time the possibility taken into consideration that a visit to a strange place, the getting of new clothing, etc., might in the absence of any other clue furnish one. In these days of rapid travel, with emigration to the West in that section of the country, as well as here, the recent arrival of strangers in the neighborhood should be thought of. Should it be learned that a possible exposure had happened, and to a case of disease of unknown nature, it should be a part of our duty to ascertain by inspection of such sick person or by inquiring of the physician in attendance the nature of the illness.

By way of illustration Dr. Janeway related the following case: Some years ago he was called in consultation to another city to decide as to the nature of a strange variety of fever. One patient had died of it, and another was seriously ill at the time. When seen, the latter was sitting in bed, with very feeble pulse, though with only slight febrile movement, and showing evidence of dyspnœa, due to changes in the blood. He had a wet cloth on his forehead, which concealed a number of purpuric spots in the skin of that part; while on the chest, abdomen and legs these purpuric spots also existed. In one place there was a small vesicle (which was, however, of no determinate character), and at no point were there any papules or umbilicated vesicles. His mind was perfectly clear, and this was the sixth day of his illness. The hæmorrhages had only appeared in the skin of the forehead on the morning of that day, but the eruption on the rest of the body had already existed for more than twenty-four hours. Dr. Janeway suggested that the disease was in all probability purpura variolosa; in which opinion he received confirmation, *first*, by learning that this patient had attended the one who died, and had held her in his arms, the fatal issue having occurred about twelve days before the beginning of his own sickness; and *second*, by asking about the others who had been exposed during the sickness and at the funeral of the first patient. He learned that a number of these individuals were down with fever, and that one had an eruption, which proved to be discrete small-pox. The two cases with hæmorrhagic extravasation were, then, undoubtedly variola, but of a form which none of the attending physicians had previously encountered.

This case illustrated, better than any words, these three points to be considered in establishing a diagnosis:

First. It is important to know the nature of the disease from which a malignant case, not itself possessing positive features, has developed.

Second. Should the patient have died, this may be done by an investigation of others exposed to the originating case; these having perhaps a milder and more characteristic type of the malady.

Third. The result of exposure to the malignant case may, in some instances, be a proof of the nature of the disease.

In other words, we must take into consideration what gave rise to the disease in question, and what has been produced by it. Even in a large city, and in the case of homeless tramps, a rigid inquiry and cross-examination could do much toward throwing light on these cases. What he wished to emphasize was, that we must not be content to simply consider the eruption and the patient's condition, but must use every means in our power to establish a correct opinion as to the nature of the disease producing this state, which is denominated purpuric or malignant. It was a great mistake to suppose that hæmorrhages from mucous surfaces, a previous diffused scarlatinal-like rash, or maculo-papules becoming flattened purpuric spots, are necessary accompaniments of this type of hæmorrhagic variola. Variations from this form which he had described were met with, up to that in which characteristic spots of small-pox eruption occurred. Dr. Janeway here introduced another case to illustrate the necessity at times of making an autopsy to decide the nature of a doubtful disease. It was one in which an irregular case of small-pox was mistaken by the attending physician for cerebro-spinal meningitis; and two weeks after the death of the patient, a gentleman who had been with her during her illness and had refused vaccination subsequently, because he thought the disease was not variola, sickened with, and died of confluent small-pox.

The mistake between scarlatina and small-pox happened in those cases of variola in which a marked red efflorescence first occurred, followed by darker spots and papules, and finally by vesicles. In some cases petechiæ appeared in places, and hæmorrhages followed; and not infrequently, in severe cases, he had seen the vesicles first on the inner sides of the thighs and in the axillary space, the face remaining free. As the throat might be sore at this time, a mistake might occur were the order of events not kept in mind, which was two or three days' sickness, and then the rash and sore throat and mouth, due to the eruption. A mistake which he had known to be made was to consider the vesicles in such a case as sudamina. One point was to be carefully borne in mind, namely, that an examination which left out an inspection of the abdomen and chest, and particularly of the inguinal and axillary regions, would be very apt to lead to a mistaken opinion in the case of a severe infectious disease.

The mistake as regards measles occurred in a twofold manner. On the one hand, the first stages of the small-pox eruption, prior to the formation of the vesicle, led one who looked hurriedly at a case, and did not consider the invasion symptoms, to speak of measles. The other mistake occurred to one who looked at a severe case having the skin red, and in it a number of dark maculo-papules, together with hæmorrhages of larger extent and hæmorrhages from other places, such as the nose, etc. One who had seen the first stage might have considered it as already shown to be scarlet fever, whereas a little later the numerous papules might lead to the mistake of black measles.

The mistake between syphilitic eruptions and small-pox was generally to consider syphilis as variola, rather than the reverse. Most of such mistakes were dependent upon want of close observation of the whole eruption, and of a consideration of the history of the case. The multiformity of the rash, the condition of the glands, and the duration of the disease would determine, in a large number of cases, the correct diagnosis, to which the history would add confirmatory evidence. Two illustrative cases were given by Dr. Janeway. One additional point had been observed, namely, absence of the eruption on the hands and feet and in the mouth in cases of a syphilitic pustular eruption otherwise pretty generally distributed over the body. In his experience, syphilis caused more mistakes in diagnosis than any other disease, excepting only measles.

Mistakes between variola and varicella were not infrequently made. The distinction of typical cases was sufficiently easy, though he thought students were not infrequently puzzled by finding opposing statements regarding the appearance of the varicellous eruption, not only in different text-books, but sometimes, also, in different parts of the same work. The danger in mistaking varicella for varioloid was in paying too close attention to the eruption, for sometimes a slight induration was met with at the base of some of the spots of varicella, due to irritation. A careful scrutiny would generally show on the back and buttocks, as well as behind the ears, characteristic spots, whilst in other places the eruption might be more or less altered.

In doubtful cases between variola and varicella, attention should be paid to the cause of the attack, if known, and to the time of the development of the eruption after the commencement of sickness. Dr. Janeway had known of several cases of variola being contracted from cases of supposed varicella — cases which had been pronounced varicella by careful and trained examiners. He had met several cases of a varicellous-like eruption, so that he believed in making a subdivision of varioloid which should include this, under the head of variola varicelloides. He was led to this opinion by observing several cases of vesicular eruption closely resembling varicella in persons protected by vaccination, who were in houses where a patient was under treatment for variola. Another chance for error existed in the fact of a patient coming under observation at that time in the history of a mild variola when the vesicle was full.

At times, different forms of skin disease were mistaken for variola, those which were most liable to be thus mistaken being herpes, erythema, urticaria, and lichen.

Typhus fever, when well marked, and presenting the characteristic eruption, occasioned little trouble in making a diagnosis. The earliest cases of a visitation were, however, not always so well developed, and, in consequence, the disease might gain headway, usually in localities most calculated to promote a rapid spread of the disease. In children, particularly, there might be great trouble in deciding between typhoid and typhus. Some years ago, while typhus was prevailing, an outbreak of fever occurred in a certain orphan asylum, where, out of a number sick, there was absolutely no characteristic eruption. The attendants said that only a few had looseness of the bowels; nose-bleed had not been marked, and the records of fever had not been carefully kept; so that it necessitated several days of study before an opinion could be given with some degree of certainty that the disease was typhoid fever. This was confirmed by seven autopsies.

If we were able to study a number of cases, we might find the average duration a marked help in diagnosis, especially in adults. A fever, the great number of cases of which terminated (many of them comparatively suddenly) between the eleventh and fourteenth days, should always raise the suspicion of typhus. An autopsy should invariably be made as a sanitary necessity (should the opportunity occur), to decide the nature of a doubtful outbreak of fever. The lesions of typhoid were characteristic, while those of typhus were in some respects negative; but, in practice, if one of a number of cases of fever which had lasted longer than a week should present, on autopsy, only an enlarged spleen, with minute hæmorrhages on the serous membranes, and parenchymatous degeneration of the liver and kidneys, we should feel justified in considering it due to typhus fever in this climate. Where isolated cases were concerned, an examination of the intestinal mucus and of the muscle should be made, lest the trichinosis disease might have passed as one of the infectious fevers.

Dr. Janeway said he had been much struck by the value of an examination as to the nature of the disease occurring in other inmates of the house or among the friends of a fever patient, as an early help in deciding upon the true cause of a case of fever. The neglect of resorting to this means of information and diagnosis had been in several cases in his experience very unfortunate. As in the case of small-pox, he said he would urge upon the profession the wisdom of oftener resorting to this plan in forming an opinion; and he stated that the Board of Health would do it on request. He was willing to admit that typhoid fever might occur together with typhus; but, in practice, two or more persons, exposed to the same cause of fever, should, if becoming sick with a febrile complaint, notwithstanding certain differences in the manifestations, be considered as having the same disease. He was particular on this point because, owing to some differences in the eruption and certain minor details, he had at times been told that of two members of a family sick, one had typhus, and the other typhoid fever.

It had sometimes been taught that typhoid fever was not contagious, and hence that if several members of a family should sicken one after the other, then if the symptoms were not decisive, this contagious nature would point toward typhus. Taken as a broad generalization of city practice, it might be held true; but, unfortunately enough, exceptions were met with, even in the city, to destroy its full value; while in the country we had the indirect contagion, if not the direct, causing several members of a family successively to fall victims to typhoid. He had known the use of antipyrine to cause the appearance of a profuse, somewhat measly rash, which led the medical attendant to suppose that he had previously considered typhoid to be after all typhus fever. As regards the matter of diarrhœa, all practitioners know that not a few cases of typhoid pass through the disease without it, and, again, that it may occur in typhus, although the passages did not possess the peculiar character of those of typhoid.

Typhus fever was not alone likely to be considered as typhoid, but also to be mistaken for cerebral inflammation, and particularly for cerebro-spinal meningitis, in consequence of the presence of a peculiar petechial rash in the latter. In doubtful cases optic neuritis, if present, would decide in favor of cerebro-spinal inflammation. But, notwithstanding the fact that he had had a considerable experience with cerebro-spinal fever, he had not as yet seen one case the rash in which resembled that of typhus. Moreover, we very frequently meet herpes of the face and lips in cerebro-spinal disease, but so rarely in typhus and typhoid fevers as practically to amount to an almost pathognomonic sign against these affections, if present in a doubtful case. It might occur in so many other conditions, however, that its presence was of no diagnostic value, except as against the probability of either typhus or typhoid.

Flea-bites occurring in typhoid fever had in some instances caused a diagnosis of typhus. So, again, had a profuse rash in which a number of the *taches bilenaties* of the French were present. He had endeavored also to ascertain how far it was probable that pediculi pubis were the cause of this eruption, though without much success.

Tuberculosis was a condition which caused not a few mistakes in the diagnosis of typhoid fever, and, at times, of typhus also. Meningitis was so rare a complication of typhus or typhoid that its existence should always raise the suspicion of another process, and more particularly of tuberculosis. If under these circumstances choked disc should be found on ophthalmoscopic examination, it would still further increase the probability of this affection. The next step in the diagnosis would be to ascertain if at any point of the body there existed a tubercular lesion accessible to proof or strong suspicion, or if from the previous history there was any probability of such a condition in the lungs. It should be borne in mind that the examination of the lungs in unconscious, and particularly comatose, conditions was extremely unsatisfactory; so that very good examiners had supposed the lungs to be in health when making examinations in those states while in reality they were the seat of far-advanced phthisical processes.

If decided proof should exist, as a result of a physical exploration, that the lungs were the site of disease which from its position could be assumed to be tubercular, then it would, with the foregoing facts, be violence to evidence to call the disease typhus or typhoid, unless absolute proof of the presence of one of these affections could be obtained, as, for instance, by the characteristic eruption of typhus. Some supposed that the finding of bacilli of tubercle in the sputum would invariably decide the question between typhoid and tuberculosis, as, in cases seen moderately late in the disease without a reliable previous history, a broncho-pneumonia of typhoid, and that accompanying certain cases of tuberculosis, might be indistinguishable by physical signs. Provided that the examinations were made with care, and more particularly that every precaution was taken, in collecting the sputum to be certain that there was no contamination of the vessel, nor of the sputum after collection, then the presence of indisputable bacilli would be proof. But—and this was the point to which he particularly wished to direct attention—if it was supposed that any one could make the examination and decide, and if the ordinary manner of collecting sputum were employed, then there were chances for error.

Again, bacilli might not be found in the sputum from tuberculous patients, because of lack of care in selecting the proper portions for examination, and in some cases as a result of employing the short method for staining. While he had been able to make some very good diagnoses by the employment of these means, he had also met cases where phthisis had been diagnosticated as the result of the finding of a few bacilli, yet the subsequent course of the disease or an autopsy disproved the diagnosis. There were certain things which a hasty observer might mistake for bacilli, such as little crystals which appear red as the light is refracted in passing through them, not sufficiently decolorized bacteria of other kinds, etc. Dr. Janeway, however, had seen both typhus and typhoid fever co-existent with phthisis.

Pyæmia, and more particularly that dependent on otitis media and bacterial thrombosis of the lateral sinuses, also caused mistakes in diagnosis, as against typhoid and typhus fever. The reason for this was, that, in the unconscious or delirious state in which patients thus affected were apt to come under observation in hospital practice, no mention was made of the old ear trouble, and no examination of the ear could be made. The irregularity of the fever, the not infrequent co-existence of meningitis or cerebral abscess, with phenomena more or less strongly suggestive of these conditions, the history or the present observation of suppurative discharge from the ear, and that it had perhaps become foul or been arrested, tenderness or œdema over the mastoid process, and the observation of abscesses in the cellular tissue or of joint inflammation, should at once lead to a probable diagnosis of otitis media. The swelling of the little vein behind the ear and the œdema of the tissue over the mastoids might be absent in severe disease, and present when the subsequent course demonstrated that the process was not pyæmia.

In one instance, of a woman with some severe fever, which had been supposed to be typhoid, Dr. Janeway found as a useful adjuvant to diagnosis thrombosis of the internal jugular vein, giving a firm feel to the vessel. During the present year he had met with three illustrations of this malady, and in one the thrombosis of the lateral sinus was not of a completely obstructing nature; so that, in consequence, œdema behind the ear was absent. In a suspected case jaundice would point towards pyæmia or septicæmia, as distinguished from the fevers in which its occurrence was comparatively rare. Such jaundice was present in one of the three cases just referred to.

At the conclusion of his paper Dr. Janeway presented the heart and kidney of a patient who had died of

ULCERATIVE ENDOCARDITIS.

He was a salesman, twenty-seven years of age who had had rheumatism from childhood, and disease of the heart from at least the age of sixteen. The attack in question came on one week before his death. He had a chill, accompanied and followed by headache and pain in the back and shoulder. On the first day the temperature was 103° in the morning, and 104° in the evening. On the next day it was 99° in the morning, and 101° in the evening. On the third day he was affected with muttering delirium, and epistaxis; the morning temperature being 100°, and the evening, 104°. There was, however, no diarrhœa or tympanites.

Fourth day. Temperature, A. M., 102°; P. M., $103\frac{2}{5}^{\circ}$.

Fifth day. Temperature, A. M., $102\frac{4}{5}^{\circ}$; P. M., $101\frac{2}{5}^{\circ}$.

Sixth day. Temperature, A. M., 103; P. M., $104\frac{4}{5}^{\circ}$.

During this time the temperature had been more or less modified by the administration of salicylate of soda and antipyrine. On the seventh day, on which he died, the temperature was 103°.

In this case there was a strong suspicion of typhoid fever, but when the patient was first seen by Dr. Janeway, on the sixth day, he was much more stupid than a case of typhoid fever would have been at that early stage of the disease. On the forehead, behind the ear, and on the back and abdomen, were found a few petechial points. Under the circumstances, he made the diagnosis of ulcerative endocarditis. In addition to a heart-murmur which had previously existed for a long time, a new basic murmur was now detected. On the sixth day, after Dr. Janeway saw him, larger petechiæ or hæmorrhagic extravasations developed on the soles of the feet and palms of the hands.

The specimens presented abundantly confirmed the diagnosis. There bad been but one kidney, and this was the seat of numerous hæmorrhagic extravasations.

On the aortic and mitral valves of the heart there were well-marked vegetations. This case, Dr. Janeway remarked, served to illustrate the possibility of mistaking ulcerative endocarditis for some of the more common febrile diseases.

The President, **Dr. C. A. Leale**, said that within the past three months he had been called to see a child, nine years of age, in whose case four physicians had already failed to make a diagnosis. The symptoms were very obscure, but resembled cerebro-spinal meningitis more than anything else. There was slight opisthotonos, but no eruption of any kind. The child died within forty-eight hours, and no autopsy was permitted.

Within a week, a child residing not more than a hundred yards from the last was taken with similar symptoms. We supposed that it was a case of some suppressed eruption, and ordered the child to be placed in a hot pack. As there was marked exhaustion, alcoholic stimulus was also given freely. Within three days measles became developed, and the patient passed through a violent attack of the measles.

Three years ago he made out the diagnosis of varioloid in the case of a young lady twenty-one years of age. As the attack was a mild one, and there was a possibility of doubt about the nature of the case, he requested that an expert from the Board of Health should be called in, and this gentleman confirmed the diagnosis. Some time later, however, another physician saw the case, and he expressed the opinion that the young lady had had *varicella*, which naturally created a great deal of disturbance. In this connection, Dr. Leale alluded to the great injustice which had been done a well-known New York physician in imposing on him a fine for performing his duty in reporting to the sanitary authorities a suspected case of small-pox.

Dr. P. Brynberg Porter called attention to the striking resemblance presented by herpes zoster of the forehead, when at its height, to erysipelas, and the possibility of making a mistake in diagnosis, unless one had seen the case from the beginning, or took special pains to ascertain the exact history of the attack. He related a case in point.

Dr. John Shrady remarked that it was often very difficult to make a positive diagnosis in cases of hæmorrhagic small-pox occurring at the beginning of an outbreak of the disease, and recited cases to illustrate this. He also spoke of another class of cases still more obscure, when the patient has a second attack of the disease.

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THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The tenth annual session of the Association was held at Indian Harbor Hotel, Greenwich, Conn., August 25, 26 and 27.

FIRST DAY.—MORNING SESSION.

The meeting was called to order by the President, **Dr. Edward Wigglesworth**, of Boston, who delivered the following opening address:

Gentlemen,—Just ten years ago, at Philadelphia, I had the honor of calling to order the first public meeting for the organization of this Association. Our specialty for the first time, received national acknowledgment. Our guerrilla warfare was over, and our subsequent record has been one of unbroken successive victories over bigotry, error and ignorance.

But the day of paladins is past and our ranks will admit more recruits. There are still remaining opportunities for more extended instruction of students in medical schools, while the lack of hospital facilities for the proper clinical treatment of diseases of the skin, is a standing shame and disgrace to our municipal authorities, our hospital boards and to the medical profession itself. "As now arranged nearly everywhere amongst us, these institutions refuse to a large class of sick persons the benefit of hospital residence either wholly, or offer them, if received, not we may fairly say, the best medical skill it is in their power to procure." Some progress has, however, been made. New York has now a special hospital for skin diseases, besides two wards in the Charity Hospital, and Philadelphia has special clinics with beds at three different institutions.

That the workers are ready as soon as they shall have opportunity, is evident. Ten years ago, our officially recognized representatives were, four professors, five clinical professors, one instructor, and six lecturers; total sixteen. To-day, we number seventeen professors, eleven clinical professors, six instructors, and sixteen lecturers; total fifty. Nor do I include genito-urinary surgery, which I regard as a distinct specialty from that of dermatology, which of course includes syphilis.

About twice as many cases of diseases of the skin are now annually treated by specialists as there were ten years ago.

The contributions to American Dermatological literature during the past decade, include the best treatises, hand-books and atlases, the only periodicals and some of the best monographs of the time, in the English language.

Our sole local organization, the New York Dermatological Society, is as active as ever, and the good work which it has already done is constantly increasing.

Two honorary and three active members of our original Association have passed away since its organization. Twelve active members, all living, have been added to its ranks. So much for our material progress and present prosperity.

Other objects of the foundation of our Association have been by no means neglected during the past ten years. There exists to-day, a harmony and good feeling amongst us which, but for the personal acquaintanceship resulting from the formation of this Association, never would have existed. We have come into better accord as to the "Nature and Treatment of Skin Diseases." Our increased membership proves that our Association is "held as a place of aspiration;" and it has consistently required "independent work in our department" as the essential preliminary step toward the acquisition of such membership. The systematic work of our standing committee upon statistics, has already furnished valuable data for comparison, as well as a series of excellent reports upon "Leprosy in America." Concerted official effort has done much and will do more to repress the rank luxuriance of growth of dermatological nomenclature and to furnish a "uniform and simple system."

While much has been accomplished, much still remains to be done. The idea of specialism, already rooted, is to be nurtured and trained in the minds of the profession and of the public, and the practical development, socially, of our specialty itself is to be elaborated in many minor details. The pioneer must no longer prove a martyr. A knowledge of the weaker side of human nature, useful for selfish purposes, financial ends, must no longer be allowed to usurp the province of exact scientific acquaintance with disease, inuring to the benefit of our race. The "elaborate division of labor" is "as useful and successful in a learned profession as it is in the mechanic arts," for it is merely a relative question of height of standard. Specialism substitutes quality for quantity, which substitution is the essential characteristic of the civilized man as distinguished from the savage, while the rapidity of such substitution gauges the progress of civilization itself. Medicine is merely that complex whole which results from the combination of all its component parts, and their individual advancement is the criterion of its own progress.

Science is only exact knowledge. Medicine is that knowledge specially directed to the physical welfare of mankind, and specialism is only that further subdivision rendered necessary by the very various parts, composing the individual, and possible by the extension of our opportunities for studying these parts due to increase of mechanical means for enlargement of the field of our hitherto unaided senses. No one can to-day, "take all knowledge to be his province." Science does not culminate in a Jack-at-all-trades, least of all in one whose conscience has become anæsthetized by custom, who confounds his own limitations with the "limitations of human understanding," and his own ignorance with "the immaturity of medical therapeutics." The specialist builds his own boundary-wall and cannot, if he would, poach upon the preserves of others. He "distinguishes what he can do from what he can not," thus filling the old definition of the best physician. He cannot maltreat a patient, and when compelled to confess ignorance and seek superior wisdom, charge the wronged sufferer another and still higher fee for a "consultation," which is in reality a confession. It has been sarcastically called "the sole duty now-a-days of the family doctor to decide what specialist shall be summoned." It certainly is his duty, and a very important one as a man of honor, to decide whether any one, and if so, who can probably accomplish that wherein he admits that he himself has failed. Unfortunately, many know so little that they are even ignorant of how much is known by others; but in many respects, the specialist has already raised the average standard of requirement for general practice to such an extent, that much of the old routine practice of physicians who treated their patients for the very diseases for which they referred members of their own families to the specialist, has now become punishable mal-praxis. But the general practitioner has his revenge in opposing as unnecessary the hospital appointment, and even the private practice of the very specialist to whom he himself flees as "a very present help in time of trouble."

We are told that "the human body is made up of parts and functions so thoroughly interdependent, that it cannot be parcelled out into defined and isolated regions." It can and it cannot. What scientist divides a country into square miles and attempts to become thoroughly conversant with every atom existing in each of those miles? The special divisions of study are rather the flora, the fauna, the geological strata, etc., though all these may pervade identically every mile of the region. If regional surgery is possible, then specialties are certainly not contra-indicated. We hear of "appalling pathological conglomerates" due to lack of proper "general medical treatment." Not only "conglomerates" but often single lesions are very variously diagnosticated by different general physicians, and the "conglomerates" are usually merely the aggregated effects of original causes which might have been obviated by proper investigation in due season, on the part of suitable specialists.

The aforetime "consulting physician" meant one who in addition to his general acquirements knew more about some particular thing than any one else. We may be sure that his general acquirements had to pay the penalty. To day, we honestly admit this and renouncing the practice obtainable by general acquirements, keep to that particular thing of which we know more than others. No one has mental ability enough at the present time to add to the greatly extended knowledge necessary to the general physician, the intensified fundamental acquaintance with detail needed by the specialist. Life is too short for the ablest intelligence to exhaust even any one specialty. The physician may, like Newton, "think the thoughts of God after him," but the thoughts of the infinite upon the smallest molecule of matter. call for more than the limits of a finite existence. The true consulting physician of to-day is the specialist and he should therefore receive this title at the hospitals with which he is connected, while those ex-physicians, called consulting but never consulted, should receive their true and proper title of emeriti.

But enough of the "idea of specialism." The public will in time appreciate the absurdity of being content with inferior results in one branch of medicine, because, forsooth, there are so many others in which their medical adviser is equally or more at home. It will reason rather that he who "insists upon doing the work of ten men, manifests a quality of mind which we can only call arrogance, and which challenges for his work severe criticism." Versatility will not atone for crude and imperfect work, any more than will lack of time, hurry of life, keenness of competition, or financial necessity and it is merely brazen self-assertion which delights "not so much in doing the thing well as in showing how well he can do it."

Believing in the ultimate achievement of all possibilities and in the progress of Truth, I have no doubt as to the future of specialism if we are honest and earnest. Not infinite omniscience, but infinite morality is the duty of the specialist, and this conscientiously carried out, will blunt the sharpest dart of the hostile general practitioner. While visions of what yet remains to be accomplished might well lead us almost to despair, a mere glance at the generally prevailing ignorance on the part of both physicians and their patients, shows conclusively that we and our work are imperatively demanded.

Dr. Wigglesworth next considered in detail the duties in the future, of members of the Association as to the establishment of special skin wards in all general hospitals; as to a revision of the existing nomenclature and classification of skin diseases; as to improvements in the Annual Reports of Transactions; the use of the metric or international decimal system; more extended statistics; the establishment of a permanent committee upon new remedies; the question of fees and the remuneration of physicians by others of the same profession; the desirability of a (proposed) "consistent schematic plan for the report of cases," always accompanied by a summary, and the duties of specialists as to instruction. He mentioned the establishment in New York of a society for the prevention of contagious diseases. Attention was called to the proposed union of all the special medical associations of America into a general "Congress of Physicians."

Then with congratulations upon the past and hope for the future and a request for coöperation and support in the discharge of his duties, he welcomed the members present and declared the meeting open for business.

The first paper read was entitled:

ERYTHANTHEMA SYPHILITICUM,

by EDWARD BENNET BRONSON, M.D., of New York.

The purpose of the writer was to call attention to certain cutaneous eruptions of an erythematoid character occurring in connection with syphilis, and so far as possible determine their etiology. In the first place, a case was reported of a syphilitic patient who developed a peculiar eruption upon the head, hands and feet. Although the eruption presented no pronounced syphilitic characteristics, it was regarded as due to syphilis for the reasons that it was shortly followed by an outbreak of well-marked specific efflorescences on various parts of the body, and, moreover, there was a transformation of the eruption upon the head, into infiltrated lesions presenting a distinct syphilitic character; the eruption first appeared on the face in the form of an erythema which was covered with vesiculo-papular efflorescences. Later a similar outbreak occurred on the nape of the neck. The vesiculo papules broke, leaving excoriated surfaces of a diphtheroid character from which there exuded an exceedingly abundant, foul-smelling discharge. Soon after, vegetating growths made their appearance, which upon the bearded parts of the face were quite exuberant and resembled condylomata acuminata. Those upon the neck, formed more discrete, tuberous prominences and had the appearance of condylomata lata; while upon the upper parts of the face, the elevations were nummular and had comparatively smooth though somewhat lobulated surfaces. After a week or two, the erythematous areas, which formed the bases of the vegetating lesions, became the seats of a gradually increasing, copper-colored infiltration. The palms and corresponding surfaces of the fingers, were covered with a deep red, sharply circumscribed erythema, which was followed by lamellar desquamation. A similar eruption occurred in patches upon the soles. The finger-nails were all more or less affected with onychia sicca. Upon the body and limbs, several crops of well-marked syphilitic papules succeeded each other and finally all the manifestations yielded rapidly to mercurial treatment. The preliminary eruption in this case was characterized as an erythanthema dependent in some way upon the specific disease. Other instances of erythematoid eruptions occurring incidentally to syphilis, were referred to as being more or less analagous to the above cited case.

Allusion was made to the syphilitic roseola as a possible case in point; then to the preliminary erythematous eruptions observed in hereditary syphilis—the *érythème précurseur* of the French — and also to certain forms of coincident or preliminary erythema as described by Hebra, Neuman, Danielesen, Dipp and Finger. Attention was next called to the syphilitic erythema nodosum of Mauriac and three cases of this affection were reported, in one of which, the erythematous eruption was apparently succeeded by a syphilitic infiltration that pursued a course similar to that of a breaking-down gumma of the skin.

Finally it was attempted to define more precisely the etiological relations of these various erythematoid eruptions occurring in connection with and probably as a consequence of syphilis. It was maintained that probably they were not equivalent in their mode of origin to the syphilodermata, but rather to certain angioneurotic or neuritic affections, which they closely resembled. The true syphilodermata are always characterized by a specific infiltration and are probably the result of a determination of the materies morbi to the surface. They are therefore pathognomonic of syphilis. The erythanthema syphiliticum, on the other hand, is only an indirect effect of the syphilis, the result of reflex irritation of the skin from the action of the disease upon nervous centres, and therefore not pathognomonic of syphilis. The fact that this might be followed by a true syphilitic infiltration *in situ*, was regarded as analagous to the effect sometimes observed of traumatic irritation in syphilitic subjects, where local injuries became the seat of specific infiltrations.

DISCUSSION.

DR. I. E. ATKINSON, of Baltimore. I wish to say a few words in regard to pathognomonic syphilitic eruptions. In this connection, a great deal of caution must be exercised, and I think we should not dogmatize with regard to the specific lesions of syphilis. Lesions similar to those described by Dr. Bronson are not of excessive rarity in cachectic subjects and in cases of malignant syphilis, but in my experience they have always been manifestations of late or tertiary syphilis.

DR. J. C. WHITE, of Boston. The occurrence of the forms of disease which have been described are so rare in syphilis, we know so little of the nature of erythema nodosum and its causes, and we know so little of the nature and causes of so-called erythema herpetiformis, which, I think, should be called erythema multiformis, that it seems to me we must have some more exact data before we can regard these affections as a necessary sequel of syphilis, and as anything more than accidental occurrences. While there is nothing *a priori* against a causal relation existing between these conditions and syphilis, such relation has not been proven. The early roseolous exanthematous condition of the skin in syphilis is of sufficiently frequent occurrence to be looked upon as a distinct feature of syphilis. This is wholly unlike the rare forms of dermatitis which have been described to-day.

DR. F. B. GREENOUGH, of Boston. Syphilitic roseola seems to me to be decidedly distinct from other forms of congestion of the skin, especially in one point, that is, during the subsidence of the congestion, little points of distinct congestion continue for a long time. These appear to represent the follicles. The points of pigmentation are also an almost constant occurrence. This I have not seen in other forms of affection of the skin.

Dr. G. H. Tilden, of Boston. It seems to me that in the present state of our knowledge, it would be more philosophical to consider the appearances described as accidental, rather than as dependent upon the specific disease.

RUBELLA OR RÖTHELN,

by **Dr. I. E. Atkinson**, of Baltimore.

The paper was based upon a review of the literature of the subject, and a study of the reported cases. The disease was regarded as distinct from measles and scarlet fever. The period of incubation varies between two and three weeks. In many cases there is no prodromal stage. There may, however, be prodromata for twelve or twenty-four hours. Catarrhal symptoms are generally absent, but they may be present. Sometimes there is congestion of the throat. Swelling of the lymphatic glands is a peculiar and marked symptom. This swelling is painful, but does not pass on to suppuration. In many cases fever is absent. The eruption first appears on the forehead and face, and in the course of a few hours, spreads to other parts of the body. The eruption is more or less irregular, being more intense in some situations than in others. From the beginning to the disappearance of the eruption is usually three or four days. In the greater number of cases, desquamation fails to occur. Complications and sequelæ are not unknown, the most common being bronchitis, pneumonia, and gastro-intestinal disorders. Renal affections may follow this disease. Relapses occasionally occur, but not later than the end of the second week. The prognosis is almost always favorable.

The only difficulty in diagnosis is in connection with measles, and in isolated cases, a thorough consideration of all the points is essential to a correct conclusion. Very little treatment is required, except in the presence of complications.

On account of the confusion existing as to the nomenclature of this disease, the speaker suggested that rubella be accepted as its proper title, and that it might be known in popular language as epidemic roseola.

DISCUSSION.

The **President**. Several years ago I suggested that measles be called morbilli, and rubella or rötheln be used to signify what is termed German measles, and roseola be reserved as the title for the rose-colored spots seen in syphilis and other conditions. There does not seem to be any necessity for the introduction of a new term.

REPORT OF A CASE OF LYMPHADENOMA (MYCOSIS FONGOÏDE) AND AUTOPSY,

by **Dr. G. H. Fox**, of New York.

(In the absence of the author, the paper was read by the Secretary).

The paper described the case of Mrs. G., aged thirty-three years, the mother of six children. During pregnancy, in the summer of 1881, she suffered with general pruritus, which passed away after her confinement in October. A year later, small, flattened, circular tumors appeared in the axillæ and on the breast. These became moist, and were accompanied with a burning sensation. The eruptions disappeared from these situations, and reappeared upon the back and other portions of the body. After the birth of her last child in February, 1885, a tumor developed at the inferior angle of the left scapula. The lesions on the other parts of the body disappeared, with the exception of two spots on the finger and one on the left cheek. The tumor on the left scapula gradually softened and disappeared.

The patient was admitted to the hospital in October, 1885, and was fairly well nourished. There were, at this time, numerous tumors over the body, some of which were superficially ulcerated. The worst tumors were on the breast. Hypodermic injections of Fowler's solution were used without benefit. Chaulamooga oil was given in increasing doses until forty drops, four times daily, were taken without causing any improvement.

The patient died in April, 1886. The microscopical examination gave the usual appearances of these growths. The internal organs were found to be normal.

DISCUSSION.

Dr. G. H. Tilden, of Boston. One year ago I reported a case of this disease. I said then that it was not sarcomatous. Rindfleisch states that he has found a distinct micrococcus inside of the bloodvessels in this connection, and recently this has been confirmed by another observer. It looks as though what we ordinarily know as malignant lymphoma, affecting the lymphatic glands, with deposits in other parts of the body (Hodgkin's disease), is one of the infectious diseases. I should not be surprised to find that this *mycosis fongoïde* is a variety of the same disease, and that it is nothing but an acute infectious disease.

The next paper, entitled

A NOTE RELATIVE TO THE BULLOUS ERUPTION OCCURRING AFTER THE INGESTION OF IODINE COMPOUNDS,

by **Dr. J. N. Hyde**, of Chicago, was (in the absence of the author, read by the Secretary).

The first case described was that of an infant seven months of age. Six weeks before coming under observation, the child had suffered from a febrile attack, the exact nature of which was not known. Three weeks later the eruption made its appearance. The lesions at first presented the appearance of chickenpox. The child's face, the dorsal aspect of the hands and forearms, and the scalp were covered with isolated whitish, split-pea, to marble-sized, flattened, slightly umbilicated lesions, resembling molluscous tumors. The contents of the lesions were inspissated, thick, and grumous, and of such consistency that they did not escape on rupture of the sac. It was learned that iodide of potassium in one-grain doses had been administered for the febrile attack. On the discontinuance of the iodide and the use of antiseptic powder, the lesions rapidly disappeared.

Case II. A lad, fifteen years of age, who had recently undergone an operation for necrosis of the right femur, developed an eruption involving the entire body. There were two distinct sets of lesions. That which predominated was composed of annular, circinate plaques, varying in diameter from several centimetres to half a meter. There were also here and there, particularly about the finger ends, distinct blebs. The patient had been taking iodide of potassium in fifteen-grain doses. This was discontinued, and the eruption speedily disappeared.

There are two distinct types, the bullous, and the quasi-bullous eruption produced by the ingestion of iodide of potassium. In the first form, the patients are often well advanced in years, often cachectic, and frequently affected with syphilis or other grave disease. In what may be regarded as a second sub-form of this exanthema, there are di- or poly-morphic symptoms. Here bullæ are commingled with papules, tubercles, and other patches of disease. The speaker then described other cases of similar eruptions recorded by various writers, and, in conclusion, presented the following interrogative propositions:

(1) Are there not three sub-forms of the bullous exanthema developed in certain individuals after the ingestion of iodide of potassium?

(2) Is not the first and most common of these to be generally recognized in persons of advanced age and cachectic condition, the rash being then present in the form of typical bullæ?

(3) Is there a second and still rarer sub-form, in which the eruption is displayed in di- or poly-morphic manifestations, typical, perfect bullæ being then mingled with papules, tubercles, scarlatiniform maculations or with other and different lesions?

(4) Is there not a third and rarer sub-form, the quasi-bullous rash to be most frequently recognized on the face and dorsal aspect of the hands and forearms of infants and children, where the lesions are semi-solid, slightly umbilicated and filled with inspissated yellowish matter and which may shrivel and dessicate on the suspension of the drug inducing the condition?

(5) Is this last described lesion one to be recognized solely as the result of the ingestion of iodide of potassium, never under other circumstances, and one as peculiar to the special condition it represents as is the gumma to syphilis?

DISCUSSION.

Dr. R. W. Taylor, of New York. While the most general eruption produced by iodide of potassium is an acneform exanthem, yet it may cause dermatitis with multiform lesions with bullæ, which may contain serum, pus or even blood. I think that some of the cases of extreme dermatitis multiformis which have been described, have been due to this cause.

I recently saw a peculiar form of iodine intoxication. It was in a case of gummatous infiltration of the pharynx where iodoform had been resorted to as a local application. In the course of two hours it produced a diffuse eruption on the face, neck and hands. On the hands it assumed an eczematous character.

Dr. J. E. Graham, of Toronto. I have had one case similar to that described by Dr. Hyde. A young man twenty-two years of age, had contracted syphilis two years previously. Noticing some pimples on his face, he secured a preparation of iodide of potassium containing five grains to the dose. I saw him two days after he had begun to use this preparation. He then had a bullous eruption principally upon the face and neck. At that time I thought that it was a tertiary manifestation and increased the dose of iodide to fifteen grains. Two days later, the eruption on the face was much increased and recognizing the cause of the condition, the drug was stopped and the eruption rapidly disappeared.

Dr. I. E. Atkinson, of Baltimore. One year ago, I saw a case of what was supposed to be malignant syphilis; the patient had had syphilis and had been put on the use of iodide of potassium. The lesions continued to increase and after the iodide had been taken for six months, I saw the case. There was an enormous formation of scar-tissue over the face and neck. In addition there were bullæ and elevated infiltrated plaques. The appearances presented were unlike those produced by syphilis and I thought that they were due to the iodide of potassium. The drug was stopped and in six weeks the ulcerations had healed, the cicatricial tissue of course remained. I think that we can not lay too much stress upon the dangerous conditions which may follow the administration of the iodides.

EVENING SESSION.

The first paper was on

PRECOCIOUS GUMMATA,

by Dr. R. W. Taylor, of New York.

After a thorough consideration of the subject and the presentation of a number of illustrative cases, the following conclusions were presented.

(1) Like the osseous affections, affections of the nervous system, malignant syphilides in general besides many other affections, the gummata syphilis may be precocious in appearance, occurring as early even as the second month of infection but usually in the third or fourth month or after that time.

(2) Of the precocious gummatous syphilide or gummata, there are three quite clearly marked forms, first, the early, general and copious form; second, the more localized form which may invade several regions, is usually symmetrically distributed and sometimes even is confined to one region, particularly one side of the face or scalp and the roof of the mouth; and third, a form in which more or less severe neuralgias precede and accompany the eruption, which in many particulars resembled simple erythema nodosum, but which in its etiology is not in any way related to this simple form of eruption but is a direct outcome of the syphilitic diathesis.

(3) That these precocious gummata partake in general of the features of those of later forms, but that they differ in the more acute invasion, in a much more rapid course and are usually not as profound and destructive in their action as the classical eruption.

(4) That of these precocious forms of gummata, there are found to be two varieties, one a non-ulcerative or resolutive, the other, ulcerative.

(5) That in the treatment of these precocious syphilides, a combination of mercury and iodide of potassium is much more efficacious than is mercury alone.

(To be continued.)

— The treasurer of the Dundee Royal Infirmary recently received a donation of £100 from a grateful patient, in return for treatment received by the latter while he was an inmate of the Old Infirmary in the year 1843.

— The Paris Academy of Medicine is reported to have announced the following remarkable subject for a prize essay: "Préciser par une série d'observations s'il existe un traitement abortif de la syphilis confirmée." To abort a confirmed syphilis appears to be as encouraging a task as the proverbial locking of the stable door after the steed is stolen.

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THE ADDRESS OF MR. ERICHSEN AT THE BRITISH MEDICAL ASSOCIATION.

The addresses at the British Medical Association of the present year were of more than usual interest, and the address of Dr. Billings published in the Journal appeared in quite remarkable company. Among these addresses, that of Mr. Erichsen attracts attention for the high scientific plane to which it would raise surgery, and especially for the assumption that perfection has been already reached in the mechanical details of the art, and further progress in that particular rendered impossible. Further progress, according to Mr. Erichsen, will be in the science of surgery, rather than in the art. The following quotation will serve to illustrate Mr. Erichsen's idea.

"That the final limits of surgery have been reached in the direction of all that is manipulative and mechanical there can, I venture to think, be little doubt. Within these limits there may be much of movement, of change, of modification in the technique, if I may borrow that word from art; but movement is not necessarily advance; it is often the mere restlessness engendered by dissatisfaction with established methods; change may be the outcome of mere personal vanity, or of more unworthy motives."

What Mr. Erichsen has said regarding the necessity for advancement in the science of surgery we all accept, but it is very difficult to accept the assertion that progress in mechanical detail is at an end. The very great changes — changes which are distinct improvements and advances — within the last few years, none of which could have been foretold, are, to minds differently constituted from Mr. Erichsen's, indications of still further changes in the future.

The very instances of practical perfection which the talented author adduced may be counterbalanced by others where perfection is evidently far off. If ovariotomy has reached a high point of excellence, there is still uncertainty and doubt as to the proper method of treatment of surgical diseases and injuries of the intestinal tract. If the operation for strangulated hernia gives results which leave little to be desired, who believes that mechanical perfection has been reached in the operation for the radical cure of hernia? And one might continue the list of imperfections to great length.

It does not require a very vivid imagination to conceive great changes in operative details from more perfect instruments. To give a single instance, it is not beyond possibility that we shall some day see the still modern rapid lithotrity materially modified by an instrument which, having once seized a stone in the bladder, shall never release it until it is completely pulverized and evacuated.

In his recent address on the "Study of Science," Sir John Lubbock quotes the title of an essay of Boyle's, "Of man's great ignorance of the uses of natural things; or that there is no one thing in Nature whereof the uses to human life are yet thoroughly understood," and he considers the saying as true now as when it was written; and among the uses to human life may certainly be included the surgical applications.

Modern inventions are not yet in such a state as to yield their best results to surgery, and that marvellous discoveries still await the explorers of nature, no one can doubt. Not until man has perfect knowledge of and perfect control over the forces of nature can we be sure that the limit of their application to surgery has been reached. What changes the electric light, for instance, may finally produce in the art of surgery it is difficult to foresee exactly, but he must be a conservative of conservatives who denies the possibility of bringing about changes, even radical changes, in surgical manipulations by the illumination of internal organs by this means.

Even the advances in the science of surgery to which Mr. Erichsen looks forward must necessarily bring changes and improvements in the art. The practical application of scientific discoveries cannot be understood beforehand nor bounds set to the extent of their influence. Who could possibly have known of the influence Pasteur's researches on spontaneous generation would have on surgical theory and art. How can any man foresee the influence upon surgery of our very recent knowledge of the ptomaines and leucomaines. Instead of saying with Mr. Erichsen "The old lines of ordinary clinical observations and dead-house pathology have long since been followed to their final termination," we should prefer to say, the experimental researches of the biological, physiological and pathological laboratory must guide, illustrate, and illumine the ordinary bedside, and dead-house observations to be in turn directed and confirmed, the two methods of research acting together to build up a yet nobler art on a wider and more scientific basis.

Mr. Emerson has taught us that "if anything could stand still, it would be crushed by the torrent it resisted," and it causes quite a shock to learn Mr. Erichsen's opinion that surgical art is already at a standstill. At first one feels indignant that so eminent a man should thus set bounds to the art of which he has been for so many years a master. A more careful reading serves to show that Mr. Erichsen desired to emphasize the fact that the science of surgery needs particularly to be studied and that it is in the line of science that advance must be made; apparently in his desire to emphasize this, he has too emphatically spoken in regard to the present position of the art. It is a question, after all, if there is any real difference of opinion between Mr. Erichsen and ourselves. Much of what we should regard as advance, Mr. Erichsen would perhaps call change in technique, and the art and science are so mutually dependent that it might not always be possible to say to which division the advance should be ascribed.

In one thing Mr. Erichsen would agree with us undoubtedly. If he considers that the art is perfect he will also admit that not every practitioner of the art is perfect. No man can rest secure in the thought that he has himself reached the standard of perfection. We feel sure that no careful searcher will find difficulty in imperfections in the art itself.

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STATE INSPECTION OF MILK.

The second annual report of the New York State Dairy Commissioner, lately issued, furnishes a rather remarkable instance of how a large amount of money may be expended with comparatively meagre results. It does not appear from the report what the exact appropriation may be, but that it is large may be inferred from the fact that, not including the salary of the commissioner, the expenditures for the first nine months of the year amounted to more than thirty thousand dollars. For such a sum as this the people of New York State have a right to expect much more in the way of inspection of dairy products than is shown by this report, which, it may be remarked, contains considerable irrelevant matter, much that is both useless and absurd, and not a little taken bodily and without credit from German works.

In the inspection of butter, eight collectors and several chemists and lawyers were employed. More than eight thousand samples were purchased, but only two hundred and twenty-eight, or one in thirty-five were delivered to the chemist for analysis. Of the cases taken before the courts but fifty-four were disposed of, resulting in thirty-one convictions and twenty-three acquittals. It is but just, however, to note that the commissioner and his co-workers have been and are very much hampered by tiresome delays due to the complex judicial system.

In the department of milk inspection nine collectors were employed on an average of one hundred and ten days each. Over nineteen thousand specimens were "examined" but only three hundred and forty-one, or one in fifty-seven, were submitted for analysis. The local authority at Buffalo had nearly as many analyses made from that city alone. It does not appear from the report that more than six convictions for violation of the milk law had up to the end of the year been obtained.

This is not what might be called a very brilliant showing and is in marked contrast to the same work as carried on by the Massachusetts Board of Health, or by the Inspector of Milk for the city of Boston. The general supervision of the milk and other food supply of that State is under the direction of the Board of Health, which employs two collectors and several chemists for the work. The collectors not only obtain samples from all parts of the State but do all the work involved in the preparation of cases for court, and act as prosecuting officers; they are not engaged in making a record of samples purchased but not delivered for analysis, nor of miles travelled, as is apparently the custom in New York, where three of the collectors employed on an average of two hundred and sixty days, travelled seventy-three thousand miles, "examined" more than fifteen thousand specimens, and delivered two hundred and seventy-four to the chemists for analysis. In Massachusetts the collectors deliver all their samples to the several chemists who report directly to the Secretary of the Board of Health, and the latter sends warnings or gives orders for prosecution according to circumstances. So far as the inspection of milk and other dairy foods is concerned that State Board of Health, with a very small appropriation and with a limited number of employees, performs more actual work and shows much more tangible results than the New York Commissioner with his large appropriation and staff of collectors, chemists, lawyers, and assistant commissioners.

The New York authorities, however, are doing a very important work which it is hoped other Boards may at no distant date have authority to undertake; that is, the inspection of dairies, creameries, stables and cows. The importance of thorough work in this direction cannot, in the light of recent observations and investigations on the communicability of diseases, be overestimated.

It may be remembered that it was proposed before a legislative committee in Massachusetts in the early spring to take the work of inspection of milk and milk products and the enforcement of the law from the jurisdiction of the Board of Health, and delegate it to a commissioner, as in New York. The work of the latter was held up as a model of excellence by those who were interested in the movement, who were two in number, one a large dealer, the other a candidate for the office of commissioner. The proposition died an easy death and in view of the manifest undesirability of the change it is probable that no more serious attempt will be made.

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MEDICAL NOTES.

— In the last five years Billroth has performed operations on the stomach in thirty-two cases, with nineteen fatal results. Out of fifteen gastrectomies for cancer, there were seven recoveries.

— Dr. H. A. Kelley, of Philadelphia, reports the successful removal of an ovarian tumor weighing one hundred pounds. Dr. Goodell removed a tumor of one hundred and twelve pounds from a woman who weighed after the operation but seventy-four pounds. In each case the tumor reached the patient's knees, and she could not lie down.

— A tendency to an increase, in the proportion of female children born has recently been noticed in Paris. Normally, the male children outnumber the female in the proportion of 103.5 boys to 100 girls, but for the last few months the proportion of girls born has undergone a remarkable increase. Taking twenty-three weeks, the average has been exceeded in eleven. The same tendency appears to exist all over France, and is inspiring serious apprehension to fathers of families who will be called upon to supply an extra number of *dots*.

— In the *Lancet*, June, 1886, p. 1148, Mr. B. F. Hartzhorne writes that he has used cocaine with beneficial results in parturition. The manner in which it is used is as follows: By means of an ordinary glass syringe, a compound, composed of six parts of cocaine, twenty-four of vaseline, and twenty of glycerine, is injected as high up the vagina as possible. By this means the cocaine is applied to all parts of the vagina, insuring a more lasting effect than when applied in solution. The pain due to pressure, the dilatation of the cervix, and the expansion of the perineum, is so markedly relieved by this means, according to the writer, that an ordinary labor is deprived of half its agony.

— Medical literature contains many records, remarks the *Medical Press and Circular*, of the curious symptoms produced by one or other variety of the parasites which infest some part of the alimentary canal. It is, however, not often that death can be distinctly traced to them, and the details of such a case just recorded on behalf of the police in Paris are sufficiently extraordinary to call for more than a passing remark. A young girl in good health was found dead in bed by her parents. Nothing could account for her sudden decease, and in their fear of the possible consequences of this unexpected death, they resolved to leave the body in some sequestered spot to be found or buried without any explanations being asked. When the body was found, its discovery created the greatest excitement; thousands of people visited the *morgue* daily to obtain a glimpse of the poor little corpse, no doubt being entertained as to the fact of a wanton crime having been committed. It now appears that death was due, not to violence nor poison, but to the somewhat prosaic accident of impaction of a bundle of intestinal worms in the larynx during sleep. The occurrence is certainly a curious one, and shows what unexpected causes may be at work in leading to a fatal result. The extraneous elements of interest in the case were entirely due to the foolish action of the parents, whose conduct was certainly reprehensible to the last degree.

Miscellany.

A CONTRAINDICATION OF PARALDEHYDE.

It has been asserted that paraldehyde does not give rise to any unfavorable secondary symptoms, and that there is no known contraindication to its administration, remarks the *Therapeutic Gazette*. It quotes, however, from the *Neurologisches Centralblatt*, No. 11, 1886, a little note by Dr. Sommer, of Allenberg, which renders the correctness of these views doubtful. A patient, eighteen years of age, who, for six successive days, had taken daily doses of one drachm of paraldehyde, showed on the seventh day, a few minutes after having drunk half a bottle of beer, a deep scarlet injection of the skin, covering almost the entire head, neck, back, posterior surfaces of the lower extremities, and partially the chest, abdomen, and upper extremities. This peculiar phenomenon lasted half an hour. For the sake of an experiment, Sommer gave the patient on the next evening another dose of paraldehyde, followed by a small quantity of alcohol on the next morning. The same vascular injection having appeared again, Sommer concluded that paraldehyde ought not to be given to patients presenting atheromatous defects, and should, at least, not be employed in connection with alcoholic liquids. Only one other observer, Eickholdt, has previously observed similar interferences of the circulation following after the employment of paraldehyde. He noted the occurrence of cerebral congestions and of vaso-paralytic symptoms after the prolonged use of this drug.

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THE DANGER OF SYNCOPE IN HOT BATHS.

It is surprising, says the *Lancet* (July 3), that deaths by syncope during the use of hot baths are not more common than the coroner's court returns would show them to be. The peril of faintness by the mere determination of blood to the surface of the body, thus quickly depriving the heart of its usual normal support and stimulus, is very great. In cases of muscular weakness of the heart this danger must be imminent whenever the "hot" or even the "warm" bath is used. Apart from this obvious risk, however, there is always the possibility that in weakly or too impressionable states of the nervous system the peripheral stimulation produced by the application of heat to the whole of the cutaneous extremities of the afferent nerves may so act on the centres as to arrest the evolution of energy by an inhibitory influence. It is doubtful whether we lay enough stress on this consideration when prescribing the use of such external agents as act on large areas of surface and strongly impress the nerves there commencing. We know how burns of even moderate severity may kill by the impression they produce on the centres of vitality from the periphery. There is much to learn in regard to the nature and extent of the central effects which may be thus caused. Whether for good or evil, the application of heat or cold to the whole surface is a potent measure, and one that ought not to be recklessly resorted to, more especially in cases of great susceptibility, involving such excitability of the nervous centres as often co-exists with fairly good health in a weakly body.

CHINESE MEDICINE.

A correspondent of the *Columbus Medical Journal*, in an interesting letter regarding medical practice in China, says:

"When a child is born, the umbilical cord is measured to the top of the child's head, cut from the placenta at that place, and when this mass of decaying cord loosens from the child, it is sold to the druggist. Cat's heads and many other disgusting things are purchased by the same functionary. The body of a still-born child, provided said child is a first-born and a son, is supposed to contain medicinal properties.

"With such a pharmacopeia, what can we expect in the profession? We find exactly this: A set of ignorant, superstitious men, who do great harm, and if they do any good it is purely accidental.

"I give below the translation of a prescription, which was written by a native doctor for a man who had applied to him with chronic dysentery:

R Powdered gentian.
" catnip leaves.
" root of taraxicum.
" root of white ginger.
" smilax.
" black pepper.
" root of persimmon tree.
Of each quantity sufficient to half-fill a wine-glass.
Powdered rhubarb.
" digitalis.
Calomel.
Of each as much as can be held between the thumb and forefinger.
Three inches of umbilical cord, powdered.
One snake skin, powdered.
One cat's head, fresh if possible.
Sig. Boil all these in five quarts of water for three hours; cover the patient with many quilts, and cause him to drink all the medicine within thirty-six hours, as hot as it can be swallowed.

"I have found prescriptions very near like this one in the hands of patients suffering from leprosy, pneumonia, phthisis, small-pox, paralysis, typhoid fever, etc., proving, as I believe, that their treatment is entirely haphazard.

"Gynæcology and obstetrics are not practised at all by the doctors, the seclusion in which the women live in that land rendering it impossible.

"Surgery is practised in the same barbarous and ignorant manner which we have noticed in their general therapeutics. I will give one instance which fell under my observation. I saw a surgeon drive three steel spikes, about a finger in length, into a rheumatic knee. Of course the result was an anchylosed joint. The patient endured the operation with great fortitude, having no anæsthetic."

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THE INFLUENCE OF DRUGS ON NURSLINGS WHEN ADMINISTERED TO THEIR NURSES.

Fehling has recently, we learn from the Paris correspondent of the *British Medical Journal*, studied experimentally the effects on nurslings of certain drugs given to the women who suckled them. When doses varying from two to three grammes of salicylate of soda were administered to the nurse, every time that a child was suckled within an hour after the administration of the dose the salicylate appeared in its urine.

After an interval of twenty-four hours there remained no trace of the drug. When the child was suckled very soon after the medicine had been taken, the salicylate could not be found in its urine. Elimination was completed at the same time in the mother and the child. With iodide of potassium the results were the same. The milk, when analyzed, gave the characteristic reaction. In the infant, elimination lasted seventy-two hours, in the mother forty-four. After twenty-four hours, the milk still contained iodide of potassium. With ferrocyanide of potassium, reaction was very pronounced in the maternal urine, but absent in the child's. Prolonged applications of iodoform upon vaginal and vulvar wounds of women in parturition, after prolonged use, generally resulted in iodine being found in the milk and urine of the mother, but not always in the urine of the infant. The child was never indisposed, even when iodoform was used to dry up the umbilical cord. There was only a small quantity of mercury transmitted through the milk of a nursing mother, and its presence was not constant. It appeared that the food of wet nurses — even acid fruit-juices and vinegar — had no influence on their nurslings. Thornhill had stated that he observed prolonged sleep occur to children after administering to their wet nurse such narcotics as tincture of opium in doses of from twenty to twenty-five drops. Fehling observed neither prolonged sleep nor constipation in the children. Hydrochlorate of morphine or chloral, in tolerably strong doses, did not affect the suckling.

Subcutaneous injections of moderately strong solutions of sulphate of atropine produced very pronounced symptoms in the mother, and dilatation of the pupil in the infant, which disappeared in twenty-four hours. This substance should, therefore, be employed in very feeble doses. In a very great majority of cases, the milk of a woman attacked with fever had no influence upon the nursling. In those rare cases, when the temperature reaches 104°, the variations in the child's temperature were identical with those of the mother. In some instances, children had died of intestinal catarrh, where the mother's milk could be the only cause of the affection. Bumm has observed, in a case of inflamed breast, the passage of the micrococcus from the milk into the digestive apparatus of the child.

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ABOUT GLYCOGENESIS.

REPLY TO DR. LIEBMANN.

The courteous correspondent who writes from Augsburg, Germany, to last week's Journal (page 219), seems strangely to have misunderstood the article on page 66 of the present volume, to portions of which he takes exception. The veriest tyro in physiology knows the conversion of starch into glucose in the alimentary canal. There is no doubt as to the absorption of glucose as such, but what is its immediate destination? It cannot all be utilized as fast as produced, nor is any excess immediately excreted as glucose by the kidneys, at least in normal states of the economy. A part, it is true, disappears in the intestinal canal by reason of its transformation into lactic and butyric acids (Lehmann) and a part may, under some circumstances, escape as sugar in the fæces; an inconsiderable amount may be absorbed by the lacteals, and with the lymph and chyle, enter the general venous circulation; the far greater part ingested, however, is taken up by the radicals of the portal vein, and is subjected to the action of the liver.

What prevents undue saccharification of the blood? What, when a highly amylaceous diet is used, keeps the due proportion of 1 to 2 per 1,000 of sugar in the circulating fluid, saves the system from being flooded by carbo-hydrates and the kidneys from all the evils attendant on persistent glycosuria?

Here we see the importance of the function exercised by the liver. Although an excess of sugar may enter the portal circulation, the liver, that watchful janitor and steward, will not (under normal conditions) allow any excess to enter the general circulation. In other words, it arrests the further march of the glucose of the portal circulation by storing up in its cells the saccharine material in some colloidal form, which, without reconversion into glucose, is incapable of further diffusion. To this colloidal substance whose presence in the hepatic cells is capable of demonstration, Claude Bernard gave the name of *glycogen*, Charles Rouget of *zoamyline*. It is by virtue of this "sugar-detaining and sugar-assimilating function" (to quote Pavy's words) that the blood of herbivora contains no more sugar than the blood of carnivora.

Hence, as to the fact of the fixation by the liver of amyloid material (glycogen), which, under some (if not under *normal*) circumstances, is easily reconvertible into glucose, all authorities are at the present day agreed. So far, Claude Bernard's great discovery stands unquestioned. As for the manner of final disposal by the organism of this liver-starch, there is a difference of opinion. The older view — that of Claude Bernard — was stated in the article in the Journal before referred to (see page 66). This view is supported (as there stated) by the argument from analogy. In brief, the liver is a reserve depot of saccharine material, which it yields up to the circulation as the wants of the organism require. All the sugar utilized by the economy must first have undergone the action of the liver, which constantly maintains that minimum amount of sugar in the blood which characterizes health. Despite the objections which may be alleged to the Bernardian theory as here stated, the probabilities seem to us in its favor, and (to quote the cautious words of Foster, in his "Physiology,") "it is not as yet disproved." Even Pavy, who has done more than any other experimental physiologist to weaken the glycæmic doctrine, as propounded by Bernard, owns the absurdity of the view that the liver can go on a whole lifetime assimilating glucose without continually restoring it to the organism, and admits that in some form unknown to him, the zoamyline is constantly given back to the tissues to be utilized for force-production and histogenesis.[1] — [Ed.]

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[1] See especially Pavy's "Lectures on Diabetes" in the London Lancet, 1878.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 28, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	700	322	30.66	13.86	20.86	1.54	4.76
Philadelphia	971,363	402	173	21.84	11.76	14.92	3.84	2.16
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	179	76	31.69	14.69	25.42	2.20	3.39
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	55	26	30.91	20.00	20.00	—	1 82
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	19	5	21.04	15.78	10.52	—	—
Charleston	60,145	—	—	—	—	—	—	—
Worcester	68,383	—	—	—	—	—	—	—
Lowell	64,051	27	15	34.30	3.70	29.60	3.70	—
Cambridge	59,660	23	8	21.75	13.05	8.70	—	8.70
Fall River	56,863	32	16	43.82	9.39	28.17	6.26	3.13
Lynn	45,861	20	9	30.00	5.00	15.00	10 00	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	12	3	41.65	8.33	33.33	8.33	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	11	2	18.18	—	—	9.09	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	1	—	—	—	—	—
Brockton	20,783	8	3	25.00	37.50	—	12.50	—
Newton	19,759	—	—	—	—	—	—	—
Malden	16,407	6	3	16.66	16.66	—	—	16.66
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	3	—	—	33.33	—	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Northampton	12,896	6	3	66.66	—	50.00	16.66	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,508: under five years of age 665: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 434, consumption 202, lung diseases 78, diarrhœal diseases 291, diphtheria and croup 54, typhoid fever 42, whooping-cough 22, malarial fever eight, cerebro-spinal meningitis seven, measles five, erysipelas three, scarlet fever two. From whooping-cough, New York nine, Philadelphia six, Providence three, Nashville, Lowell, Taunton and Brockton one each. From malarial fevers, New York seven, Philadelphia one. From cerebro-spinal meningitis, New York and Fall River two each, Philadelphia, Nashville, and Lynn one each. From measles, New York four, Boston one. From erysipelas, New York two, Providence one. From scarlet fever, New York and Providence one each.

In the 14 cities and greater towns of Massachusetts, with a population of 784,210 (population of the State 1,941,465), the total death-rate for the week was 22.88 against 24.21 and 24.56 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending August 14th the death-rate was 18.9. Deaths reported 3,300: infants under one year of age 1,218; acute diseases of the respiratory organs (London) 150, diarrhœa 531, measles 54, fever 44, whooping-cough 33, scarlet fever 30, diphtheria 26.

The death-rates ranged from 12.5 in Derby to 26.9 in Cardiff; Birkenhead 24.1; Birmingham 17.4; Hull 13.8; Leeds 18.5; Leicester 20.9; Liverpool 23.4; London 18.9; Manchester 18.1; Nottingham 15.8; Sheffield 17.6.

In Edinburgh 17.2; Glasgow 19.1; Dublin 20.8.

For the week ending August 14th, in the Swiss towns, there were 26 deaths from consumption, diarrhœal diseases 16, lung diseases 10, typhoid fever five, puerperal fever, diphtheria and croup each two.

The death-rates were: at Zurich 11.5; Geneva 13.1; Basle 15.5; Berne 17.1.

The meteorological record for week ending August 28, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Aug. 28, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...22	30.015	59.3	67.0	50.2	75.0	61.6	66.0	67.3	N.E.	E.	N.W.	8	16	10	C.	C.	C.	—	—
Monday,.. 23	29.903	63.8	81.3	49.3	71.0	57.0	70.0	66.0	W.	S.E.	W.	12	6	6	C.	C.	C.	—	—
Tuesday,..24	29.965	71.7	84.8	58.0	76.0	52.0	86.0	71.3	W.	S.W.	N.E.	3	8	4	C.	F.	O.	—	—
Wednes... 25	30.023	62.1	66.4	59.1	95.0	74.0	88.0	85.7	N.E.	N.E.	N.	18	20	10	R.	O.	C.	—	—
Thursday, 26	29.914	71.7	84.8	56.5	87.0	44.0	69.0	66.7	N.W.	W.	W.	8	13	12	C.	C.	H.	—	—
Friday, ...27	29.889	76.8	90.4	65.8	79.0	42.0	79.0	66.7	N.W.	W.	W.	8	8	10	C.	C.	C.	—	—
Saturday, .28	29.846	72.0	81.8	65.4	84.0	64.0	87.0	78.3	N.W.	S.E.	S.W.	10	6	1	C.	C.	C.	2	0.02
Mean, the Week.	29.936	68.2						71.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 28, 1886, TO SEPTEMBER 3, 1886.

Crampton, L. W., captain and assistant surgeon. Relieved from further duty at Bellevue Rifle Range, and granted leave of absence for one month to take effect before rejoining his proper station, Fort Bridgor, Wyo. S. O. 108, Department of the Platte, August 28, 1886.

Wood, L., first lieutenant and assistant surgeon. (Recently appointed.) Ordered to report by letter to the commanding general, Department of Arizona, for assignment to duty. S. O. 202, A. G. O., August 31, 1886.

SOCIETY NOTICES.

American Public Health Association. Fourteenth Annual Meeting. 1886. — The American Public Health Association will convene at Toronto, Canada, Tuesday, October 5, at 10 o'clock, A.M., and continue in session four days. The meetings will be held in Shaftesbury Hall, on Queen Street, West. The Executive Committee have selected the following topics for consideration at said meeting: I. The Disposal of the Refuse Matters of Cities and Towns. II. The Condition of Stored Water-Supplies, and their Relation to the Public Health. III. The best Methods and the Apparatus necessary for the Teaching of Hygiene in the Public Schools, as well as the Means for securing Uniformity in such Instruction. IV. Recent Sanitary Experiences in connection with the Exclusion and Suppression of Epidemic Disease. V. The Sanitary Conditions and Necessities of School-Houses and School-Life. (Lomb Prize Essays.) VI. The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the best Means and Appliances for preventing and avoiding them. (Lomb Prize Essays.) VII. Plans for Dwelling-Houses. (Lomb Prize Plans.) Upon the above topics a good number of able papers have already been prepared by well-known sanitary writers. Authors from several sections of the United States, Canada, and England have signified their intention of being present with papers. In addition to papers upon the selected topics, several upon miscellaneous sanitary subjects will be presented for the approval of the Executive Committee, and, if accepted, will be assigned a place on the programme. All persons who propose to present papers must be governed by the by-laws of the Executive Committee.

Concord, N. H. Irving A. Watson, *Secretary*.

Massachusetts Medical Society, Suffolk District. — Section for Clinical Medicine Pathology and Hygiene. Boston, September 4, 1886.—The Section for Clinical Medicine, Pathology and Hygiene will meet on October 13th, and on the second Wednesday of each month thereafter during the season. These meetings have been largely attended during the last five years, and a considerable amount of good work in the departments to which they are devoted has been accomplished. There is a greater interest in questions of hygiene and public hygiene than has been evinced for a long time, and the discussions on the subjects relating to this branch have embraced the purity of water-supply, the sanitary conditions of our homes, the relations of military drill to our school system, as well as several other topics relating to the public health. The condition of medicine may at present be considered to be improving in our city, as there is a wider interest in subjects not only of purely clinical nature, but of the character of general sanitation. The younger men of the profession are more active in our Society meetings than ever before, and this in itself is an indication of great weight in estimating the status of medical science in our city. A noteworthy feature of the last year was the reading of a very interesting and able paper in the Section by one of the ladies of the Suffolk District Medical Society. The Clinical Section has been honored on several occasions by the presence of distinguished gentlemen from other cities, frequently representing special departments in university teaching: who have added greatly to the value of our meetings, and to whom the Section owes much of interest in its discussions. The discussions in the Section have been fully reported in the medical journals, and have brought the efforts of the members to the attention of a large circle of interested readers. Members of the profession or others having papers to present, or desiring to exhibit instruments, appliances or specimens are requested to send the titles of subjects as early as possible to

Albert N. Blodgett, M.D., *Secretary*,
138 Boylston Street, Boston.

F. I. Knight, M.D., *Chairman*.

OBITUARY.—DR. ALBERT H. CROSBY.

Dr. Albert H. Crosby of Concord, N. H., died suddenly of apoplexy at the house of his son-in-law, in Exeter, September 5. He was the eldest son of the late Prof. Dixi Crosby, and was born in Gilmanton, April 23, 1826. He graduated from Dartmouth College in 1848, studied law with his uncle, the late Hon. Nathan Crosby of Lowell, and at the Harvard Law School, and, after admission to the bar, practised in Francestown, N.H., and New York City. Law not proving congenial to his tastes, he returned to Hanover, and studied medicine under the instruction of his father, and received a degree from Dartmouth College in 1860 He located at Wells River, Vt , and removed to Concord, where he continued to reside until his death. In 1862, Dr. Crosby was appointed assistant surgeon of Columbus College Hospital, Washington, and was subsequently detailed as surgeon of the 13th regiment, Veteran Relief Corps, and was for a time one of the medical officers of the 6th New Hampshire regiment. In the latter part of 1863 he was assistant to his father in the medical bureau of the provost marshall's office of New Hampshire, and the following year was appointed post-surgeon, with headquarters in Concord. Dr. Crosby was one of the local board of medical pension examiners nearly all the time since the close of the Rebellion, physician to the State-prison for sixteen years, member of the school board and physician to St. Paul's school for many years. He was one of the most eminent physicians and surgeons in the State, his services in consultations being in great demand.

BOOKS AND PAMPHLETS RECEIVED.

The Prevention of Insanity. By Gustavus Eliot, A.M., M.D., New Haven, Conn. (Reprint.) Hartford, Conn. 1886.

Electrolysis in Gynecology; with a Report of Three Cases of Fibroid Tumor successfully treated by the Method. By Franklin H. Martin, M. D., of Chicago, Professor of Gynecology in Chicago Polyclinic, etc. Read in the Section of Obstetrics and Diseases of Women at the Thirty-Seventh Annual Meeting of the American Medical Association, May 5, 1886. With Discussion by Ely Van de Warker, of Syracuse, N. Y.; Robert Newman, of New York City; George F. Hulbert and George J. Engelmann, of St. Louis, Mo. Also Supplementary Paper citing Two Cases of Fibroid Tumor treated by Electrolysis, by J. N. Freeman, M.D., of Brooklyn, N. Y. Chicago, 1886. (Reprinted from the Journal of the American Medical Association, July 17 and 24, 1886.)

Original Articles.

THE EFFECTS OF MILITARY DRILL ON BOYS.[1]

BY PROF. D. A. SARGENT, M.D., OF HARVARD UNIVERSITY.

LONG before the Civil War, many of the Southern States were pursuing the European plan of having State Academies devoted to military science.

At the outbreak of the Rebellion, while the North was obliged to look to the small nucleus graduated from West Point for its officers, the South had, in addition, the well-trained students of the State colleges to command its regiments. In the opinion of military men, the early successes of the Southern army were largely due to this fact.

Many of our Northern citizens were so much impressed with the utter lack of military training on the part of our educated young men at the beginning of the war, that efforts were made as early as December, 1861, to introduce infantry drills in the public schools. The matter was acted upon by the New York and other City Boards of Education, and referred by them to special committees. In the January following, Governors Andrew and Morgan recommended legislative action on the subject.

In 1863, military drill was established in the Boston schools. At the termination of the war, it was considered desirable by the general government that some of the army officers not otherwise employed should be detailed to teach the students of such colleges as desired it, so that educated men might have a better knowledge of military discipline and drill than they have hitherto had in these institutions.

Many of our schools and colleges applied to the government for officers, and entered upon the experiment of making military drill a part of the regular curriculum. How far this experiment has succeeded from the military point of view, I must leave those who are interested in our volunteer militia to answer.

I simply wish to call your attention to the fact that the primary object of establishing the drill in our schools and colleges was a professional one — that is, to give instruction in military tactics to educated young men, in order that they might be of service to the country or community in case of an emergency. The war gave an incentive not only to the practice of military drill, but it also furnished a great stimulus to all forms of physical exercise, and especially to athletic contests and games.

Within the past few years, physical training has received a new impetus. A large number of school, college, and city gymnasia have been built, and athletic games have obtained a strong hold on public attention.

As the occasion which gave rise to a call to arms grows more remote, and the real object of the drill loses its significance, the advocates for its maintenance in the schools claim for it superior advantages as a physical exercise. In the city of Boston, the committees to whom the subject of military drill in schools has been referred have placed considerable stress upon this point.

Allow me to quote a few lines from their published reports, as compiled by the Principals of the public Latin and High Schools for boys. In 1873 the Committee reported as follows:

"Your Committee believe that the drill, as now carried on, proves to be not only the *best* for physical exercise for these schools, but that, at the same time, it inculcates a more manly spirit in the boys, invigorates their intellects, and makes them more graceful and gentlemanly in their bearing."

In the report for 1874 there is a similar statement. In 1875 the Committee state:

"We trust that the drills will be kept up, believing that committees having them in charge will see that no form of gymnastics could be substituted from which the boys would derive such benefit."

In 1880 the Committee say:

"The establishment of the military drill is one of the few provisions made by the School Board for the physical training of the pupils under its charge, and no one who has observed the soldierly bearing of the members of our school battalions can have any doubt of its value as a means of securing a full and symmetrical development of the physique."

Notwithstanding the fact that half of the members of these committees were physicians, I shall beg to differ with them absolutely as to their conclusions concerning the physical effect of the military drill upon boys.

In order that we may approach the discussion of this subject more intelligently, let us inquire briefly into the physiology of exercise, and consider some of the facts which observation and experience have determined.

Exercise in its simplest sense may be defined as muscular movement produced by muscular contraction. According to the physiologists, "the property of contractility is inherent in the muscular substance, but in normal life the manifestation of this property is immediately determined through the influence of the nervous system. . . .

"A nervous impulse originating at the brain or spinal column travels along the nerves to their terminal expansions in the muscular fibres; on its arrival at the muscular fibre, the nervous impulse is converted into a muscle-impulse. . . . Between the reception of the nervous impulse and the initiation of the visible contractile movement an interval elapses, known as the 'latent period,' which (according to Helmholtz) is probably occupied by molecular changes in the fibre preparatory to its alteration in form. At the close of the latent period the muscle-impulse is succeeded by a wave of contraction. . . . The contraction of the individual fibres produces changes in form of the entire muscle, shortening the distance between its two extremities by increasing its thickness, and slightly reducing its bulk.

"In the voluntary muscles (according to Weber), each contraction is compound in character, being composed of a series of rapid contractions, due to an equally rapid succession of nerve-impulses."

During muscular contractions certain chemical changes take place in the muscle substance, although the exact nature of the metamorphosis is not known. It is known, however, that the blood escaping from muscles in action is much darker than the venous blood of muscles in repose, and that it contains a much greater proportion of carbonic acid.

It is also known that a greater amount of oxygen is absorbed by the muscle during the period of contraction, and Gaskell's experiments have demonstrated that the flow of blood through muscle is increased at the time of its shortening.

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Suffolk District, June 8, 1886.

Thus we see that the simplest muscular movements involve a molecular change at the nerve-centre in which the movement originates, in the nerve-fibre that transmits the impulse, in the muscle-fibres that contract, and in the bloodvessels that dilate in response to the stimulation. The experimental researches in the physiological laboratory on a single muscle have given us an epitome of what should take place throughout the system at large, in order to realize the best results from exercise.

The consecutive action and harmonious relation of the nervous, muscular, and vascular systems must accompany every effort to improve the physique and render the individual energetic, healthy, and strong. How to attain this three-fold result is the problem that the instructor of physical training has before him.

If you lift your arm in this manner (flexing the arm at the elbow), it is because the biceps muscle contracts, but the fibres are not hard and tense, and there is little evidence of an increased circulation. This would be termed a movement — almost a passive movement — and is what might be first advised to restore efficiency to the arm of a paralytic, or to preserve a single group of muscles from atrophy. This is the basis of the Movement Cure as founded by Ling, of Sweden.

If you should contract the muscles of the arm rapidly and energetically, you would give exercise to nerve-centres and nerve-fibres, but the muscles would not be efficiently used, and the blood-supply would not be much augmented.

By pursuing this method, the nervous system can sometimes be improved and the muscles made responsive, but activity will be attained at the expense of endurance. This is the basis of the Delsart system of physical culture now so popular in the schools of elocution.

Now grasp a heavy dumb-bell or weight in the hand, and elevate it slowly to the shoulder. In so doing you bring about an energetic action of the flexor muscles, but the nervous system is not especially active, and though the bloodvessels of the arm are gorged with blood, the circulation is not much improved. By pursuing this method the muscles can be increased in size and strength, but the individual, though strong, will lack heart and lung power, and be constitutionally weak. This is the result of the Heavy Weight System as formerly practised and advocated by Dr. Winship.

Now if the arm is alternately contracted and relaxed while using a lighter weight, the blood in the arteries is pushed forward into the veins, and through the veins into the heart. When it arrives at the heart, that organ is stimulated to contract with greater energy, and a proportionally greater amount of blood is sent back to the arm. In following this course, the bloodvessels in the parts used would be greatly increased in size and capacity, but in case many muscles were called into play at the same time, the brain and central nerve system would lack their due share of blood, and power to continue the effort for any length of time would be wanting. This, in a word, is the chief defect in the system of Light Gymnastics, advocated so fervently some twenty years ago by the late Dr. Dio Lewis.

These four methods of exercise, when elaborated and applied to the whole body, represent, I say, the fundamental principles of four great systems of physical training, each method being admirably adapted to meet the special wants of certain individuals, but wholly unreliable, and in many cases followed by fatal consequences when applied indiscriminately to all classes in the community.

To select at once a system of exercise that will do no harm to any one, and yet be beneficial to all, is a difficult task, yet we shall come nearer doing the greatest good to the greatest number if we follow what may be termed the physiological method. As near as I have been able to ascertain them, the essential requisites of a good exercise may be summed up in the following suggestions:

(1) The person should be sufficiently interested in the exercise to give it his attention in order to secure the necessary volitional power to start the movement. Any exercise executed in a lifeless way is of little benefit to nerve or muscle in a healthy condition.

(2) There should be a weight or resistance to overcome in order to bring out the working force of the muscle, the theory being that the muscles were not created merely to move the parts to which they are attached, but to do service and help man bear his burdens. In using a weight, the muscle gradually acquires the force with which it tries to contract.

(3) The exercise must be performed with sufficient vigor and rapidity to engage the energetic contraction of the muscles employed. When this is done, old tissue is broken down, and its place is supplied with new material in increased quantity, thus augmenting the size and strength of the muscles. The rapidity of the movement puts a limit to the weight used, and the alternate contraction and relaxation of the muscles assists the circulation of the blood in the parts employed.

(4) As many muscles as possible must be brought into action in order to secure a full-orbed and harmonious development of the whole body. One-sided development is usually attained by robbing some other part of its just share of the body's nutriment. It is apt to be accompanied by a functional disturbance of one or more of the vital organs, by inducing malformations of the thorax, or it is likely to lead to the straining of parts that are weak, by gauging their strength by parts that are strong.

(5) A sufficient number of muscles should be called into action at one time to stimulate the action of the heart and lungs and increase the circulation and respiration. This is one of the most important considerations to bear in mind in regard to exercise. The more muscles a person can use at one time, and the more rapid and extensive the movement, the greater the muscular consumption of oxygen and elimination of carbonic acid. In order to sustain this activity in the muscles, a greater amount of oxygen must be taken in, and a greater amount of carbon-di-oxide must be given off from the system. This is accomplished through the respiration. "If a man walks one mile an hour, he breathes twice as much air as when lying down; if he walks four miles an hour, he breathes four times as much, and if six miles an hour, seven times as much." He takes out of this inspired air an increased ratio of oxygen, and eliminates nearly the same proportion of carbonic di-oxide during expiration. To keep up this increased respiratory activity and to aid the heart in removing the waste material and hastening forward the new, the limbs and walls of the chest must be absolutely free from any ligatures or constrictions. The slightest interference with the

action of the respiratory muscles at this time embarrasses the functions of the lungs and heart. The chief advantage of exercises that give employment to many muscles at one time is that by increasing the respiration and quickening the circulation, they improve the health and strength of all parts of the body.

(6) As a "latent period" precedes the contraction of a muscle, so a momentary period of rest should, as far as possible, precede movement in exercise. This is best secured where there is an alternation in the movements, as in walking, running, rowing, etc. All tetanized movements, such as holding weights, standing in a constricted position, etc., tend to impair the tone of the muscles by interfering with the nutrition of both muscles and nerves.

(7) The exercises of the young should be of such a composite nature as to bring about the co-operation and co-ordination of the muscles. This involves principally the training of the central nerve system. All gymnastic sports and athletic games that require skill, dexterity, coolness, courage, and presence of mind, are included in this list, and are exceedingly valuable to any system of physical training, as adjuncts in the development of character.

My principal objection to military drill as a physical exercise is that it does not to any extent meet the physiological demands of the body as set forth in the seven observations just referred to. In other words: It is not of sufficient interest as a means of physical development to arouse any moral earnestness and enthusiasm on the part of the boys. The exercise of the manual is not performed with sufficient force and rapidity to engage the energetic contraction of the muscles employed. It is essentially a one-sided exercise, bringing into excessive action the elevators of the right scapula, the deltoid, biceps, flexors of the fore-arm, wrist and fingers of the right side, while the other muscles, excepting the legs on parade days, do not get sufficient employment to keep them in good condition. It does not increase the respiration and quicken the circulation to a sufficient extent to secure the constitutional benefits that should accrue from exercise.

During the drill the clothing is buttoned close around the chest, and natural respiration is hindered. The muscles are not alternately contracted and relaxed, but are tetanized or kept in a state of prolonged tension. This, as we have seen, not only impairs the tone of the muscles used, but it also puts an additional strain upon the brain and nervous system at a time when both should be as much relieved as possible. Finally, the mere exercise of the manual of arms does not give sufficient breadth and scope of movement to secure the co-operation of the muscles, and as a training for the central nerve system, it is of little or no value.

Coolness, courage, presence of mind, and that rapid and responsible exercise of judgment in emergencies, so valuable to the man of business, as well as to the soldier, are not developed by the drill itself, though I will admit that other moral attributes, such as obedience, patience, fortitude, and forbearance, may be brought to a high degree of perfection. The community at large have long entertained the idea that there was something about military drill that made young men erect, or, as the committee have been pleased to term it, giving them a graceful and manly bearing.

I dislike to take from the drill one of the strongest attributes that has commended it to parents and teachers, but unless I have been misled in my observations, there is nothing in the drill itself that tends to make one erect or graceful. On the other hand, I am prepared to maintain that it tends to make him stiff and angular in his movements, as well as to droop and round his shoulders.

This fact was long since brought to the attention of military authorities, and a set of calisthenic exercises or free gymnastics have been incorporated into all of the treatises on military tactics, to correct this tendency. I refer to what is familiarly known as the "setting-up" drill. Upton says, in his manual of "United States Army Infantry Tactics": "As the importance of 'setting up' cannot be over-estimated, the exercises must be often recurred to, and all soldiers will be frequently practised therein."

Notwithstanding this recommendation, I have yet to learn of a single military school in this country, the National School at West Point excepted, where these exercises are practised assiduously. They are irksome and unpopular, like all corrective measures, and are consequently never insisted upon.

There is another method, commonly known as "tailorizing," by which youthful soldiers may easily acquire a full chest, square shoulders, and a straight back. The results may not be as enduring, but they help out on parade day, and undoubtedly contribute something to the "manly bearing" that is so often spoken of. The moral is: Do not waste your admiration over the military figure until you see it with its coat off.

In reference to the gracefulness that is thought to characterize the movements of young cadets, I can only say it is not the outcome of drilling and marching. The soldier is trained to square corners, straight platoons, and angular movements. Curves and embellishments are not encouraged in speech or in action. If you would account for the graceful poise of our National cadets, you must visit West Point in summer, and see them from one to two hours a day in charge of the dancing master.

Having considered at some length what the drill does *not* do for boys, let me invite your attention to a brief consideration of some of the things that it does do. Here let me forestall any impression that my previous remarks on this subject may have left, and state that I do not think that military drill, as conducted in the Boston schools, is injurious to a strong, full-grown, healthy boy, except in a negative way. That is, it does not furnish him the physical training he needs for the maintenance of vigorous health, and the acquisition of a complete or symmetrical development. But those of you who have had the pleasure of examining school boys, or of looking over their measurements or photographs, will bear me out in saying that the strong and well-developed boys are largely in the minority.

The pupils attending our public and private schools represent nearly every phase and condition in life. Some are well nurtured, others are not. Some have favorable hygienic surroundings at home, others are subjected to unhealthy influences. All bear the stamp of a good or bad inheritance, and the strong and weak points of the parents show themselves in the physique as readily as they do in mental characteristics.

As no two minds are alike, so no two bodies are alike. But growing out of this great diversity of shapes and sizes, there is a figure around which nature tends to range those of a certain age, height, or weight (according as either is taken for the standard). This is termed the mean or typical boy for a given age, height, etc. Any marked divergence from this standard is readily detected by a casual observer. My attention was long since called to what I think may be termed the prevailing weaknesses or defects in the school boy's and student's physique.

These are a drooping of the head, flatness of the chest, narrowness of the waist, and an exaggeration of the normal or physiological curves of the spine, and I might add to this number, though it is not quite so common in boys as in girls, lateral curvature of the spine. These defects, I say, are so apparent, that it does not take a practised eye to detect them. They attract the attention at once of any one who cares to examine the figures.

The drooping of the head and flatness of the chest may be accounted for by the increased prevalence of myopia, tightness of clothing, and the pressure of the school desk or table on the lower ribs and sternum. The hollowness in the back is partly due to the fact that it is a compensating curve, but more probably attributable to the weakness of the trapezii, rhomboidii, serati, and latissimus dorsi muscles.

The smallness of the waist is undoubtedly largely due to inheritance, and to the fact that the youth of the present day make very little use of the muscles of the waist and loins. Lateral curvature of the spine may be caused in many ways; by defective seats, bad positions in writing and drawing, standing for a long time on one leg, carrying weights, or using one arm more than another, etc.

Personally, I do not put particular stress upon these malformations, if they can be discovered in time. Nearly all of them can be corrected by judicious exercise. If allowed to increase, however, they invariably lead to spinal disease, or to some functional disturbance of the heart, stomach, or lungs, followed sooner or later by structural changes in these important organs.

Whatever the original cause of these physical defects may be, the immediate cause is a weakness of the supporting muscles.

After the body has once acquired a bias in the wrong direction many exercises otherwise beneficial are likely to be injurious. Among this number are horseback riding, rowing, lawn tennis and military drill. In order that you may see how the last named exercise can prove injurious to imperfectly developed boys I wish to call your attention to the elastic nature of muscular tissue.

In order to be as brief as possible I shall simply quote extracts from the experimental researches described by Rosenthal on this subject, in his admirable treatise on "Muscles and Nerves."

"A muscle dissected from the body is easily extended by a weight, and is extended in proportion as the weight attached is heavier. . . . The law of elasticity for inorganic bodies is: 'The tension is directly proportionate to the length of the body extended and to the amount of the extending weights; and that it is also proportionate in inverse ratio to the diameter of the extended body.' " . . .

"It has been found, however, that soft organic bodies, like muscles, are capable of far greater extension than are rigid, inorganic bodies of equal length and diameter and under the application of equal weight. But the organic body also exhibits another peculiarity."

"If a weight is attached to a steel wire or some other similar body, the latter extends and retains its new length so long as the weight acts upon it; but as soon as the weight is removed the steel resumes its original length. It is not so in the case of organic bodies. When the weight is removed from an organic body it immediately becomes shorter, but does not entirely revert to its original length; it attains the latter very gradually and in the course of many hours. This phenomenon is known as the gradual extension of organic bodies." . . .

"Muscle, in common with all soft bodies, exhibits another variation from the bearing of rigid bodies. That is, muscles are comparatively more extensible by light than by heavy weights. For instance, if the extension of a muscle when carrying ten grammes is five millimetres, when carrying a weight of twenty grammes it is not ten millimetres but only eight; when carrying thirty grammes it is only ten millimetres, and so on."

Another striking fact in connection with the physiology of the muscles has been brought out by the experiments of Weber. He has proven conclusively that muscle is further extended by the same weight when it is in a state of activity than when it is quiescent. Here again we have the experiments of the physiological laboratory confirming the facts that have been brought under frequent observation in the gymnasium. We can now readily understand, how carrying the head forward would soon extend the muscles of the neck, how carrying a gun, though a light one, with the same arm for any length of time would gradually extend the muscles, and elongate the arm, droop the shoulder and crook the spine. This is, in fact, what military drill tends to do in all cases, and what it invariably does do when there is a bias in that direction, when the boy is tall and slender, or the muscles weak and flabby, and there is no effort made to correct the evil tendency.

If it is deemed advisable to make military drill a department of school instruction, I see no reason why a system of corrective exercises cannot be introduced as an accompaniment. If, on the other hand, military discipline alone is required, this can easily be applied to a system of class gymnastics or free exercises, as shown in the schools of Germany.

After taking the most favorable view possible of military drill as a physical exercise, we are led to conclude that its constrained positions, and closely localized movements do not afford the essential requisites for developing the muscles, and improving the respiration and circulation, and thereby improving the general health and condition of the system. We must further conclude that in case of any malformation, local weakness or constitutional debility, the drill tends, by its strain upon the nerves and prolonged tension on the muscles to increase the defects rather than to relieve them.

Finally, if the ultimate object of the drill was to prepare young men for the life and duties of a soldier, we should be forced to conclude that the drill itself would still be defective as a means of developing the chief requisites for men in that profession.

This defect, we are pleased to state, is recognized by the great military nations of Europe, and measures are taken to give all the recruits from three to twelve months' gymnastic training to develop them as *men*, before they are expected to conform to the requirements of the soldier.

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MILITARY DRILL AND GYMNASTIC TRAINING IN PHYSICAL CULTURE.[1]

BY E. M. HARTWELL, PH.D., M.D. OF JOHNS HOPKINS UNIVERSITY.

I feel some embarrassment in standing here as an advocate of the superiority of gymnastics over military drill as a means of physical training for school-boys, since, in so doing, I am obliged to dissent from the views of General Moore, who was formerly my commanding officer. I suppose that as one of his orderly-sergeants in the Latin School Battalion, I passed the climax of my self-importance. I thought then that the drill was a very good thing. I think now that it did the other boys good, and that it did me good, but I am compelled to think, as the result of my reading, observation and experience, that while much good may be accomplished through military drill in boys' schools, very much more good can be attained through a well-devised and intelligently-managed system of gymnastics.

It is a noteworthy fact that physical training has always owed much to lessons learned in war. Under the sting of defeat, or the stimulus of victory, the most enlightened and the rudest nations have alike been impelled to give to bodily training a place in their schemes for the education of their youth. It was in the half century following the victories gained by the Greeks over the Persians, that Greek gymnastics saw their palmiest days. It was then that the gymnasia furnished the finest models for the noblest specimens of the sculptor's art. Although the Greek training was chiefly general and educational in its aims, it embraced certain exercises of a martial character. The Norman archers made such an impression upon the English at Hastings, that centuries elapsed before English law-givers ceased to legislate for the training of the people in "Shooting."

An English law passed in 1388 required servants and laborers "to have Bows and Arrows and use the same the Sundays and Holydays, and leave all playing at Tennis or Football and other Games called Coits, Dice, Casting of the Stone, Kailes, and other such importune Games." Henry VIII caused Parliament to enact, in 1511, that "every man being the King's subject, not lame, decrepit or maimed; being within the age of sixty years, except spiritual men, justices of the one bench and of the other, justices of the assize, and barons of the exchequer, do use and exercise shooting in long bows, and also do have a bow and arrows ready continually in his house, to use himself in shooting; and that every man having a man child or men children in his house shall provide for all such, being of the age of seven years and above, a bow and two shafts, to learn them and bring them up in shooting." Each village was, in 1541, required to maintain a pair of archery butts. It would seem that this statute was held to apply to school-boys and collegians. It is noteworthy that certain playgrounds at Eton and Harrow respectively, are still termed "the Shooting Fields" and "the Butts." The English took the lessons of the Crimean War so deeply to heart that, great as is their aversion to gymnastics, they introduced gymnastic drill into the army in imitation of their neighbors on the Continent.

The quickening and shaping influences of the Napoleonic Wars, of the War of Liberation, and of the wars with Austria and France, are clearly discernible as potent factors in the development and organization of the German system of physical training. France has, since 1871, organized an elaborate system of physical training, embracing both gymnastic exercises and military drill in connection with all its public schools for boys.

We in America occupy no exceptional position in this matter, unless it be that we are preternaturally slow to profit by the experience of other nations. The first attempts in America to promote physical training were of a military character. On January 21, 1790, President Washington transmitted to the first Senate of the United States a comprehensive report from General H. Knox, the Secretary of War, on a plan for "a national defense system adequate to the probable exigencies of the United States, whether arising from internal or external causes." The plan called for the enrollment of those liable to bear arms into three classes: the first comprehending the youth of eighteen, nineteen and twenty years of age, to be denominated the advanced corps; the second class including the men from twenty-one to forty-five years of age, to be denominated the main corps; the third class comprehending, inclusively, the men from forty-six to sixty years of age, to be denominated the reserved corps. It failed, however, of adoption, although the need of a well-trained militia had been sharply and abundantly emphasized by the events of the Revolutionary War. The failure was attributed to the great expense and the administrative difficulties which it was believed it would entail.

In 1792, a United States law was passed, which is still in force, I believe, requiring the enrollment of "all able-bodied male citizens of the respective States" between the ages of eighteen and forty-five years. All enrolled citizens are required to be "constantly provided with a good musket or fire locket . . . a sufficient bayonet and belt, two spare flints, and a knapsack, a pouch therein to contain not less than twenty-four cartridges . . . or with a good rifle, knapsack, shot-pouch, and powder-horn, twenty balls suited to the bore of his rifle, and one-fourth of a pound of powder." So far as I know, neither the Boston School Regiment, nor any other regiment, complies with the requirements of this law.

In 1817, in a report on the reorganization of the militia, made to the House of Representatives by Mr. Harrison, it was recommended that "military instruction should not be given in distant schools, but that it should form a branch of education in every school within the United States; *that a corps of military instructors should be formed to attend to the gymnastic and elementary part of education in every school in the United States*, whilst the more scientific part of the art of war should be communicated by professors of tactics, to be established in all the higher seminaries." It does not appear that this scheme, or anything like it, ever received the sanction of law, although it was again brought forward for adoption in 1819.

Meanwhile, the United States Military Academy at

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[1] Remarks made at the meeting of the Section in Clinical Medicine, Pathology and Hygiene of the Massachusetts Medical Society, Suffolk District, June, 1886.

West Point, in New York, had been instituted for the professional training of army officers. Yet the bitter lessons of the war of the Revolution had to be enforced by those of the War of 1812 before Congress could be induced to make anything like adequate provision for such training.

At West Point, bodily training, under the heads of military instruction and sword exercise, has received marked attention from the first. Dancing is now regularly taught, and gymnastics and swimming have at times been regular branches of instruction. The United States Naval Academy dates from the year 1845. Both at West Point and Annapolis the course of study is characterized by an extended, varied, and exacting system of bodily exercise, as embraced in the various drills and branches of practical instruction. The absolute control and constant supervision and inspection to which all cadets are subjected, as regards deportment, dress, studies, exercise, recreation, diet, and rest, are productive of a vigorous manliness which is much less uniformly found in the graduates of other institutions. I am strongly convinced that the best that has as yet been accomplished in the United States in physical training has been accomplished at West Point and at Annapolis, but nothing can be clearer than the fact that only a very small part of the training there in vogue is what is understood as military drill in the Boston schools.

Alden Partridge, captain of engineers in the United States Army, who was for a time Superintendent of the Military Academy, seems to have been the first person to found an institution modelled after that at West Point. Captain Partridge left the Military Academy in 1817, and in 1818 resigned from the military service of the Government. In a lecture delivered by him in 1820 on what he conceived to be the deficiencies of superior education as then conducted, Captain Partridge spoke as follows:

"Another defect in the present system is the entire neglect, in all our principal seminaries, of physical education. The great importance and even absolute necessity of a regular and systematic course of exercise for the preservation of health, and confirming and rendering vigorous the constitution, must be evident to the most superficial observer. That the health of the closest applicant may be preserved, when he is subjected to a regular and systematic course of exercises, I know from practical experience; and I have no hesitation in asserting that in nine cases out of ten it is just as easy for a youth, however hard he may study, to attain the age of manhood with a firm and vigorous constitution, as it is to grow up puny and debilitated, incapable of either bodily or mental exertion."

Captain Partridge opened his American Literary Scientific Academy at Norwich, Vt., his native town, September 4, 1820. In 1825, he removed his seminary to Middletown, Conn., where he remained for three years. He was doubtless impelled to abandon his seminary there from the refusal of the legislature of Connecticut to charter the institution as a college. He was instrumental, in 1834, in rehabilitating the institution at Norwich, which became known as "Norwich University," and in establishing military schools at Portsmouth, Va., in 1839, at Brandywine Springs, Del., 1853, and at Bristol, Pa., in 1853, the year of his death.

A considerable number of military schools and colleges, additional to those above mentioned, were organized before the War of the Rebellion. The more important of them were established in the Southern States, and were in several cases subsidized by the State. This was notably the case in Virginia, South Carolina, Louisiana, Kentucky, and Alabama. The Virginia Military Institute, at Lexington, Va., the Military Institute at Frankfort, Ky., and the Louisiana State Institute, at Alexandria, La., should be mentioned in this connection. It has been estimated that "one-tenth of the Confederate armies was commanded by the *élèves* of the Virginia Military Institute, at Lexington, embracing 3 major-generals, 30 brigadier-generals, 60 colonels, 50 lieutenant-colonels, 30 majors, 125 captains, 200 to 300 lieutenants." General "Stonewall" Jackson was long a professor in the Virginia Military Institute. General W. T. Sherman, of the United States Army, was in 1861 the head of the Louisiana State University, which had been organized on a military basis in the previous year. At the North the military plan of education was chiefly adopted by the proprietors of private schools for boys.

Once the war opened, military drill assumed a new and unprecedented interest in the eyes of school authorities. The educational literature of that period teems with schemes for the introduction of gymnastics and military drill into public school courses. As early as 1861 military drill was introduced into a portion of the public schools in the city of Bangor, Me.; and the State of New Jersey, about the same time, made an appropriation of money for military instruction in her normal school.

Elementary military drill was experimentally introduced into the Public Latin, English High, Eliot, and Dwight Schools for boys in Boston in 1863. It has since been eliminated from the grammar schools, to which class the Eliot and Dwight belong, but has been introduced into all the high schools of the city for males.

There are not far from sixty schools and colleges, in various parts of the country, in whose course of instruction military drill is given a prominent place. Public schools are not included in this number; but in nearly half of the number the military drill is in charge of an Army officer, specially detailed in accordance with Morrill Act of 1862, whose purpose was to promote the organization of State Mechanical and Agricultural Colleges.

The aim of the school system of Boston is, I take it, a general one, namely, to prepare boys and girls to enter with profit, at a later stage of their development, upon courses of special training for their life work, and the question under discussion is not whether military drill, by itself considered, is helpful or harmful, but whether so much of military drill as is laid down for a portion of the school-boys of Boston constitutes an adequate system of physical training.

I freely admit that the setting up drill, the manual of arms, and the marching movements as taught by General Moore are valuable; that they promote healthful growth and development to a limited degree; and that they subserve certain ends of mental and moral discipline. But I hold that they are so narrow, unnatural, and technical that they cannot be made to meet the legitimate demands of a sound system of general physical training. Such gymnastic exercises as you have witnessed here this evening demonstrate very satisfactorily, it seems to me, the superiority of gymnastic to military drill. But it should be borne in mind that these exercises constitute but a small portion of the exercises which are comprised in any system of school gymnastics worthy to be so designated. It need hardly be said that no comprehensive system of gymnastics has ever been attempted in the Boston schools. No city in the United States, unless it be Kansas City, in Missouri, has as yet worked out or adopted a system of school gymnastics that will bear comparison with the systems now in vogue in the schools of the principal cities of Germany, Sweden, and Norway, France, Switzerland, and Austria.

It will be best to confine our attention to the German system of physical training, and more especially to that in vogue in Prussia.

The German for gymnastics is *Turnkunst* or *Turnen. Turnplatz* and *Turnhalle* correspond respectively to our terms out-door gymnasium and gymnasium, which latter ordinarily signifies a building for gymnastic exercises. A gymnasium, in the German sense, is the highest of the secondary schools, and leads directly to the University.

German gymnastics embrace three well-marked fields, or departments, namely, *Volksturnen*, or popular gymnastics; *Schulturnen*, or school gymnastics; and *Militärturnen*, or military gymnastics. The organization of the last two departments is maintained and controlled by the Government for strictly educational purposes; whereas the *Turnvereine*, as the societies of the turners are called, are voluntary associations of a social and semi-educational, but wholly popular and patriotic, nature. The germ of the turning system is to be found in the martial games and exercises of the ancient Teutons.

Volksturnen was the first to develop. It had its beginning in the period of Prussia's deepest distress and humiliation,— the period between the victory of the French at Jena, in 1806, and the War of Liberation in 1813. That turning became a popular institution and a potent factor in the development of Prussia was largely due to "Father Jahn," as the turners call him.

Jahn was an ardent patriot. His strong and rugged nature, and his eager, restless, passionate spirit, qualified him for popular leadership in the movement which he initiated. He seized the idea of making bodily training a force in national regeneration and education, and dreamed and wrote and labored for a free and united Germany.

The turners did notable service in the campaigns against the French, and great enthusiasm for gymnastics was kindled all over Germany. From 1819 till 1842 the turnvereine, as the gymnastic societies are called, were not suffered to exist by the Government.

In April, 1842, the ministers of war, the interior, and education, united in recommending to the King of Prussia the re-introduction of turning. In June following, the King gave his sanction to the proposal of his ministers that "bodily exercises should be acknowledged formally as a necessary and indispensable integral part of male education, and should be adopted as an agency in the education of the people." The King also authorized the establishment of "gymnastic institutes," in connection with "the Gymnasien, the higher middle schools, the training schools for teachers, and the division and brigade schools in the army."

The great majority of German turnvereine have, since 1860, belonged to the organization known as the *Deutsche Turnerschaft*.

The Turnerschaft comprises fifteen circuits, or geographical divisions, within the German Empire and Austria. Each circuit is subdivided into districts (*Gaue*), and each district into societies (*Vereine*). On January 1, 1885, there were 220 *Turngauē* within the Turnerschaft, and the number of vereine within the Turnerschaft was 2,878, an increase of 223 over 1884. The membership in 1885 was 267,854, of whom 114,134 were active turners; or to express it differently, in 2,413 localities there was an *active* member of the Turnerschaft for every 134 of the population. In 1884, 2,409 societies practised winter turning, 353 owned a turnplatz, and 182 owned a turnhalle.

The aim of the Turnerschaft is to promote the interests of turning, as a means to bodily and moral strength. Its members are urged to render turning attractive to boys and apprentices who have passed the school age; to cultivate simple German customs and manners; to cultivate national exercises and games, such as free and class exercises, running, leaping, climbing, casting the weight, hurling the spear, wrestling, fencing, and sword play; to participate in all popular festivals, especially those commemorative of national events, such as the Kaiser's birthday, Sedan day, and the like; to manifest an active interest in useful public enterprises and associations, such as fire and salvage companies, and sanitary corps for the care and transportation of the sick and injured.

The turners are divided into two main sections, namely, boys from fourteen to seventeen years of age, and men. These divisions are subdivided according to their gymnastic ability into squads, or classes, each class being under the lead and guidance of a "foreturner" chosen on account of fitness. Strength alone is not enough. It is the foreturner's business to make his squad as expert as possible, and above all, to secure to each of its members an erect, firm, and graceful carriage of the body.

The General German Turning Festival, as the grand festival of the entire Turnerschaft is termed, occurs at intervals of at least four years. It continues for at least three days, one of which must be Sunday. Six such festivals have been held in different German cities since the first was celebrated at Coburg in 1860. The Sixth German Turning Festival was celebrated at Dresden, July 18–23, of last year. I was so fortunate as to be present during its continuance.

The festival was characteristically German in its object, arrangements, and detailed workings. In the opinion of competent judges a very considerable increase in gymnastic proficiency over that exhibited at any former festival was noticeable.

More than 20,000 turners, including delegations from England, France, Russia, Holland, Switzerland, Austria, Hungary, Sweden, and the United States took part in the street parade, which was reviewed by the King of Saxony from a balcony of his palace on Sunday, the first day of the festival. The grounds set apart for the use of the turners were something more than ten acres in extent, and were situated in the outskirts of the city, adjoining the Grosser Garten, the principal park of the King. Chief among the temporary buildings erected on the Festplatz was the festivall hall, with an estimated capacity for 10,000 people. The main part of this hall was left unfloored, so that in case of unfavorable weather all the heavy gymnastics might take place under cover. As the weather was fine during the entire continuance of the festival, the hall was used chiefly for speech-making and merry-making, and the turning of every description was carried on out of doors on the Turnplatz, which had an area of more than three quarters of an acre.

The most noteworthy gymnastic features of the festival were: The free gymnastics; the class turning of the most proficient turners; the prize turning, and the gymnastic games in which 1,600 girls and 1,200 boys belonging to the Dresden School took part.

The free gymnastics are bodily movements arranged in groups of related exercises, which are executed at command and in unison. In them no apparatus of any kind is made use of. They may be characterized as calisthenics raised to their highest power. The free gymnastics on this occasion included sixteen different movements, and required nearly three-quarters of an hour for their completion. The order and character of the movements had been determined and ordained by the proper committee of the Turnerschaft months before, and the movements had been practised by the different vereine at home, but only there. The turners who took part in the free movements numbered 4,544, and were formed in seventy-one "open ranks" of sixty-four men each, facing toward the front, the distance between the "files" being a full arm's-length. Facing the huge class was a high platform, on which two marvelously expert foreturners first executed each movement in sight of the class, and then, at signals given with a flag by the turnwart in command of the class, and re-enforced by strokes given on gongs in the middle of the field, the foreturners repeated the movement, the entire body of 4,500 men following in unison. The sight of 4,500 bareheaded, white-shirted men, many of them grayheaded, executing complicated movements, which involved tossing of the arms, bowing and bending of the trunk, facing now this way and now that, and all with military precision, in nearly perfect time, was a novel and inspiring one. Would that those who belittle gymnastics as a means of discipline could have seen the marching and facings of that class of 4,500 men.

The essential differences between Volksturnen and Schulturnen are based on the fact that the former is a free art, originating with and maintained by the common people, and the latter is a discipline imposed by authority upon persons in a state of pupilage. The ends of training and education are not lost sight of in Volksturnen, but in Schulturnen they occupy the foreground.

As regards physical training in the schools of Prussia, the case stands thus: Attendance upon instruction in turning is exacted of all unexcused pupils for two hours weekly in all schools for boys, and also, in some cities, in all schools for girls. As a rule, each school has its own turnhalle, and in very many cases its own turnplatz, furnished with appropriate gymnastic machines. Some cities, for instance Frankfort-on-the-Main, provide special playgrounds for the use of school children and instruction in swimming.

While gymnastic drill is not universal in the public schools, it is very general. As might be expected, it is more common and better provided for in the cities than in the country. In 1882 only ten per cent. of the pupils in the higher schools for boys were excused from turning, and they were excused on the certificates of physicians that the exercise would be prejudicial to their health; only eighteen per cent. of this class of schools were obliged to discontinue turning in winter through having no proper turnhalle, and sixty per cent. of them possessed a turnhalle.

In the course of study each class has its special time for gymnastics, just as it has special hours set for arithmetic and reading, and in the majority of cases the instruction is given by one of the ordinary class teachers, and not by a special teacher of turning. The amount of time devoted to turning, singing, and drawing, is usually the same, viz., two hours weekly.

The exercises are carefully adapted to the age, strength and sex of the pupils. The youngest pupils, from six to ten years old, engage in a great variety of simple games, easy, free movements, marching, jumping and climbing exercises, and the fundamental exercises on the easier gymnastic machines. In free, light, and heavy gymnastics the exercises grow more complicated and difficult with the advancing age of the pupil. The expertness of the boys in the upper classes is often quite astonishing. In the Gymnasien and Realgymnasien fencing is taught in the upper classes. Pedestrian tours, skating parties, and excursions into the woods are frequently made under the lead of those who teach turning. The gymnastic course for girls comprises the ordinary free gymnastics; class gymnastics with "hand apparatus," such as dumb-bells, wands, and skipping ropes; marching, dancing, and balancing exercises; various games of ball, easy jumping, swinging, and climbing; and a few of the simpler exercises on the parallel and horizontal bars. Singing, especially during the march and the minuet, is frequently engaged in during the hour given to gymnastic instruction.

The population of Berlin in 1880 was 1,122,330. The total number of pupils in schools of every kind in the city was more than 149,000, of whom not more than 25,000 were in private schools. In schools wholly maintained at the city's expense, there were 104,726 pupils. Of the 62 turnhallen belonging to the city, 41 had turnplätze adjoining or near to them; 2 belonging to higher schools for girls; 11 belonged to higher schools for boys; and 48 belonged to schools of the grade of Volksschulen (termed in Berlin *Gemeindeschulen*); and 1 belonged to the Berlin Orphan Asylum. The city paid nearly $50,000 in 1880–81 for the instruction given its school children in gymnastics, which sum is equal to about one twenty-third of its total expenditure for schools in that year.

The present number of city turnhallen used for educational purposes in Berlin is 98. The largest of them is the *Städtische Turnhalle*, in the Prinzenstrasse. This was established in 1864; it is open every day and evening, and is used at appointed times by several of the Berlin turnvereine, also by the association of Berlin teachers, the royal firemen, the normal classes for teachers of turning, and by eight of the city schools for school turning. In all, more than 13,000 persons exercise here weekly. The annual appropriation for its maintenance, exclusive of salaries, is between $2,500 and $3,000.

As a rule, the school gymnasia in Germany are separate and specially designed buildings, and not refitted rooms. As a class, the German gymnasia are not so luxuriously fitted or so architecturally imposing as many of the newer American college gymnasia, but they are admirably adapted to the purpose of teaching of free and class gymnastics of every description. As much as possible the apparatus is adjustable and portable. A plain, one-story, brick turnhalle, 60 by 33 feet and 15 to 20 feet high, can be built in Germany at a cost of $5,000, and well furnished with apparatus for $1,000.

In this connection the following facts regarding the Volksschulen of Vienna may be of interest: In 1882–83 Vienna, whose population in 1880 was 701,756, had 72,912 pupils in its 135 Volksschulen. Of this number 44,614 (21,047 of whom were girls) practised turning under the guidance of 658 teachers. The city paid for the teaching of turning and the care of the turnhallen in 1882–83, a sum equal to $34,860, or one-twenty-ninth as much as its total ordinary expenditure for the Volksschulen.

The Prussian schools and the Prussian army are admitted to be the best of their kind. It is a fact of capital importance that in the foremost military State of all the world, not only is military drill excluded from the system of public instruction, but it is also held to be insufficient for purely military purposes, and an elaborate system of gymnastics has been adopted for the training of the soldiery. Even in the cadet schools, boys under fourteen years of age are not allowed to drill with muskets. In Prussia as in other parts of Germany, it has often been proposed to make military drill a part of the instruction for boys. The proposition has been widely and fully discussed, but the weight of the best opinion, educational and military, have been against it. Such experiments as have been made in the direction of giving the schools a military character have not succeeded. On physiological, educational, and military grounds, the authorities prefer gymnastics to military drill, both as a means of securing the symmetrical development of the bodily powers, and as a preliminary training for efficient service in the army. Military drill, say the best of the Germans, is, if genuine, too stiff and severe for school boys; while, if it be not genuine, its moral effects are bad and its tendency is towards the formation of vicious habits of carriage and movement.

Gymnastics and military drill have been made obligatory in practically all public schools for boys throughout the French republic. It is a little more than four years since the French government passed a law requiring the enrollment of all able-bodied boys over twelve years of age in the so-called *bataillons scolaires*. The boys wear a sort of uniform, and are dubbed with muskets, and figure with the rest of the troops on July 13th, the day of the National Festival.

The Germans look with disfavor, but not with fear, upon this movement of the French. It is somewhat too early to pronounce upon the success of the experiment, but there are indications that it is not fulfilling the claims of those who were instrumental in causing it to be made. One of the French military journals characterizes the movement as "a useless phantasmagoria," and General Millot says: "Do not let childhood play at soldiering. The musket should not be taken in hand too soon. It is only in the barracks that the military training of a young man is properly given. Train gymnasts for us; our officers and under-officers will soon make good soldiers of them."

The best exponent of the German system of training in this country is the North American Turnerbund, which comprises more than two hundred societies or *Vereine*, and has a total membership of more than 21,000. In the Turnschulen of the Bund, 12,228 boys and 4,005 girls received instruction in gymnastics in the year 1884–85. It is very remarkable that the ignorance of American educators should be as dense as it is regarding the aims and achievements of the Turnerbund, which has maintained a special Normal School for the training of teachers of turning for many years in the city of Milwaukee. Yet the fact is that the Turnerbund owns more gymnasia than all the colleges of the country put together, and its corps of trained and salaried teachers, numbering nearly one hundred, is the best the country affords.

The German system of school turning embraces free movements, light gymnastics, and heavy gymnastics, all of which may easily be taught to school or college classes, provided you have competent teachers and a well-equipped gymnasium. The German system of physical training is a practical system, based upon sound physiological and pedagogical principles. It is managed by specially-trained teachers, who have perfectly definite ends in view, and its results are admirable. The average American college boy compares, as regards educated bodily ability, with his contemporaries in the upper classes of the gymnasium of Berlin and Frankfort, as do children who can print and one learning to write with the most accomplished pupils of drawing in your city schools.

If the School Committee of Boston shall ever really undertake to provide for the physical training of those committed to its charge, it will do well to profit by the example and experience of such enlightened States as Prussia. To do so it must bring gymnastic training for boys and girls to the front, and send military drill to the rear, or abolish it altogether.

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RECENT PROGRESS IN DISEASES OF THE NERVOUS SYSTEM.

BY PHILIP COOMBS KNAPP, M.D.

PROGRESSIVE ATROPHIC MYOPATHY.

Recent investigations have shown that there was a certain amount of truth on either side in the dispute that was once waged over the essential nature of progressive muscular atrophy. The spinal nature of the atrophy of Duchenne-Aran is now well established, but the recent work of Landouzy and Dejerine[1] shows that there is another form of progressive muscular atrophy which is essentially a pure myopathy. They have made a careful study of six different cases, occurring in two different families, and give a report of the autopsy in one case. In one family there had been nine cases in five generations, in the other two cases in three generations; the affection thus manifesting a distinctly hereditary type.

The disease usually begins in early childhood, making its first appearance about the age of three or four, but it may come on later in life. If it begins in childhood, the muscles of the face are first involved, the face seems to have a mask over it, the forehead is smooth, the wrinkles are abolished, the eyes seem wider open, and are not perfectly closed, and the lips protrude. The child has a dull, expressionless look, almost like that of an imbecile, although the intellectual faculties are unimpaired. Any attempts at the expression of emotion intensify the condition, the laugh being especially characteristic. The affection may remain confined to the face for years, but later on the process involves other portions of the body. The shoulder and upper arm are next attacked, the process involving the trapezius, the rhomboids, the deltoid, the biceps, the brachialis anticus, the triceps, the supinator longus, the pectorals, and the flexor carpi radialis. The thenar group are less frequently attacked, the abductor brevis being first affected. When the atrophy is extensive, the hand assumes the simian type, the *main en griffe* being rare.

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[1] L. Landouzy et J. Dejerine. De la myopathie atrophique progressive, myopathie sans neuropathie, débutant d'ordinaire dans l'enfance par la face. Revue de Médecine, Feb., April, 1885.

In adults, the process may begin in the shoulder, the face remaining intact. Later on the lower limbs are affected, first the thigh, and later the leg, the foot assuming a position of equinus. The abdominal muscles and the sacro-spinalis also atrophy, and there may be lordosis. The subscapular, infra and supra spinales, and the flexors and extensors in the fore-arm remain free for a long time; and the muscles of mastication, of the eye, tongue, palate, and pharynx are never involved. There is never any hypertrophy or pseudo-hypertrophy. A slight retraction of certain muscles, like the biceps, preventing complete passive extension of the fore-arm, is often seen, and is very characteristic. There are never any fibrillary contractions in the muscles, such as are often seen in myelopathies. Electrical excitability disappears, along with the voluntary contractility, only when the muscle is wholly atrophied. The changes in the electrical reaction are never qualitative, but only quantitative — that is, there is never reaction of degeneration. The patellar reflex stands in direct ratio to the amount of unatrophied muscle. General and special sensibility remains intact; there is never any trophic disturbance; the sphincters and the muscles of vegetative life remain intact throughout.

The affection is essentially chronic, but continuous in its march. The victims of it may live for thirty years, but are apt to die of tuberculosis. In the case which came to autopsy, and which died of phthisis, there was absolutely no change in the central nervous system or in the peripheral nerves, even in their finest muscular branches. The only lesion was a simple, progressive atrophy of the primitive muscular fibre, with some sclerosis and a little adipose deposit. Occasionally a few fibres were hypertrophied, but this was not extensive enough to be evident clinically. When an individual muscle was attacked, it was attacked in all its parts, but certain muscles remained unaffected. The process is regarded as a primitive parenchymatous myositis, leading to atrophy, and combined with a very slight interstitial myositis. It is regarded as an atrophic cirrhosis, whereas pseudo-hypertrophic muscular paralysis is a hypertrophic cirrhosis. The fact that the finest nerve fibres remain intact effectually demolishes Friedreich's theory that the nervous lesions in progressive muscular atrophy, type Duchenne-Aran, are deuteropathic, secondary to the atrophic changes in the muscle.

The diagnosis is not difficult if all the above points are considered. The chief disease to be excluded, of course, is the Duchenne-Aran type of atrophy. In this form the face is never involved; it is apt to begin in the hand; it affects adults; the muscles show fibrillary contractions; there are no muscular retractions, and definite groups of muscles are involved; this form, too, has never yet been seen in infancy. In amyotrophic lateral sclerosis there is more paralysis than atrophy, and when the face is involved, bulbar symptoms appear. Anterior poliomyelitis is not as slowly progressive, never involves the face, and shows reaction of degeneration. Erb's juvenile form of muscular atrophy is attended with some hypertrophy, and never involves the face. Pseudo-hypertrophic muscular paralysis begins in the lower limbs, and is attended with marked hypertrophy.

NEURITIS.

Pitres and Vaillard[2] have recently been making careful studies of the changes in the peripheral nerves in various infectious diseases. Among the nervous sequelæ occasionally seen after typhoid fever, are paralyses of one or more groups of muscles, which are in all probability due to a lesion of the peripheral nerves. These paralyses may be attended with pain, anæsthesia, loss of electrical excitability, and atrophy. In one case the peripheral nature of the trouble, which had seemed probable from the symptoms and course of the paralysis, was proven by an autopsy. Histological examination of the nerves in patients who have died of typhoid fever has shown that the peripheral nervous system is often the seat of the more or less grave and diffuse alterations of parenchymatous neuritis. If these changes are slight, the trouble may remain latent, or else the changes may give rise to only a few vague signs; but with more pronounced changes the sensory, motor, and trophic disturbances characteristic of neuritis appear, and, after some cases of typhoid, may be well marked.

In the course of tuberculosis, too, parenchymatous alterations — a degenerative neuritis — are not infrequently found in the peripheral nerves, originating in them and independent of any lesion of the brain or cord. This degeneration may attack motor, sensory or mixed nerves, and even the cranial nerves, or nerves like the phrenic and pneumogastric. The symptomatology of these affections is complex, but the authors make three divisions: 1, *névrites latentes*, where the lesions are slight, and the nervous symptoms are latent or escape observation from the severity of the tuberculosis; 2, *névrites amyotrophiques*, where the most prominent symptom is atrophy; 3, *névrites douloureuses ou anesthetiques*, where sensory troubles, pain, anæsthesia, hyperæsthesia, and paræsthesia predominate. The frequency and the variations in the distribution and symptomatology help to explain the existence and the polymorphism of many of the nervous troubles in tuberculosis.

In one case of neuritis, involving several nerves, coming on in a tubercular patient after cutaneous diphtheria, a curious change was noted. The degeneration, which did not differ essentially from the parenchymatous degeneration ordinarily seen, attacked only certain segments of the nerve-fibre, *névrite segmentaire*, so that a single fibre would show several centimetres of degeneration between two portions of healthy fibre. Sometimes two or three such segments could be seen in a single fibre, and the degeneration was not periaxial, but involved the axis cylinder, and completely destroyed it. Other fibres showed a continuous degeneration throughout their course. The authors were unable to explain this peculiar change, or to reconcile it with the law of Wallerian degeneration.

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[2] A. Pitres et L. Vaillard. Contribution à l'étude des névrites périphériques survenant dans le cours on la convalescence de la fièvre typhoide. Revue de Medicine, December, 1885.

—— Des névrites périphériques chez les tuberculeux. Revue de Médicine, March, 1886.

—— Contribution à l'étude de la névrite segmentaire. Archive de Neurologie, May, 1886.

Gombault[3] has described a different form of segmentary neuritis, where the axis-cylinder can be traced through the affected part, and is directly continuous with the healthy axis-cylinder. It is not normal, however, but is swollen and flattened. He states elsewhere[4] that this peri-axial segmentary neuritis either recovers or progresses, involves the axis-cylinder, and thus leads to Wallerian degeneration. Hence, he calls it a pre-Wallerian stage of degeneration.

Buzzard[5] reports cases of local paralysis, associated with pain, tenderness over the nerve-trunks, anæsthesia, paræsthesia, and changes in the electrical reactions, in patients who have previously shown decided symptoms of gout, and he considers the symptoms due to a neuritis brought on by the irritation of the nerve-fibres by the urate of sodium in the blood. He also reports cases following syphilis, tuberculosis, typhoid, etc. Oppenheim,[6] reporting a case of multiple neuritis of doubtful origin where there were decided mental symptoms, claims that the most important causes of the disease are cold and alcoholic excess. Francotte[7] reports four cases of multiple neuritis, three in alcoholic or tubercular subjects and one in a previously healthy individual. Eulau[8] reports a similar case in a man previously healthy, where it seemed as if the disease might be of infectious origin, a hypothesis which Francotte advanced in his case. In this connection it may be of interest to note that it is reported that Wallace Taylor, of Ozaka, has found a spirillum in the blood in beriberi, which can sometimes, after cultivation, reproduce the disease. We have not seen the original account of these pure cultures, however.

Francotte and Eulau also mention certain factors of importance in the diagnosis of multiple neuritis. The latter, from the case that he reports, corroborates Strümpell's statement that severe initial motor symptoms, associated with sensory disturbances, point to multiple neuritis. Severe pains and sensitiveness to pressure over the nerve-tissues, are corroborative. Trophic symptoms, like bed-sores; vaso-motor symptoms, like œdema or a rapid pulse; and secretory disturbances are not sufficient to exclude neuritis, as they were all present in Eulau's case. Francotte, in the differential diagnosis between multiple neuritis and anterior poliomyelitis, states that in the former disease the termination is much more favorable; in neuritis the loss of volitional power in the affected muscles and the loss of electrical excitability go hand in hand, while in poliomyelitis the volitional power may be quite good even with distinct reaction of degeneration; in poliomyelitis, too, there are no sensory symptoms, and definite groups of muscles functionally related are attacked by paralysis.

[Francotte's statements do not agree with the experience of others. The prognosis for an ultimate *restitutio ad integrum* of the affected muscles may be better in neuritis than in poliomyelitis, but the prognosis as regards life is a different matter. No case of death is known to have been caused by anterior poliomyelitis, but multiple neuritis is always a grave disease, and not infrequently proves fatal. The reporter has repeatedly seen some volitional power in the muscles where faradic excitability was lost and reaction of degeneration was present, and this has been confirmed by other observers. Some sensory disturbances may be present in poliomyelitis in its initial stages. The question of differential diagnosis may be quite easy or it may be extremely difficult, and the two affections have been repeatedly confused. Marked pain, paræsthesia, distinct tenderness over the nerve-trunks, and paralysis of muscles supplied by the same nerve and not necessarily functionally related are the important diagnostic points in multiple neuritis as distinct from anterior poliomyelitis.]

ALCOHOLIC PARALYSIS.

Recent observers agree that alcoholic paralysis and alcoholic ataxia are both of peripheral origin— that the affection is one form of multiple neuritis—a term which now must be used to mean simply a pathological change resulting from many distinct affections, rather than a special morbid entity. Dreschfeld[9] and Strümpell[10] divide this alcoholic neuritis into two varieties, alcoholic paralysis and alcoholic ataxia, which many other observers have followed. Krücke[11] giving the last variety the name of "pseudo-tabes of alcoholics." Dreschfeld considers the ataxic form a milder type. The patients complain of severe pain, chiefly in the lower limbs; there is diminished sensation with some hyperæsthesia, marked tenderness over the nerve-trunks, an ataxic gait and ataxia in the hands, inability to stand with the eyes shut, and loss of patellar reflex. In Dreschfeld's cases there was little paralysis or atrophy, and merely a quantitative diminution in the electrical excitability. The paralytic variety shows an increase of the sensory symptoms, with paralysis, atrophy and loss of electrical excitability, often associated with reaction of degeneration. With this Dreschfeld calls attention to the peculiar and characteristic delirium which attends the disease. The patient answers questions rationally, but his memory is defective and he has delusions. He states that he gets up and goes to different places, describes them, and tells of the people he meets, giving full and minute details of his own and others' words and actions. In one case of the ataxic form which came to autopsy the cord was healthy but the sciatic nerve was found degenerated.

Buzzard[12] reports a number of cases of alcoholic neuritis, in some of which there were muscular contractions so severe as to require tenotomy. He thinks that in this form of neuritis the pain and hyperæsthesia are unusually severe, and that there is a much greater tendency to muscular atrophy. He has noticed mental symptoms similar to those described by Dreschfeld, and also nervous symptoms suggestive of incipient delirium tremens. As a rule, the patellar reflex is absent, but in a few cases it has been exaggerated, perhaps from an interference with the inhibitory influence of the cortex cerebri from alcohol. On recovery the patellar reflex returns. He lays stress on one symptom which he thinks as characteristic of alcoholic paralysis as wrist-drop is of that from lead — namely, dropped feet, and he claims that this symptom always justifies an inquiry into the patient's habits.

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[3] A. Gombault. Note relative à l'éxistence de la névrite segmentaire périaxile, à propos d'un cas de paralysie diphthéritique. Le Progrès Médical, 1886, p. 472.

[4] A. Gombault. Sur les lesions de la névrite alcoolique. Academie des Sciences, Comptes rendus, CII, p. 439, 1886.

[5] T. Buzzard. On some Forms of Paralysis from Peripheral Neuritis. London, 1886.

[6] H. Oppenheim. Beiträge zür Kenntniss der multiplen degenerativen Neuritis. Centralblatt für Nervenheilkunde. No. 1, 1886.

[7] X. Francotte. Contribution ál 'etude de la névrite multiple. Revue de Medicine. May, 1886.

[8] S. Eulau. Ein Fall von multipler Neuritis, Berlin. kl. Wochenschrift. No. 6, 1886.

[9] J. Dreschfeld. Further Observations on Alcoholic Paralysis. Brain, January, 1886.

[10] A. Strümpell. Krankbeiten des Nervensystems, Leipsic, 1886.

[11] Cited by Dreschfeld. Deutsche Med. Zeitung. 8 Sept., 1884.

[12] Op. cit.

Schulz [13] reports a case in a hard drinker, beginning with mental confusion and followed by atrophic paralysis of all four extremities. The patient also had slight paræsthesia, but no loss of sensibility or muscular sense; pain, tenderness over the nerve-trunks, some febrile articular disturbance, loss of patellar reflex but no ataxia, retained cutaneous reflexes, involuntary passage of urine and fæces (due as he thinks to the mental impairment), diminished electrical excitability of nerves and muscles to both currents without qualitative changes, and temporary paralysis of the abducens. He believes the process to be a pure neuritis, although the brain may also be affected. Some authors have claimed that there was a formation of vacuoles in the ganglion cells of the anterior cornua, but this he thinks is produced artificially. Charcot, he says, is of the same opinion.

Hun [14] reports two cases, one of which came to autopsy, in one of which there was marked ataxia, and in the other decided atrophy. In the first case there was little atrophy, slight sensory disturbance, and little hyperæsthesia; in the second all these symptoms were pronounced, and the conduction of pain was delayed. In both there was pain, muscular weakness, reaction of degeneration or an approach to it, pain on pressure, ataxia, and a loss of patellar reflex. Both cases exhibited mental disturbance. A lesion in the brain alone could not account for all these symptoms, and a lesion in the cord would have to be very widely distributed, involving the anterior cornua and the posterior columns. This he thinks improbable, and thus, by exclusion he places the lesion in the nerves. The autopsy showed the cord normal, but there was degeneration and atrophy of the nerve-cells in the cerebral cortex, congestion of the pia, and a serous effusion into the sub-arachnoid space. The peripheral nerves were not examined. Hun concludes that drunkards are especially liable to multiple neuritis, and that alcoholic paralysis is simply multiple neuritis complicated by other symptoms of alcoholic poisoning, such as mental derangement, tremor, and ataxia,— symptoms which seem to be due to changes in the cerebral cortex.

In regard to the pathology of alcoholic neuritis, Gombault states [15] that the anatomical characteristics are very like those of Wallerian degeneration, but that, beside the degenerated fibres, others are found where the myeline sheath appears finely emulsified and composed of fatty granules. He also finds the peri-axial segmentary neuritis mentioned above, which he thinks is especially common in the alcoholic form.

Œttinger, in a recent monograph,[16] gives an extensive account of the whole subject. The paralysis is never abrupt in its onset, but is preceded by mental disturbances, pains, and paræsthesia. There may also be transient œdema of the extremities. These symptoms are followed by more or less motor disturbance, weakness, paresis, and finally, perhaps paralysis. The paralysis is never complete, and voluntary power may remain to some extent after the faradic excitability of the muscles has vanished. He claims that the muscles of the face and the sympathetic nerves are never involved, and that contractures are never seen — a statement which is at variance with the reports of other observers and with our own experience. Great stress is laid on the vaso-motor and trophic symptoms, redness, sweating, œdema, and "glossy skin." The ataxia is merely a complement of the paralysis, and the atrophy is secondary. He finds increase of the nuclei in the nerves, tumefaction of the protoplasm, and a breaking of the myeline into lumps. Later on, the axis cylinder breaks up, and the nerve is finally reduced to its sheath. Pulmonary tuberculosis was a frequent complication.

The diagnosis is often very difficult. Strümpell lays stress on the fact that the Argyll-Robertson pupil, the girdle sensation, and vesical disturbances seem to be absent, as a rule, in the ataxic form — pseudotabes — while they may be present in genuine tabes. Atrophic paralysis is evidence against true tabes. Buzzard also calls attention to the electrical changes in neuritis, and the fact that the patellar reflex may return. The exclusion of anterior poliomyelitis may be still more difficult. Schulz bases his diagnosis on the multiple distribution of the morbid process, the marked atrophic paralysis and diminution of electrical excitability, the slight sensory disturbances, the loss of patellar reflex, the tenderness and the pains, and the fact that the electrical excitability and the patellar reflex returned, and the patient recovered after leaving off the alcohol. Buzzard states that three points should be borne in mind: in anterior poliomyelitis, the first stage of increasing intensity of symptoms is much shorter; muscles functionally related are simultaneously affected, while in neuritis the muscles attacked are those in the distribution of the nerve-trunks; in neuritis, there is usually pain and tenderness on pressure over the nerves — symptoms which are generally absent in poliomyelitis.

Schulz gives the report of eleven cases, of which five died, four recovered, and two improved. In those that died the cord was normal, and the nerves degenerated in every case. Œttinger and Buzzard also claim that the prognosis is always grave, especially if the patient returns to his old habits.

This subject cannot be dismissed without a reference to the connection between alcoholic paralysis and amblyopia *ex abusu* described by Standish, and already published [17] in this Journal.

(To be continued.)

— A Western contemporary says that a young man went to the department of diseases of women in the Chicago Polyclinic and said that he had a disease of a woman and wanted to be treated.

— The *British Medical Journal* tells of a scybalum so large that in order to extract it, it was necessary to give the patient chloroform and apply Simpson's short forceps. The patient, a woman, suffered from delusions which appeared to be due directly to the intestinal accumulations.

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[13] R. Schulz. Beitrag zur Lehre der multiplen Neuritis bei Potatoren. Neurologisches Centralblatt, No. 19-21, 1885.

[14] Henry Hun. Alcoholic Paralysis. American Journal of the Medical Sciences, April, 1885.

[15] Loc. cit. Sur les lesions de la névrite alcoolique.

[16] Œttinger. Sur les paralyses alcooliques, Paris, 1886. Abstract in American Journal of the Medical Sciences, April, 1886.

[17] M. Standish. A Case of Alcoholic Paralysis preceded and accompanied by Amblyopia ex abusu, with remarks thereon. Boston Medical and Surgical Journal, Vol. CXIV, No. 16, April 22, 1886.

Clinical Memorandum.

URINARY INCONTINENCE OF CHILDREN TREATED BY ANODYNES PER RECTUM.

BY EDWARD T. WILLIAMS, M.D., OF ROXBURY.

It is safe to say that the modes of treatment usually recommended for this distressing infirmity are frequently ineffective and disappointing. A failure of my own some years ago with a child nearly related and especially dear to me, led me to cast about for some improved method. For the past year or two I have been trying, with complete success thus far, the use of anodynes by the rectum, in the form of injections and suppositories of morphine, belladonna, or atropine. I have now cured about six cases by this means, besides temporarily relieving many more who have passed out of sight during treatment, so that I cannot positively state the final results. I have no doubt, though, that a portion of these have been cured. Some of them were patients of the Sea Shore Home, where the length of stay averages less than a fortnight — too short a time to effect a permanent cure in any case. One of my cases, which I will describe presently in detail, had been a constant sufferer for ten years. The treatment occupied a year, off and on. She is now entirely well.

I find that morphine alone relieves for the time being, but does not cure. Belladonna and atropine are curative, when continued long enough, though I find them to be better borne in combination with a little morphine, which counteracts some of their bad effects, and enables them to be given more continuously. Furthermore, the requisite dose of belladonna is smaller when combined with morphine. When these medicines produce headache or undue nervous excitability, I use the bromides as a corrective, or suspend their administration for a time. I have found no case where they could not be borne when properly given.

As to the mode of administration, a fifteen-grain suppository of cocoa butter is most easily handled, and that which I prefer. They should contain a proper amount of extract of belladonna and morphine. For a child five years old, say, one-eighth of a grain of belladonna extract, and one-sixteenth grain of morphine; but the doses must be carefully adapted to the particular case in hand, beginning with a small dose, with a smaller relative proportion of belladonna, and increasing the latter and diminishing the morphine as toleration becomes established.

If an enema or clyster be preferred, it should consist of about a drachm of lukewarm water, with a few drops of atropia and morphine solution added, and administered with the small hard-rubber syringe (No. 2) especially designed for the purpose. The old-fashioned clyster of starch-water and laudanum is absurdly out of date. I have used nothing for years but morphine and warm water, mixed as for a subcutaneous injection, only that the water should be tepid, and not exceeding a drachm in amount. I hardly dare claim to be the originator of this self-suggestive plan, though I certainly never heard of its being done by others before I adopted it out of my own fancy years ago, since which time I have freely mentioned it in conversation and before various societies. It is certainly the simplest form of anodyne clyster.

At the Sea Shore Home, where we do things by wholesale, I have two solutions of morphine and atropia ready made. The first consists of one-sixth grain of morphine and twenty minims of water. The dose by drops therefrom is the same as that of laudanum, which makes it especially convenient for the nurses. The other is one-sixtieth grain of atropine to twenty minims of water. Reckoning one-sixtieth of a grain as an average commencing dose for an adult, the dose for a child may be graduated by drops precisely as with laudanum. For a child five years old, then, as an enema, you might give for a commencing dose from three to five drops of each solution, mixed with a teaspoonful of warm water. These doses may be differently combined or altered in any way to suit a particular case.

I mention these points because it is convenient to have both in private and hospital practice certain methods of routine, not only to save thought and labor, but to lessen the chances of mistake.

I will conclude by recounting a single case as an illustration of this mode of treatment. A bright and charmingly pretty girl of fourteen came under my care for this disease July 9th, 1883. Had been subject to it for years, in fact nearly all her life. Was of a peculiarly sensitive nervous temperament, and subject to convulsions in infancy and early childhood, for which I had myself attended her. Was just beginning to menstruate. The urinary trouble had become a great source of mortification to her, and her shyness about it was so great that she could not be brought to talk with me on the subject, so that all communication had to pass through the mother, a thing I should hardly have put up with if it had not been one of my particular families. This being my first case (of rectal treatment) I began with morphine alone, one-sixth of a grain nightly, in suppository. Failing to produce full relief I doubled the strength, making one-third of a grain, when she went nearly a month without once wetting the bed. On stopping the suppository the trouble quickly returned. Recommenced the one-third grain suppository on September 14th, with full relief of the incontinence as before, but the patient, who was attending school all the time, began to get "fidgety" and nervous from the effects of the morphine, so that I was compelled to give small doses of bromide of potassium daily. This relieved the nervous symptoms entirely. I then began to taper-off on the morphine, giving a suppository every second or third night instead of every night, or occasionally halving the suppository. On this treatment she began to wet more frequently, and I became satisfied that morphine alone would not cure her. October 29th I prescribed a suppository containing one-sixth grain of morphine and one-fourth grain extract of belladonna. On December 10th I made it one-eighth grain morphine and one-half grain extract of belladonna. Both these answered perfectly, and in six weeks she was practically cured. In the succeeding six months she did not wet more than six times, but each time was carefully followed by the use of the belladonna suppository for one week to prevent a relapse. For two years now, since the summer of 1884, she has been perfectly well and improved greatly in general health.

I might report other cases far more rapidly cured. I select the above on account of its long standing, and, since I was obliged to proceed somewhat tentatively, as showing very well the comparative action of morphine and belladonna. The latter I have never given without some morphine, believing they act better in combination, as they do when given by the mouth.

From my present experience I regard the rectal treatment as superior to all others in this disease.

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Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

June 8, 1886. The meeting was opened at eight o'clock, by the Chairman, Dr. F. I. Knight. The records of the meeting at which the subject of MILITARY DRILL AND PHYSICAL CULTURE was first discussed, were read and approved.

Prof. D. A. Sargent, of Harvard University, was introduced, and opened the further discussion of the same subject by a paper [1] in which the defects of the present mode of physical instruction were pointed out, detailing the reasons why military drill as a means of exercise is inadequate in character, and injurious in effect. The claims established by Prof. Sargent against the efficacy of the drill were illustrated by means of a student of Harvard University, who having the clothing removed from the upper part of his body, performed the evolutions of the manual of arms before the audience, with the chest and arms uncovered, so that the muscular movements attending these exercises were plainly visible to those in the hall.

Prof. Sargent then illustrated other forms of physical exercise by means of the nude subject, and showed the relative efficiency of Indian clubs, wands and pulley-weights. Prof. Roberts, the Superintendent of the Boston Young Men's Christian Association Gymnasium, then gave a nude exhibition drill in dumb-bells, which elicited generous applause, This drill is one of the most important features of the class-exercise at that Institution, and is considered very important in aiding the symmetrical development of the body. One of the most objectionable features of the military drill is found in the fact that the movements are essentially one-sided, and their effect upon the body is to make it unsymmetrical, often inducing a marked drooping of the shoulder of the right side, and sometimes doubtless causing curvatnre of the spine. The curvature once produced, it is quite easy to perpetuate it. Ladies often acquire lateral curvature from the habit of carrying the train always in one hand, and thus producing a tendency to curvature, which other forms of exercise, such as horseback riding, etc., may perpetuate.

The setting-up drill was then demonstrated, and the good features of this exercise pointed out. The fact was strongly brought out that physical training needs the careful supervision of an educated instructor, to direct the exercises to the needs of the particular individual, and thus prevent the harm which may, and no doubt does arise from the unintelligent and injudicious use of what in well-directed channels is a most important adjunct to physical health.

Prof. Hitchcock, of Amherst College, was introduced, and said that he had but few remarks to add to what had been said.

The subject of physical training is a broad one, and concerns all the pupils in all our schools. It is not the introduction of all forms of training that is needed, but of chosen and carefully adapted forms of exercise for the conditions arising in the individuals before us. A library has been said to be not a collection of books, but a selection of books; and so the features of physical training may be very different in relation to the special requirements of each person.

The average college boy is a rather hard animal to drive, and is apt to kick over the traces. He must be catered to in the laying out of irksome duties, so as to get as much pleasure with the labor as possible. Military drill is objectionable on account of the character of the exercise, and on account of the discipline. If we desire to make a mere automaton of a boy, to deprive him of his thinking faculties, to make him dependent on orders and directions of others, then military drill is a good thing. Is this system the right one? I think not. Every boy is examined in all the branches of his curriculum, and his progress is in accordance to carefully prescribed directions. The same should be true in relation to physical training as is true in relation to mental or moral training. Boys should not be turned into a gymnasium as calves are turned into a pasture, but should be carefully overlooked and guided, in order that the very means for their physical benefit may not become an agent of harm, or positive danger.

Gen. Hobart Moore, Instructor in Military Drill in the public schools of Boston, said that he had been much interested in the exhibition of the drill, and not less amused. He would not be surprised to find curvature of the spine, or any other deformity resulting from the exercise of the drill as this was done before the audience. In actual practice, however, the evils represented and charged to the drill, are not observed. The statement has been made that the drill is confined to one side of the body. This is not so. The drill is made to embrace movements in exercise of both sides of the body, and the result of its employment is not asymmetrical development of the body of the boy. In addition to this, the actual practice of the drill is preceded by exercise in the "setting-up drill;" so that every possible source of defective or restricted exercise is removed.

Gen. Moore stated that he had pupils in Harvard and in other schools, and was constantly receiving most encouraging reports from them as to the influence of the drill-movements, and their relation to the bodily health and well-being of the pupils. In all the schools where the drill has been introduced, the boys are anxious to join, and often it is necessary to refuse permission to ambitions youths on account either of the small size of the applicants, or on account of their years. The parents of boys often come to the school to beg permission for their boys to join in the drill. An experience of twenty-five years in the practical teaching of the drill has convinced him that it is not only not harmful, but is of positive advantage both in relation to the physical development of the boy's constitution, and also in relation to the training of the mental and moral nature.

If this were not so, the drill would long ago have been discarded from the curriculum of our public schools. The striking rarity of accidents in the exercises of the drill is another feature to recommend it. In relation to the boys who are excused from drill, the fact is that more boys are exempted from drill on account of the effects produced by the abuse of gymnastics, than from all other causes put together. The boys themselves always want to drill. Objection to the drill does not come from those interested in it, the boys themselves, but from those who have no actual information on the subject, who are striving to upset an institution which the experience of years has found to be productive of great good, and to be free from serious harm.

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[1] See page 245 of the Journal.

Prof. Sargent stated that some of the criticisms of Gen. Moore seemed to him unnecessarily harsh, and quite unjust, as far as they related to the illustration of military drill as illustrated by the young man who had performed it before the audience. The gentleman is the son of an officer in the United States Army and has been familiar with military tactics for many years. He has a brother at West Point. He has been himself for some years under practice in the exercise of the drill and is one of Gen. Moore's own pupils.

Prof. E. M. Hartwell, of Johns Hopkins University, was introduced by the Chairman. His remarks are given in full on page 249 of the Journal.

Dr. J. P. Reynolds said that he was at one time in Frankfort, and had observed the enthusiasm with which physical culture is there carried out. It is strange that in a city one-fifth the size of Boston, so much can be done and is done, and in our own city we have nothing. The experience of seventy years in Prussia, should teach us something. We have retreated a long way toward barbarism, by our apathy in regard to the physical welfare of our children, and by neglecting them, we lay the foundation for lives of feebleness and incapacity. Nobody who has observed the people of Germany can have failed to notice how much stronger and more robust the population as a rule is in that country, than is the fact here. We are as a nation becoming effeminate and weak. The lessons of other countries are without influence upon our dulled faculties, and we have to look forward to an increased deterioration in the stock of health and vitality as the logical result of our stupidity. In Germany, even the son of the Emperor was not spared the entire *régime* of the course for physical training laid down for the preparation of the recruits for the regular army. Every man must perform this duty to his physical system, before he is considered capable of attempting the discharge of his duties toward his country. At the present time, there is such a degree of apathy among our people, that we might as well have hoped to legislate slavery out of existence, as to awaken in the minds of our citizens a proper regard for the benefits or the necessity of physical culture. Some years ago, when Dr. Reynolds was a member of the School Board, this same Dr. Hartwell was a teacher in the Latin School. In the intervals between sessions Dr. Hartwell engaged some of the pupils in gymnastic exercises, to their great delight and personal benefit. Some of our wise committee objected to this, and stated that a teacher was not employed to *play* with the pupils, and the unfortunate result was that Dr. Hartwell was legislated *out*, and there has been no proper physical exercise in the schools of Boston from that day to this.

It is not easy to speak calmly of such an abuse as this is toward all the pupils of our schools. It is hard to repress the indignation which one feels at the exhibition of such a degree of narrowness and ignorance on such an important subject, one which has to do with the health and happiness of every pupil in the public schools, of every father and mother, every family among us, and indirectly with the well-being of those on whom the burdens and responsibilities of our public and private welfare must soon rest.

Dr. D. F. Lincoln said that one important point had not been touched upon in the course of the present argument, and that is the fact that the girls need careful physical training as much as the boys, and that they have even less opportunity for exercise than have their more fortunate brothers. The people are not doing their whole duty by their children until they have given them the advantages of physical culture commensurate with their mental development.

Dr. C. F. Withington, in closing the debate, spoke of the lateness of the hour, and said that he would not prolong the discussion, although there was much to be said. He observed that the exercises of this meeting had demonstrated that the simplest of apparatus could be made serviceable for a very comprehensive system of physical culture, and vastly improve upon the form of exercises now in vogue. There could be no question that the drill leaves much to be desired as a means of physical development, which could be supplied by the simpler and less expensive form of exercises connected with the courses of physical culture as shown at this meeting.

When our school authorities have attended to the first requirements for physical culture of the whole body of pupils, male and female, then if there is any time or any money to spare let them think of supplementing the function of the State in the maintenance of a militia.

Dr. Reynolds said that he hoped that this meeting would not adjourn without some expression of its feeling of indebtedness to those gentlemen, not members of the Section, who had contributed so greatly to the intelligent discussion of this important subject, and moved a vote of thanks of the Section be extended to them for their presence and co-operation on this occasion.

The motion of Dr. Reynolds was put by the Chairman, and unanimously carried.

Adjourned at 10.40 o'clock.

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THE AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

CLINICAL NOTES ON SCABIES.[2]

by **Dr. F. B. Greenough**, of Boston.

DISCUSSION.

Dr. A. R. Robinson, of New York. In some cases where there was difficulty in the diagnosis, I have reached a positive conclusion by opening a vesicle and examining its contents under the microscope, and finding the young acari or the fæces.

Dr. L. N. Denslow, of St. Paul. I have had a number of cases in which no burrows could be found, but under treatment suitable for scabies, they have recovered. The treatment used has been thorough scrubbing from head to foot, followed by the application of sulphur ointment. In regard to the complaint known as prairie itch. I should from my experience say that it was nothing more than scabies.

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[1] Continued from page 238.

[2] Reserved for publication in this Journal.

Dr. E. B. Bronson, of New York. I agree with the author of the paper as to the frequent absence of the cuniculi. In many cases I have depended largely upon the elongated character of the efflorescence in making the diagnosis. For three months, I treated all cases of scabies with napthol, using a fifty per cent. preparation rubbing the body thoroughly with this once. This has produced a satisfactory result.

Dr. S. Sherwell, of Brooklyn. I have recently seen an increased number of cases of scabies and a large proportion of the cases has been among Scandinavians. I thought that this might be due to want of thoroughness in the cleaning of the ships in which the emigrants are brought to this country. As a prophylactic, I always direct the patient to sprinkle on the sheet of the bed a teaspoonful of the dry sulphur. This acts as a disinfectant and is unpleasant to the acarus.

CLINICAL OBSERVATIONS REGARDING THE VALUE OF RESORCIN, ICTHYOL AND LANOLIN IN CUTANEOUS DISEASES,

by **Dr. H. W. Stelwagon**, of Philadelphia.

Resorcin in eczema, is rarely of benefit, but possesses some power over the itching. For this purpose a six per cent. ointment is useful. In greater strength it is irritating. In tinea sycosis it has proven of some value in ten to twenty per cent. strength. In tinea tonsurans, it is inferior to the remedies usually employed. In one case of leg ulcer, healing took place under its use. In a second case, no effect was produced. In seborrhœa and alopecia dependent upon this disease, a lotion consisting of a drachm of resorcin, one or two drachms of castor-oil, five minims of peruvian balsam, and four ounces of alcohol was of value. In tinea versicolor, it was found less useful than a solution of hypophosphite of sodium. In psoriasis and in one case of lupus erythematosus, the result was negative. In one case of superficial epithelioma, a fifty per cent. ointment produced a good result. In a second case, a fair result was obtained, and in a third the result was negative. In a case of favus, a twenty-five per cent. ointment used two months produced no decided effect.

Icthyol. In a small proportion of cases of rosacea and acne vulgaris a ten to twenty per cent. preparation was found beneficial. In eczema it was valueless and usually irritating. In furunculus it acted with good results in three cases, when applied as a twenty per cent. plaster. In the fourth case it had no effect. It was of service in psoriasis and also in a case of lupus erythematosus. In favus, it was used without effect.

Lanolin. In some cases as an ointment base this is superior to the ordinary fats in use. Where a simple protective action is desired, it is inferior to vaseline, cold-cream or lard. In chronic cases, where there is infiltration and a degree of penetration is the object, lanolin is especially valuable. The writer stated that according to Liebreich, a *lanolinum purissimum* was now manufactured, in which the cholestrin ethers were absent. The main disadvantage of lanolin as now manufactured from sheep's wool, is its strong sheepy odor. In a few acute and sub-acute cases of eczema lanolin for some reason proved irritating. As a rule, however, it is bland and unirritating.

THURSDAY.— SECOND DAY.— MORNING SESSION.

The first paper was entitled:

TROPHONEUROSIS OF THE SKIN CAUSED BY INJURY OF THE MEDIAN NERVE,

by **Dr. G. H. Tilden**, of Boston.

E. F., fifty-five years of age, was wounded in the wrist by a circular saw in November, four months before coming under observation. The wound was parallel with the limb. It was sewed up and healed in about ten days. Three or four days after the infliction of the injury, there was loss of the tactile sense and a feeling of numbness in the last two phalanges of the fore and middle fingers. This has continued and steadily increased. There was at first a slight feeling of numbness in the thumb, but this gradually diminished until it disappeared. Three weeks after the accident a bulla appeared upon the terminal phalanx of the middle finger. Similar lesions have developed from time to time upon the last two phalanges of the fore and middle fingers. The bullæ appeared every two or three weeks and were unaccompanied by any subjective sensation. These leave superficial excoriations which heal in the course of ten days. The skin over the affected phalanges is of a white color and of glossy texture. The growth of the nails is unaffected. There was entire loss of sensation in the skin covering the affected phalanges. The right hand is capable of exerting only one-half the power of the left. The first and second interossei muscles exhibited the reactions of degenerations.

Six weeks treatment with the faradic current caused decided improvement in all the symptoms. During this period only one bulla formed. He then stopped treatment and returned to work. Three weeks later, all the former symptoms suddenly returned. It was proposed to the patient that an incision be made over the seat of injury with the view of determining the exact condition and if possible remedying it. The patient has not since been seen.

Whether the trophic nerves exist as individual and special nerve-fibres or whether the motor and sensory nerve-fibres are the ones by which the nutrition of the tissues is governed, is unknown. The latter view was considered by the author as the most rational. Injury or disease of the motor or sensory nerves as well as disease of the ganglia and central nervous system, may disturb not only motor power and sensation, but also the nutrition of the tissues. That it always does so is by no means the case, but why trophic changes should take place in one instance and not in another is not clear. A number of cases have been reported showing that such changes are more apt to follow partial injury of a nerve than complete section. The changes commonly seen in these cases are the so-called glossy skin and vesicular and bullous eruptions followed by superficial excoriation. The treatment of these cases consists in the use of electricity and the application of blisters over the seat of injury. A last resource is to cut down upon the affected nerve and endeavor to relieve any constriction or pressure which may be found. If no such condition is detected, resection of a portion of the nerve might be advisable, since complete section is not apt to be followed by spontaneous trophic changes and since it has been found by some observers that resection of a portion of the affected nerve is sometimes followed by the arrest of the trophic changes.

NATIVE PLANTS INJURIOUS TO THE SKIN,

by Dr. James C. White, of Boston.

The object of the paper was to show that the number of plants growing native and cultivated in the United States, which are capable of exciting some degree of dermatitis by contact is much larger than is generally supposed and that cases of such inflammation of the skin not infrequently occur without being understood, because the patient has not been exposed to the two or three plants which alone are considered to be poisonous. He enumerated over fifty species which have irritating properties when brought in contact with the skin. With reference to rhus poisoning, the speaker said that the rhus toxicodendron was comparatively inoccuous, while the rhus venenata was the most poisonous species of this plant. The treatment is the ordinary treatment of dermatitis. There is no specific for this form of dermatitis.

The next paper was entitled:

NOTES ON DRUGS,

by Dr. H. G. Piffard, of New York, in which he referred briefly to several recently introduced preparations.

A FEW ADDITIONAL NOTES ON PSORIASIS,[3]

by Dr. F. B. Greenough, of Boston.

CHONDROMA OF THE UPPER LIP,

by Dr. A. R. Robinson, of New York.

The tumor occupied the right side of the upper lip of a man thirty-six years of age. It had been growing for two years and was one inch in length by three-fourths of an inch in diameter. It was egg-shaped, the broad end having its seat in the sub-mucous tissue among the mucous glands. The mucous and cutaneous structures were freely movable over the tumor, which was sharply limited, somewhat encapsuled and nourished by a small artery entering at the base. Microscopical examination showed the tumor to consist of embryonic, gland, and connective tissue. The gland tissue was formed of hypertrophied mucus glands and new gland tissue. The amount of new gland tissue could not be correctly estimated, because much that resembled gland tissue, represented an early stage in the process of cartilage tissue formation. The connective tissue was myxomatous, fibrous and cartilaginous. The myxomatous was present principally at the periphery and did not represent œdematous fibrous tissue. Fibrous connective tissue was present chiefly between the islands of cartilage. The bundles were small and the fibrils very fine and often rather indistinct in outline. There were several islands of cartilage, the largest being in the central part of the tumor. All varieties of normal cartilage were present, viz.: hyaline, fibrous and reticular and also the variety met with in the heads of cephalopods, namely, cartilage with ramifying or branched cells. (*Chondromes à cellules ramifies.*)

The cells showed great diversity of forms and sizes. The body of the branched cells presented a great variety of form. Some were surrounded with a capsule, but in the majority of cases this was absent, or only faintly indicated. In some places the islands of cartilage had joined each other but usually they were separated by the other constituent tissues.

The affection was considered to be very rare. It has been described by Paget, under the name of labial glandular tumors.

KERATOSIS FOLLICULARIS, ASSOCIATED WITH FISSURING OF THE TONGUE AND LEUKOPLAKIA BUCCALIS,

by Dr. P. A. Morrow, of New York.

The patient, C. C., a sailor, aged twenty-one years, came under observation in December, 1885. Five years previously, soon after beginning his sea-faring life, he noticed a number of blackish points upon the back of the hands, some of which he squeezed out. Soon afterwards these appeared upon other parts of the body. They improved when he was on land, but were aggravated when he was at sea. The entire surface of the body with the exception of the face, palms and soles was found to be the seat of the follicular disorder. The ducts of the sebaceous glands were occupied by comedo-like bodies projecting sometimes one-fourth to one-half an inch above the surface. From many of the follicles, small white hairs protruded. The comedos when pressed out were hard and dry. The hard portion of the comedo was continuous with an adhesive substance dipping deeply into the follicle. There was no evidence of irritative or supurative action. They were not accompanied with itching.

The tongue was large and rough to the touch, the surface was deeply fissured, the fissures extending to the sub-mucous tissue. The buccal mucous membrane presented a bluish-white appearance, thickened and raised in places forming distinct plaques, which were superficially fissured. The patient stated that the tongue had been white and a little sore ever since he could remember. The absence of irritation or marked sensitiveness of the fissured organ was quite noticeable. Examination seemed to exclude the possibility of a syphilitic origin. The speaker referred to other cases which had been reported. He objected to the term ichthyosis since that suggests a disease of a different nature. He selected the term keratosis follicularis as more correctly expressing the pathological condition present as well as indicating the anatomical seat of the disorder. Drawings representing the microscopical appearances of the lesions was presented.

While in the hospital the patient improved decidedly under the use of local application of linseed oil. But within a short time of the discontinuance of the treatment, the condition became as marked as before treatment was employed.

EVENING SESSION.

A CLINICAL STUDY OF SCLERODERMA,

by J. E. Graham, M.D., of Toronto, Canada.

Dr. Graham first related the histories of two cases of this rare disease, one of which occurred in the practice of Dr. Smith, of Seaport, Ont., and the other was referred to him by Dr. Jenner, of Pictou. The first patient, Mrs. R., forty-seven years of age, had previously suffered from rheumatism. The hardening of the skin began in March, 1882, and was first noticed over the back of the neck. It gradually spread so that in about ten weeks, the integument over the greater part of the body was affected. The movements of the limbs as well as those of respiration were impeded. The internal treatment adopted was liquor ferri iodidi and liquor arsenitis. A Faradic bath over the surface of the skin was used. In six weeks the skin began to grow softer, and in ten months the patient was quite well. There has been no return of the difficulty.

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[3] Reserved for publication in this Journal.

The second patient, Mr. H., age thirty-seven, came under observation in May, 1886. There was a history of hereditary rheumatism. The disease had commenced some months previously. The first symptoms were stiffness of the limbs with œdema of the lower extremities. Then hardening of the skin over the hips was noticed; this gradually spread and was accompanied with pigmentation. He was given with some benefit potassium iodide at first, and latterly salicylate of sodium.

In his remarks in connection with the disease, the speaker referred to the following points; (1) That the disease is found principally in temperate climates and occurs in seasons when there are sudden changes in the weather. (2) That it is more closely related to rheumatism than has been supposed. (3) That although morphœa has in all probability a similar pathological origin to scleroderma, yet the clinical distinctions are so marked, that at present it is expedient to treat it under a different name.

Dr. L. N. Denslow, of St. Paul. In one case of scleroderma in which there were two large plaques on each pectoral region, benefit has followed the daily use of the constant current.

CARCINOMA CUTIS,

by Le Grand N. Denslow, M.D., of St. Paul.

The patient, aged forty-nine years, had been an invalid for several years. He had had a severe right pleurisy and presented the physical signs of absence of the right lung. The skin of the right chest from the second to the seventh rib and from the posterior border of the axilla to the median line was covered with a nodular new growth, which presented no ulceration. Around the nipple the nodular mass for an area of six square inches reached a thickness of one inch. The older portions of the growth were covered with thickened epidermis with thick brown scales. There was slight enlargement of the axillary glands. The different nodules were not movable beneath the skin, but the whole mass was free from the fascia. The mass was not painful on pressure but was the seat of occasional neuralgic pains. The duration of the growth was seven months. The patient died four months after coming under observation.

The autopsy showed obliteration of the right lung. The left lung presented many small solid nodules. In the mesentery there was a nodule one and one-half inches long by one-half inch in diameter. The microscopic examination of these masses showed that in them all connective tissue preponderated. The growth on the skin occupied the papillæ and the deeper portions of the corium.

Dr. I. E. Atkinson, of Baltimore. This case suggests what has been termed lenticular cancer in which the growth sometimes becomes perfectly continuous. These cases are exceedingly malignant. In a case of my own which presented appearances similar to that of Dr. Denslow's case, the disease ran its course in two or three months. These cases are so malignant that it would seem that no operative procedure is justifiable.

Dr. R. W. Taylor, of New York. I might allude to two cases which were for a time looked upon as cases of cancer of the nipple, both in men. They eventually turned out to be cases of hard chancre, but in one case the induration was so great that carcinoma was strongly suspected.

(To be continued.)

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 16, 1886.

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PHYSICAL TRAINING OF AMERICAN YOUTH.

The importance in any educational scheme of attention to the needs of the body is not a discovery of those who are prominent at the present time in the matter of physical training, however much these persons have contributed towards the development of a rational plan for securing this end. Dr. Benjamin Rush, of Philadelphia, one of the signers of the Declaration of Independence, and one of the fathers of American medicine dwelt with great emphasis in his published writings on the need of suitable bodily exercise for students, recommending that "the amusements of our youth shall consist of such exercises as will be most subservient to their future employments in life." Dr. Wheelock, the first president of Dartmouth College, recommended the students of that institution "to the practice of some manual arts or cultivation of gardens or other lands, at the proper hours of leisure and intermission from study and vacancies." Farm schools, in accordance with these ideas, were established in some of the States in the early part of this century. At the foundation of Amherst College in 1821, a large tract of land was secured in which charity students might have a quarter or a half acre to cultivate as they might desire. Much of the work of laying out the grounds at that college was done, we are told, as a means of exercise by the officers and students; and the expressions "chip-day," "mountain-day" and "gravel-day" indicate an established custom at Williams College, when these holidays were granted by the faculty for the purpose of "fostering in the students the habits of physical labor and exercise so essential to vigorous mental exertion."

The requirements still in vogue in some of our seminaries for a certain amount of daily manual labor from each student, are doubtless the outcome of the ideas just referred to, although little can be said for the hygienic value of most of such work. Certain kinds of manual labor, which can be performed out-of-doors, can doubtless be made to contribute to the bodily well-being. Wood-chopping, whether done by a Lincoln in the days of his youth, or a Gladstone in the years of his maturity, may prove a valuable exercise. But in the present conditions of life, it is safe to say there are few students in school or college who are so situated as to obtain from manual labor alone proper and adequate exercise. In saying this, we would not derogate from the value, on other grounds, of industrial training, or from the commendableness, for reasons of economy, of students paying their way, so far as possible, by manual labor.

Among the various "Circulars of Information" that have been issued from time to time by the National Bureau of Education, under the auspices of the Department of the Interior, few, we think, have been of greater practical value than one which has appeared during the past summer, prepared by Prof. E. M. Hartwell, of Baltimore, who is in charge of the department of physical training in the Johns Hopkins University. The work, which comprises a pamphlet of some one hundred and seventy-five pages, contains a pretty full report on the present status of physical training in American colleges and universities.

The first gymnasium in this country seems, according to this pamphlet, to have been that established in 1823 by Dr. Beck, himself a pupil of Jahn, at the famous Round Hill School at Northampton, Mass. This was followed in quick succession by similar institutions at Harvard, Yale, and Amherst Colleges, while in 1825, Dr. John Collins Warren, of Boston, became the first president of the Tremont Gymnasium, and endeavored to secure the services as instructor therein of Professor Jahn, the "father of the Turners." In this he was unsuccessful, but he was able to induce Dr. Lieber, a man famous in law, as well as in gymnastics, to take charge of the enterprise for a time.

The "new gymnastics," so far as the colleges were concerned, began with Amherst College, to which President Eliot has said: "the colleges of the country are indebted for a demonstration of the proper mode of organizing the department of physical training." The doctrine which forms the basis of this movement is that the best physical training will not aim to make athletes or acrobats, or to develop big muscles, but simply to secure the best functional use, and hence the highest health of the various parts of the body.

The list of colleges and institutions for secondary instruction which have built gymnasia since 1860 is given by Dr. Hartwell, with the respective expenses of construction, and in many cases, with sketches and plans of the buildings. This list comprises thirty-three buildings, and the cost aggregates $600,000. In addition to this, some $150,000 has been expended by schools and colleges for gymnasia which do not occupy an entire building; and a considerable number of "projected" gymnasia are mentioned, most of which, with a few others not mentioned in the book, have since been completed. We note with especial interest the establishment of gymnasia for the use of women at the following colleges: Vassar, Smith, Cornell and Wellesley, and Bryn Mawr. The last mentioned college has a remarkably attractive and well-planned building, completed at a cost of $18,000, with a main hall 80 × 30 feet, with running track, a room for special apparatus, bowling alleys, abundant bathing facilities, all arranged with reference to maintaining the strictest privacy, so that students may take their exercise without the least fear of intrusion.

The progress made in the matter of buildings and appliances for physical culture, though it leaves much to be desired, particularly in our public and preparatory schools, has been more rapid than that in the provision of proper instruction in the use of the appliances. Until very recently these responsible positions have been filled by men of the grade of broken-down boxers, superannuated drill-sergeants, acrobats and other "sporting" characters. But of late a corps of trained teachers of bodily culture has begun to be formed, from whose work we may hope to see good fruits.

May there not soon be, if there is not already, an opportunity for a new specialty in medicine in which regularly educated physicians shall undertake this eminently practical branch of "preventive medicine," making it their object to bring the bodies of the youth up to a standard of physical perfection, coincidentally with the training of their other powers?

The work of the *turnvereine*, described so graphically in Dr. Hartwell's pamphlet, as well as in the article by the same gentleman on another page of this Journal, has, we have no doubt, been somewhat discredited in the minds of American observers by the various heresies, political, religious and socialistic which have developed in that organization since it first began to be a thorn in the side of German absolutism. But the excellence of the physical results brought about by its means is indisputable. And our educational authorities might do much worse than to employ, at least for a time, until the regular teachers can be instructed as in Germany in the work of training the bodies of their scholars, some of those who have been educated under the auspices of this great organization.

It is quite evident from the facts presented in the pamphlet referred to, that much may with profit be learned from the system which during the last fifty years has occupied so important a place in the German volk-, student and army life. That the foremost military nation of the globe should place so little value on military tactics in comparison with gymnastic exercise for the purpose of developing the bodies of its soldiers as is shown by the statements taken by Dr. Hartwell from the latest *Vorschriften über das Turnen der Infanterie*, is a most significant fact, and suggests emphatically the deficiencies of that educational system in our country which has nothing better to offer our children physically than to allow a few of them to play at soldiers.

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THE PHYSIOLOGICAL EFFECTS OF FEAR.

The recent earthquake in South Carolina, whereby many lives were lost, and a considerable part of the city of Charleston laid in ruins, has furnished a signal demonstration of the effects of terror on communities.

A large portion of the population, even those whose tenements were spared, were panic-stricken and abandoned their homes, spending their days and nights in the open air, some in tents, some with nothing to shelter them, and now that the alarm is subsiding and confidence is being restored, they are gradually returning within the precincts of the city. Eye-witnesses have described the terror as something unprecedented: especially among the negro population, who spent their time in wailing and supplication: many forgot to eat, and few were able to sleep. Many women became hysterical, and some men lost their reason; among pregnant females miscarriages were numerous.

The emotion of fear takes its origin in that strongest primordial instinct, the instinct of self-preservation. Conspicuous in its manifestations in the lower animals and among savages, where it is the parent of every superstition, not even the enlightened philosopher can wholly divest himself of the thraldom of this imperious power, especially during such convulsions of Nature as that above referred to, when men's confidence in the stability of the world under their feet is so rudely destroyed. A life-long experience added to the experiences of countless ancestral generations has led the generality of mankind to trust the seeming security of the earth's stability, and the revulsion of feeling and the maddening terror which they realize when this seems to fail them, is something that no words can describe.

Fear is essentially subjective, hence the lowest animals whose actions are judged to be purely reflex would seem to be devoid of it. Being the effective subjective expression of the instinct of self-preservation, it is, within certain limits, a healthful sentiment without which life would not long be possible, especially to wild animals. First called into being by the experience of pain, this emotion is early awakened in all animals by the ideal representation of pain, such ideal representation with the corresponding feeling being also, as Spencer has shown, inherited. Rising within the sphere of consciousness, and hence being presumably cerebral, this emotion, (or perhaps, to speak more correctly, the cause which produces it), instantly excites diffusive discharges of nervous energy, which tend to concentrate themselves on the nervo-muscular apparatus by which escape from danger is effected. If the latter be possible the fear shows itself the most powerful stimulus to self-protective action; witness the achievements of swimmers, swimming "for their dear life," or the speed and endurance of routed soldiers fleeing before a victorious foe.

But if fear under some circumstances is a healthful stimulus, as when it concentrates the nervous and muscular powers on the means of escape from threatening danger; under other circumstances, as when it is vague, ill-timed, or excessive, it is an evil, paralyzing the higher cerebral and the organic functions. In fact, fear is always reckoned among the depressing passions which lessen vital action. The intense concentration of the consciousness on the subject of dread, and the forebodings associated therewith inhibit the will and the judgment, rendering sane and deliberative action impossible. Generals, under the influence of fear, have been known to fly from the field of battle when their troops were winning the day, and strong men have surrendered their possessions to the unarmed highwayman, when a little courageous resistance would have given them an easy victory. A runaway horse and a panic-stricken herd are instances of animals rendered mad by fear. Fear may be so excessive as to inhibit all movements; this has been noticed in the case of the horse. The paralyzing effect of this emotion has at some time been remarked by every one who has been called upon to address a public audience.

The cardiac innervation is disturbed by fear; the pulse and heart beatings are accelerated, and fainting may ensue. This has been attributed to sudden anæmia of the bulbus, and paralysis of the pneumogastrics. This is one of the best known effects of fear; it is the action of the heart which is connected with trepidation and nervous excitement. The vaso-motor centre is weakened, and the vascular sluice-gates of the viscera are opened, hence congestions occur; fear has even caused jaundice and diabetes. The reproductive function is paralyzed; sometimes the sphincters lose their power of control. Digestion is interrupted; in fact, all healthy innervation is diverted from the digestive organs; the salivary, gastric and other secretions are arrested. Hence the nausea, vomiting, and diarrhœa, which often accompany emotions of terror. The peripheral coldness, the trembling, the intense muscular weakness which result from the circulatory and nervous disturbances, are well known. In fact, under the influence of fear, that equilibrium in the distribution of nerve force which is so necessary to the harmonious working of all the functions of the organism is broken.

The operation of this sentiment in civilized communities is still more influential than one would, at first thought, suppose; sickness may at any time cause a panic in certain circles; there are patients too, who, with trifling ailments, are all their life long under bondage to fear. One of the offices of the physician who realizes how states of pain depress all the vital processes, and how intimately and indissolubly the physical expression of the emotion is bound up with the subjective experience thereof, is to lift his patients out of this bondage of fear, and promote courage, firmness and all the elevating passions instead. "The susceptibility to terror," says Bain, "is a weakness and an evil, while the consideration of the means of avoiding or subduing it is of the greatest practical moment."

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THE OVERCHARGE FOR PATENT MEDICINES.

The very excessive prices over and above their actual cost often charged by manufacturers of patent or proprietary medicine for their goods have caused the authorities in several of the continental countries of

Europe to enforce certain regulations upon them for the better protection of the people.

Thus in Germany the police cause the medicine to be analyzed, and then they publish the name of the article, that of its proprietor or manufacturer, with the usual price charged for the preparation. With this is given the actual composition of the medicine as found by the analysis, and the ordinary cost of the ingredients. In Russia and Japan none of this class of preparations are allowed to be imported by the custom authorities except such as have been found upon analysis to contain no poisonous substance.

One of the most efficient methods for discouraging the sale of these preparations is to require each retail package to have upon its label a true copy of the formula of its composition. The effect of this in most cases would be to entirely suspend all demand for the preparation. This may be fully as efficient as any prohibition could be expected to be, and thus the desired result be gained without any unjust exercise of authority. It is in short, but an instance of a thing being justly regulated out of existence when an arbitrary prohibition would not be legitimate. Would it not be well if in this country this last mode of procedure was enforced by legislation?

MEDICAL NOTES.

NEW YORK.

— Dr. John Burke, a well-known practitioner of very large experience, died at his residence on Lexington Avenue, September 9th, at the age of fifty-nine years, of pneumonia. He was a native of St. John, New Brunswick, and graduated at the New York Medical College in 1849.

— A patient has died at Bellevue Hospital, who fired seven shots into himself with a 22-calibre revolver at the Grand Union Hotel, but in whose case, owing to the prompt and skillful interference of one of the house-surgeons of the hospital, life was prolonged for two weeks, and it was even thought for a time that there was an excellent chance of recovery. Five of the wounds were serious, and two of them were especially dangerous; one of the balls being fired into the top of the head, fracturing the skull, and another into the throat, severing the larynx. For the relief of these, trephining and tracheotomy were performed at a single sitting.

— Dr. Edson, of the Health Department, has been making an investigation of the milk brought to the city over the various railroads, and has found that in some instances it was diluted with as much as forty per cent. of water. On September 10th, he made a report to the Board of Health of an inspection recently made by him of ten candy factories. At one of them he found a quantity of Venetian red, which is used to give color to low grade chocolates, and in another, some burnt umber, which is used in the coloring of Christmas toy candies. In none of the other establishments were any pigments found in use which are deleterious to health.

— Dr. Thomas Alexander McBride, one of the most talented and promising of the younger physicians of New York, died, at the age of forty, on the North German Lloyd steamship "Aller," at sea, on the 31st of August. He had been suffering for some time from Bright's disease, and had spent the summer under treatment at Carlsbad. He improved to some extent, but after reaching Southampton, on his return to America, he became quite ill. His body was buried at sea. Dr. McBride was a native of Ohio, but received his medical education at the College of Physicians and Surgeons of New York, in which city he has since resided and practised. He was at one time lecturer on symptomatology in the College of Physicians and Surgeons, and at the time of his death was a lecturer in the Yale Medical School, and attending physician to the Presbyterian Hospital in New York. He had a large consulting practice in diseases of the nervous system and of the kidneys, and was held in the highest esteem not only on account of his professional attainments, but also for his many amiable and social qualities. He was the author of many medical papers of great value, and was an honored member of the Academy of Medicine, the Neurological, the Practitioners', and other Societies.

— The first case of yellow-fever which has come to the knowledge of the sanitary authorities for over two years in the city of New York, was discovered on September 5th. The patient was twenty-three years of age, and employed as a fireman on the steamship Alvo, of the Atlas Line, which sailed from Savanilla on August 12th, and, after touching at Carthagina, Aspinwall, Leinon, and Navassa, arrived at the port of New York on August 29th. The vessel passed quarantine on a clean bill of health, and on reaching the city the crew were paid off and went ashore. The fireman, Golden, took a room at a lodging-house on West Street, and then went on a spree which lasted for several days. On September 2d, he was taken sick, but as his illness was supposed to be the result of intemperance, very little attention was paid to him. On the 4th, however, he became delirious, and was removed by the police to St. Vincent's Hospital, where the case was regarded as suspicious, and was isolated and carefully watched. On the following day the symptoms were pronounced by physicians familiar with the disease, to be unmistakably those of yellow fever, and the patient was at once removed to the Reception Hospital at the foot of East 16th Street, where he died on the 7th. The lodging-house where the man had had his quarters was thoroughly fumigated and disinfected by the sanitary officials, and every precaution taken to prevent any spread of the disease.

— A party of Sanitary Inspectors and Health Department clerks who started out on the "Franklin Edson," a propellor belonging to the Department, to see the race between the Mayflower and Galatea on September 9th, which was spoiled by the fog, had a most uncomfortable and trying experience. On the way down to the Sandy Hook lightship the machinery got out of order, and an hour was consumed in setting things to rights. Consequently, the "Edson" got down too late to see the start, and was compelled to keep in the wake of the long line of excursion boats; so that the party did not even sight the competing yachts at any time during the race. On the return homeward they were caught in the thick fog, and at eight o'clock the darkness was inpenetrable; while the pilot whom they had taken on board at Lewis quarantine, confessed, much to their annoyance, that he did not know where he was. The engine was stopped and the boat allowed to drift; the fog-whistle in the meanwhile, being blown continuously. After drifting for several hours, the engine was started again and the boat was steered by compass. She had not been in motion very long, however, when she ran aground on a sandbar which proved to be at the entrance of Rockaway Inlet. All attempts to back her off proved futile, and she lay at the mercy of the waves which washed over her decks. Most of the party were seasick and thoroughly alarmed, and the situation was altogether most unpleasant. It was nearly three o'clock in the morning, after they had been aground over five hours, before aid reached them. The signals of distress sounded on the steam-whistle had attracted the notice of the members of the life-saving station at Rockaway beach, a mile and a half distant, and a large boat was put out to the rescue. After being landed on the beach the party were compelled to walk nearly five miles to the nearest railroad station, where they finally took a train for the city at seven A.M.

Miscellany.

LAPAROTOMY FOR GUNSHOT WOUND OF INTESTINES.

Dr. W. T. Bull, of New York, has performed another successful laparotomy for gunshot wound of the abdomen. A sailor, aged twenty-five, was shot in the abdomen, August 12th, at 7.40 P.M., the ball entering two inches below and to the left of the umbilicus. He was taken to the Chambers Street Hospital. Two hours after his arrival the abdomen was opened, the wound having been first explored and found to be penetrating. There were no symptoms of any inter-abdominal injury. The pulse was 94, respiration 24, and temperature 98°. Much blood was found in the cavity, the small intestine was pierced in two places, the sigmoid flexure in one, and there was a wound of the sigmoid mesocolon, from which copious venous hæmorrhage took place. The operation lasted one hour and a half, and was well borne. It was followed by no vomiting or other bad symptoms. There was but slight pain and a moderate tympanites. The pulse ranged between 90 and 110, temperature between 99° and 100°. There was a natural movement of the bowels on the fifth day. The case continued to progress favorably and now (at the end of the third week) the wound is nearly healed and the functions of the alimentary canal have been normal for two weeks. There has been no peritonitis.

A DANGER FROM PUBLIC BATHS.

An interesting case is recorded by Dr. Aubert, according to the *British Medical Journal*, in which blennorrhœa was communicated by means of a bath. A lady consulted him for her child, aged four years, who for some days, had had an abundant vulvar secretion. The child complained also of pain and burning in passing urine. In relating the case, the mother stated that she herself had, for some weeks, been affected with a like discharge, and her husband with an urethral discharge. According to the lady's husband, this was due to drinking turbid wine; an explanation which, as it was satisfactory to the lady, was not questioned by the medical man. A microscopic examination revealed the gonococcus in the discharge from both mother and daughter. On further inquiry, it appeared that the child, three or four days before the appearance of the discharge, had taken a bath with its mother. No other possible source of infection could be thought of. In the same family there was another child which did not have the bath, and which escaped the infection. Professor Filippi, of Florence, commenting on this case (*Lo Sperimentale*, October, 1885), relates that during the previous year, fifty-five little girls were infected with vulvitis at the public baths of Santa Lucia at Florence. Some of the children also contracted severe purulent inflammation of the eyes. The only explanation of this outbreak was, that the contagion had been deposited in the water by some woman or child already infected. Professor Filippi goes on to remark on the hygienic and medico-legal aspects of the case. It is not always possible to make sure that people making use of public baths are free from every sort of infectious disease. Unless, therefore, the supply of water be undergoing constant renewal, the water ought to be changed for each person. The forensic aspect of the case is also important. When a child, with vulvar discharge, is brought for examination on account of a supposed criminal assault, the above-mentioned mode of infection ought to be borne in mind.

Correspondence.

ENDORSING PROPRIETARY HUMBUGS.

Mr. Editor,— I beg to enclose you a very readable circular [1] which is being widely distributed in the section of country of which Podunk is the centre. Will you kindly peruse it at your leisure? In it you will see testimonals from many great men, alleged leaders of the profession, regarding the merits of the "new quinine."

If you will read the paragraphs that I have marked you will learn much. The first novelty to me was that "the most celebrated and widely known physician and surgeon in the United States" is Montrose A. Paller.

Another matter of great surprise is that such men as Loomis and Howe and Drake should endorse such stuff as *kaskine* and should allow their endorsement of it to be spread broadcast over the country in this way.

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[1] How Discoveries are Made. Kaskine.

Now in the neighborhood of Podunk malaria prevails, as you have reason to know, and there prevails there also a strong prejudice against quinine; and when I received this flowing announcement which I enclose, bearing autograph letters and temperature-charts and other endorsements from well-known men, I bought a lot of the stuff—being an inexperienced and youthful practitioner — and promised my patients a speedy deliverance from their ills without the use of quinine. I tried it, and I proved it in a large number of cases to be just as inert as so much flour.

No one knows how many others may have been deluded by the same men that deluded me. Have we no redress, Mr. Editor? Can these alleged "leaders of the profession" deliberately thus combine with the quack-medicine venders for some occult reason and bring discredit upon honest toilers like myself? Of course *I* shall not be again deceived by these men. It has lost me my reputation in Podunk and my office is now to rent. I must move, sir, hungry as I am, into some region where I am unknown, and through no fault of my own, but my credulity.

Do you wonder that the profession in this country stands upon a low plane? It seems to me that with such alleged *leaders* the plane must always be low.

Of course if I were not young and inexperienced I would at once have had my suspicion aroused by the very incredible reading at the beginning of the circular of this inert stuff; but being young and inexperienced I overlooked that when I saw the names and titles of the men that endorsed it.

I speak for many beside myself, sir, and I venture to hope that you will give us voice.

Your obedient servant,
John Collins, M.D., of Podunk.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 4, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	—	—	—	—	—	—	—
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	327	190	30.60	11.11	19.20	.30	5.70
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	158	69	28.98	9.45	21.79	4.41	3.78
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	153	78	27.95	9.10	15.60	1.95	3.90
Cincinnati	325,000	128	66	29.64	12.48	17.94	1.56	7.80
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	77	22	16.90	7.80	5.20	2.60	2 60
Pittsburgh	190,000	83	41	44.40	8.40	20.40	7.20	6.00
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	17	8	47.04	17.64	35.28	—	—
Charleston	60,145	93	20	10.80	8.64	4.32	1.08	—
Worcester	68,383	24	14	21.96	8.32	24.96	—	—
Lowell	64,051	35	21	48.62	8 58	42 90	—	2.86
Cambridge	59,660	27	14	37.03	18.51	25.90	—	—
Fall River	56,863	18	9	38.88	5.55	38.88	—	—
Lynn	45,861	14	4	14.28	42.84	7.14	7.14	—
Lawrence	38,825	14	6	·28.46	7.14	21.42	—	7.14
Springfield	37,577	12	2	25.00	25.00	16.66	8.33	—
New Bedford	33,393	17	5	29.40	5.88	29.40	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	5	10.00	10.00	—	10.00	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	11	3	45.45	—	36.36	—	—
Taunton	23,674	12	6	33.32	8.33	16.66	8.33	—
Haverhill	21,795	8	1	50.00	50.00	25.00	12.50	12.50
Gloucester	21,713	8	5	50.00	37.50	37.50	—	—
Brockton	20,783	10	5	50.00	20 00	50 00	—	—
Newton	19,759	5	1	40.00	—	—	20.00	—
Malden	16,407	5	2	40.00	10.00	10.00	—	10.00
Fitchburg	15,375	6	4	50.00	16.66	50.00	—	—
Waltham	14,609	—	—	—	—	—	—	—
Newburyport	13,716	6	5	50.00	—	16.66	—	33.33
Northampton	12,896	1	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,279: under five years of age 616: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 382, consumption 141, lung diseases 60, diarrhœal diseases 240, diphtheria and croup 55, typhoid fever 29, whooping-cough 21, malarial fever 16, measles seven, scarlet fever seven, cerebro-spinal meningitis three, puerperal fever three, erysipelas one. From whooping-cough, Brooklyn 11, Pittsburgh three, Baltimore two, District of Columbia, Nashville, Charleston, Lowell, and Newton one each. From malarial fevers, Baltimore seven, Charleston four, Brooklyn three, District of Columbia two. From measles, Brooklyn three, Baltimore, Pittsburgh, Cambridge and Chelsea one each. From cerebro-spinal meningitis, District of Columbia two, Lowell one. From scarlet fever, Pittsburgh four, Cincinnati two, Lowell one. From puerperal fever, Brooklyn, Cincinnati and Nashville, one each. From erysipelas, District of Columbia one.

In the 22 cities and greater towns of Massachusetts, with a population of 1,037,445 (population of the State 1,941,465), the total death-rate for the week was 20.51 against 22.88 and 24.21 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending August 21th the death-rate was 19.5. Deaths reported 3,400: infants under one year of age 1,264; acute diseases of the respiratory organs (London) 151, diarrhœa 606, whooping-cough 52, measles 49, fever 40, scarlet fever 32, diphtheria 26.

The death-rates ranged from 11.9 in Derby to 36.8 in Norwich; Birkenhead 27.9; Birmingham 18.9; Hull 16.3; Leeds 18.6; Leicester 24.3; Liverpool 28.9; London 17.9; Manchester 20.2; Nottingham 16.8; Sheffield 20.3; Sunderland 23.7.

In Edinburgh 15.6; Glasgow 20.6; Dublin 21.9.

For the week ending August 21th, in the Swiss towns, there were 20 deaths from consumption, diarrhœal diseases 14, lung diseases eight, whooping-cough six, puerperal fever three, scarlet fever and erysipelas each two.

The death-rates were: at Zurich 3.8; Geneva 15.1; Basle 15.5; Berne 18.2.

The meteorological record for week ending September 4, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Sept. 4, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...29	29.922	65.5	72.0	61.2	86.0	83.0	91.0	86.7	N.E.	E.	S.E.	5	16	4	C.	C.	O.	—	—
Monday,.. 30	29.860	65.3	71.0	60.4	98.0	100.0	95.0	97.7	S.E.	E.	E.	4	12	10	G.	G.	O.	—	—
Tuesday,..31	29.738	67.9	81.1	62.2	90.0	95.0	82.0	89.0	S.W.	W.	N.	7	10	8	O.	R.	O.	—	—
Wednes... 1	30.142	62.6	71.0	57.1	80.0	41.0	53.0	58.0	N.W.	N.	N.	7	14	8	C.	C.	C.	—	—
Thursday, 2	30.409	59.3	65.9	51.7	70.0	56.0	83.0	69.7	N.	S.E.	W.	4	9	10	C.	C.	C.	—	—
Friday, ... 3	30.457	60.2	67.0	52.9	73.0	75.0	87.0	78.3	N.	E.	N.E.	4	11	8	C.	C.	C.	—	—
Saturday,. 4	30.437	59.8	64.5	55.2	97.0	78.0	90.0	88.3	N.	E.	E.	8	16	5	C.	F.	O.	12	0.96
Mean, the Week.	30.138	62.9	70.2	56.9				81.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 11, 1886.

Dickson, S. H., passed assistant surgeon. Detached from the Naval Academy, October 1, 1886, and ordered to Navy Yard, Washington.

Lippincott, J. G., passed assistant surgeon. Ordered to Naval Academy, October 1st.

Shippen, E., medical director. Detached from Naval Hospital, Philadelphia, and ordered to attend officers of the Navy and Marine Corps at Philadelphia, not otherwise provided with medical aid.

Hord, **Wm**. T., medical director. Detached from Examining and Retiring Boards, at Washington, October 5th, and ordered to Naval Hospital, Philadelphia, Pa.

Dean, R. C., medical director. Ordered to duty as member of Examining and Retiring Boards at Washington, October 5, 1886.

Bransford, J. F., surgeon. Detached from United States Steamship "Iroquois," and ordered to Naval Hospital, New York.

Hall, C. H. H., passed assistant surgeon. Detached from Naval Hospital, New York, and ordered to Naval Hospital, Yokohama, per steamer of 21st inst.

Woodruff, C. E., assistant surgeon. Ordered to Receiving Ship "Vermont," October 4, 1886.

Atlee, L. W., assistant surgeon. Detached from the "Vermont," and ordered to the "Quinnebaug," per steamer of 25th inst.

Bogert, E. S., medical inspector. Detached from the "Trenton," and placed on waiting orders.

Ferebee, N. McP., surgeon. Detached from the "Trenton," and placed on waiting orders.

Biddle, C., passed assistant surgeon. Detached from the "Trenton," and placed on waiting orders.

Scott, H. B., assistant surgeon. Detached from the "Trenton," and placed on waiting orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING SEPTEMBER 4, 1886.

Bailhache, P. H., surgeon. To proceed to Cape Charles Quarantine as inspector, August 27, 1886.

Fessenden, C. S. D., surgeon Granted leave of absence for thirty days, August 30, 1886.

Godfrey, **John**, surgeon. To proceed to Biloxi, Miss., and investigate alleged yellow-fever cases, September 1, 1886.

Irwin, **Fairfax**, passed assistant surgeon. Granted leave of absence for thirty days, September 2, 1886.

DEATH.

Died, at Bar Harbor, Me., September 2, 1886, Charles Dudley Homans, M.D., M.M.S.S., of Boston, aged sixty years.

OBITUARY.—DR. CHARLES D. HOMANS.

Dr. Charles Dudley Homans of Boston died at Mt Desert on Thursday, September 2d. He was born in Brookfield in 1826, and was a son of Dr. John Homans. He was graduated from the Boston Latin School, and subsequently from Harvard College, in the class of 1846, a class which included among its members Calvin Ellis, George Frisbie Hoar, and Charles Eliot Norton. After his graduation from the Harvard Medical School in 1849, he studied in Paris and on his return commenced to practise his profession in Boston, and has continued in active practice up to the present time. He was one of the original appointments to the surgical staff of the City Hospital, and at the time of his death was the senior surgeon of that institution. He was president of the Massachusetts Medical Society in 1884 and 1885, an office which his father had previously held. He was, at the time of his death, president of the Massachusetts Humane Society, and was by direct descent a member of the Society of the Cincinnati, his grandfather having been a surgeon at the battle of Bunker Hill and throughout the Revolutionary war. He was also President of the Massachusetts Charitable Eye and Ear Infirmary, a Trustee of the Massachusetts School for the Feeble Minded, and held many other positions of trust. During the war he was one of the Massachusetts surgeons who went to the assistance of their overworked brethren at the front during the peninsular campaign. Dr. Homans leaves a wife (a daughter of the late Rev. Dr. Samuel K. Lothrop) and two children, a daughter and a son, Dr. John Homans, 2d, who is already established as a physician in Boston. The health of Dr. Homans has been gradually undermined during the past few years by a series of accidents, — a broken leg, an assault by an unknown assailant in the street, and a scratch received during a surgical operation at the hospital followed by unpleasant and serious symptoms, and which had rendered his friends anxious, but which he had apparently surmounted. His death was finally due to an occlusion of the gall duct and consequent jaundice. Dr. Homans was possessed of a high sense of honor and of an exalted idea of the dignity of his profession. He had a straightforward way of looking at matters which often easily solved apparent difficulties, and gave to his conversation a directness and a force which was characteristic. Though he played an important part in affairs connected with his profession and the public, his life was singularly quiet and uneventful. He was greatly attached to his work at the hospital and faithfully and punctiliously performed the duties of his position. The younger members of the surgical staff of the hospital are particularly indebted to him for a courteous support which was unwearied, and of late years for an example of the cheerful performance of duty under difficulties, which they will be slow to forget.

RESOLUTIONS IN MEMORY OF CHARLES D. HOMANS, M.D.

The Committee of the staff of the Boston City Hospital, appointed September 4th, report the following resolution:

The surgeons and physicians of the Boston City Hospital, sensible of the great loss which they have sustained in the death of their late colleague, Dr. Charles D. Homans, desire to place on record their appreciation of his distinguished services and his character.

Connected as he was with the hospital from its foundation, his fidelity to its interests and his conscientious attention to its laborious duties, even after his health had become impaired by surgical exposure in its wards, deserve our deepest admiration and respect.

A clear common-sense, which by a single sentence could settle differences of opinion in cases of doubt, and which was characteristic of him — a wide experience — a high sense of professional honor and a constant courtesy to all, combined to render his loss one of no common magnitude, not only to the hospital service and to the sufferers in its wards but no less to its professional staff.

David W. Cheever,
Geo. H. Lyman,
Geo. W. Gay,
Committee.

Original Articles.

CLINICAL NOTES ON SCABIES.[1]

BY F. B. GREENOUGH, M.D.

At the present time, scabies is, or certainly ought to be, one of the most thoroughly understood of cutaneous diseases, as to its cause, symptoms, course, treatment, etc., and it is with no hope of giving any new information on the subject that I have compiled the following brief clinical notes. Having had, however, the chance during the past few years of seeing a large, and recently a steadily-increasing number of cases, I have been much interested in the subject, and have thought it might perhaps not be entirely useless to record some of the facts to which my attention has been especially called. I wish to premise, however, that I have no intention of attempting to give a full account of a disease which is so well known to the profession as scabies, but shall simply refer to those points which have especially struck me, as being interesting in the quite large number of cases seen.

That scabies is much more prevalent at present than formerly in Boston and its vicinity, is shown not only by my individual experience, but by that of my colleagues who have charge of hospital dermatological services, as well as by the testimony of general practitioners. The probable reason for this very decided increase is to me one of the most interesting points of the subject. Scabies being contagious, its propagation to persons thrown into intimate relations with the individual who suffers from it is to be expected, but why, after being for some years comparatively rarely seen, it should all at once take a start, and increase in frequency very rapidly, is not so easily explained.

During and immediately after the war, as would be naturally expected, it was quite prevalent, and undoubtedly the large number of medical men who were connected with our army and navy service learned to recognize and treat it, and carried their knowledge of the disease with them into the practice which they settled into after the war was over. It certainly is a fact that for some years after the war, the disease became more rare, and it seems fair to assume that it was more rarely seen, because when seen it was generally recognized and properly treated. The new generation of medical men that heard little, and saw less of it, would naturally not always recognize it, and of course, every case that was not recognized became a focus of contagion. Whatever the cause may be, there can be no question but what scabies has increased in prevalency most decidedly, at least in Boston and its neighborhood. That such is the case the following figures will show. The special service for skin diseases at the Boston Dispensary was started July 1, 1873, and I had the honor of being put in charge of it. I saw, during the

1st year, up to July 1,	1874,	. .	14 cases of scabies.
2d " " "	1875,	. .	17 " "
3d " " "	1876,	. .	25 " "
4th " " "	1877,	. .	3 " "
5th " " "	1878,	. .	6 " "
6th " " "	1879,	. .	3 " "
7th " " "	1880,	. .	10 " "
8th " " "	1881,	. .	8 " "
9th " " "	1882,	. .	25 " "
10th " " "	1883,	. .	39 " "
11th " " "	1884,	. .	85 " "
12th " " "	1885,	. .	156 " "
13th " " "	1886,	. .	160 " "
			549

The proportion which these cases of scabies bear to the number of cases of skin disease seen is as follows. I did not at first tabulate my whole number of cases yearly, but waited until I had 5,000 cases before doing so. These 5,000 cases covered, in time, from July 1, 1873, to November 25, 1876, and of these 5,000 cases 55 were of scabies, making a percentage of 1.1 per cent. From November 26, 1876, to June 30, 1878, I saw 2,494 cases of skin disease, of which eight were scabies, making 13 + per cent. After that date I recorded the cases yearly, the result being as follows:

From July 1,	1878,	to June 30,	1879,	total	872,	scabies	3 = .3+ %
"	1879,	"	1880,	"	804,	"	10 = 1.2+ %
"	1880,	"	1881,	"	1,023,	"	8 = .8− %
"	1881,	"	1882,	"	1,088,	"	21 = 2.0+ %
"	1882,	"	1883,	"	881,	"	39 = 4.0+ %
"	1883,	"	1884,	"	1,063,	"	85 = 8.0− %
"	1884,	"	1885,	"	1,299,	"	156 = 12.0+ %
"	1885,	"	1886,	"	1,220,	"	160 = 13.0+ %

From these figures it will be seen that while from November 26, 1876, to June 30, 1878, the percentage of scabies to other cases of skin disease seen was a little over three-tenths per cent., during the last dermatological year it rose to over thirteen per cent. During the past year I have asked the patients with regard to the number of similar cases in the same family or household which I had not seen, and, as a result, have 110 cases recorded as existing in addition to the 160 seen. These make, with six that I have seen in my private practice, 276 cases of scabies that have come under my cognizance in the past year. Up to three years ago, I had never seen a case of scabies in private practice. Those that I have seen since belonged to a class in which one would not expect to find this disease. From one of them I learned that in a neighboring small city the disease had become quite prevalent in an upper and decidedly exclusive social circle, affecting ladies, as well as men, and it seemed pretty evident that a very popular young gentleman had been the innocent source of the epidemic, he having brought the disease home with him from a yachting trip.

Considering the contagiousness of this disease, the fact that it is by no means self-limited, and the free circulation which exists between our cities and the county districts, the existence of such a number of foci of contagion might prove a source of serious trouble, especially if they were scattered over farms, in lumber camps or factories, where they would be brought in close contact with others, and where the disease would not be apt to be recognized. Since the end of our dermatological year, I have seen, in private practice, three more cases, two of them young gentlemen who had just finished their college course, and have incidentally heard of several others.

Scabies is, of course, not a disease that endangers the health of the community, nevertheless it is one that, if once well started, might be a source of infinite trouble and annoyance. If it should continue to increase, it seems to me that it would be well worth the while of our Boards of Health to take what steps they could towards controlling it. At least, some intelligent supervision of the children in our public schools might be attempted, and one of the most fertile sources of infection controlled. It would seem, however, that the increase of the disease has about reached its climax, as after an annual augmentation since 1881 yearly, from 0.8, 2 +, 4 +, 8, 12 +, last year it was 13 + per cent. Of the 549 cases seen, 339 were males, and 210 females, respectively, about 60 and 40 per cent. The ages of the cases seen were as follows:

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[1] Read at the meeting of the American Dermatological Association, August 25, 1886.

Under 1 year old, (1 each of 4, 5 and 6 mos., and 2 of 9 mos.)	5
Between 1 and 5 years,	26
" 5 " 10 "	65
" 10 " 15 "	75
" 15 " 20 "	95
" 20 " 30 "	182
" 30 " 40 "	62
" 40 " 50 "	23
" 50 " 60 "	12
" 60 " 70 "	3
70 80 "	1
	549

From this table it would appear that the disease is essentially one of childhood and early adult age, very nearly four-fifths of the cases, that is, 417 out of 549, occurring in patients between the ages of 5 and 30, and that after 50 it is comparatively rare, as only 16 cases were seen who were over 50 years old. This seems to be rationally explained by the fact of the epidermis in advanced life becoming harder and dryer, and consequently not being so well suited for the nourishment and propagation of the acarus.

The class of the community from which the bulk of these patients have been drawn, has been a matter of interest and surprise to me, it not having been that which one would expect. The children, as a rule, have been scholars in the public schools, and that is natural enough, but they have, with few exceptions, belonged to rather the better class of public school pupils, that is to say, they have been nicely, or at least cleanly dressed. The adult females, with the exception of some girls who worked in rooms where several of them were brought in contact with each other, were mothers of families, who had probably been infected by their children or husbands. The adult males have been, almost without exception, artizans or mechanics of the better class. Certainly the classes of tramps, beggars and low prostitutes have been conspicuous by their absence from the list of those seeking treatment for this disease. In most of the cases that were not married, both male and female, there was generally the history of a room-mate, if not a bed-fellow, and I have no doubt but what the spread of the disease is in a measure due to the custom which young people, who are working for a living, have, of diminishing their expenses by sharing a room in common. One of the points that has struck me as most marked in the cases I have seen, is the comparative rarity of typical burrows. When I say comparative, I mean as compared with the cases I have seen in Vienna, Paris and London. I do not think I am at all overstating it when I say that even in well-developed cases of scabies, it has been decidedly the exception when I have been able to find a good specimen of a burrow. Whether this shows that our patients wash their hands more frequently and more thoroughly than those abroad, I am not prepared to say, but of the fact I have no question. The wrist, on its flexor side, in the fold of the skin made at the ulnar-carpal articulation in the vicinity of the styloid process, has seemed to me to be a more constant territory on which to find, if not burrows, at least the characteristic vesicles than even the classic region between the fingers. In the male subject the penis furnishes a most important field for examination. In a case that seemed to be at all fully developed I should consider the presence or absence of efflorescences on this organ as a most important diagnostic sign. The lesions found there are also very characteristic. On the shaft, or anywhere on the prepuce, I have seen perfect burrows oftener than any where else. As a rule, the lesions are papules, which may have a burrow on them, or may have become pustular or may be simply red papules, with a perfectly smooth and unbroken surface. I have, on the other hand, seen in this situation serpentine burrows without any signs of congestion, or exudation. In subjects where the glans is uncovered, papules may be found on it, which sometimes are pustular, but I have never seen a burrow on the glans, nor have I ever seen any efflorescence due to scabies, on a glans which was habitually covered by a long prepuce, that is, where the integument of the glans was a true mucous membrane. It was owing to the existence of these lesions on the penis that several patients came for medical advice, thinking that they had some venereal trouble, some of whom had already been put on constitutional treatment for syphilis. In spite of the most careful searching, I have never been able to find anything resembling a burrow outside of the region of hands, wrists and penis, except in cases of infants, on whose feet, especially in the vicinity of the ankles, I have seen very typical ones.

The secondary, if I may use the term, or artificial, lesions in scabies, that is those that are caused by scratching and rubbing, vary in the different regions of the cutis on which they are developed. This difference, although perhaps only one of degree, is pretty constantly seen in most cases. The regions most likely to show these lesions, are, the forearms, especially about the elbow, over the supinator muscles, the gluteal region, the abdominal walls, the anterior aspect of the thighs, and the lower leg. Given a general irritation of the skin, these regions, in the order named, are certainly the easiest to scratch. This is especially true with regard to the elbow, and in point of fact, it is in this locality that the result of irritation is most manifest. In this situation we frequently see a patch of crusty eczema, exactly like that observed on the cheeks or forehead of infants. In the gluteal region the scratching is more likely to cause single lesions, more like impetigo, even approaching a furuncular character, while on the anterior aspect of the thighs and lower legs, as is also the case on the abdominal walls, the lesions consist of small papules the apex of which has generally been scratched off.

I take it that the reason of constantly finding an eruption of an eczematous character about the elbows, is that from its situation it can be scratched or rubbed by day as well as night, but that the scratching is generally done outside of the sleeve, whereas in the other regions mentioned, at least during the night, the finger-nails get at the bare skin, and excoriate the raised papules. The aggravation of the itching after going to bed is one of the most constant symptoms complained of. It is generally ascribed to the heat of the bed-clothes, but I think that is not the only factor. Patients will state that any violent exercise, or getting heated in any way, will increase the pruritus, but not to the extent to which it is aggravated nightly on their retiring. It seems to me perfectly plausible to assume that during the night when the patient is quiet and seeking sleep, would be the time when the acari would be most active in getting their nourishment and moving about. Perhaps, also, the ease with which the itching regions can be scratched at this time, should be taken into consideration.

Be this as it may, the fact of the cutaneous irritation being decidedly increased after going to bed, is a very constant and important diagnostic sign. Any practitioner of medicine who has seen many cases of scabies, will in the great majority of those that are brought under his observation make his diagnosis from the general appearance of the case, that is to say, he will say to himself, this is a case of scabies, because it is, exactly as when we see a horse, we know it is a horse, and do not go through the process of deciding that it cannot be a cow because it has no horns, or a pig, because its hoofs are not split, etc.

Cases do occur, however, where the diagnosis is not so easy, and the ability to differentiate it is important. During the past two years I have seen several cases which I have diagnosticated, treated and cured as scabies, which if I had seen ten years ago when the disease was comparatively rare, I should not have recognized. As the disease is by no means a self-limited one, and each case is a possible or even a probable source of contagion to those who are brought in contact with it in early life, it certainly is a matter of considerable public importance that it should be diagnosticated and cured, and luckily it is one of the unfortunately few diseases that we can pretty confidently claim to be able to cure. That personal cleanliness, bathing, change of linen, etc., act as prophylactics, I suppose we must admit. I have no question but what I myself had a slight attack of scabies during the past winter. I had seen and handled many cases, and had handled them pretty thoroughly, as I was anxious to see if I could find any burrows in the general integument. I certainly had a great deal of itching between the fingers and about the wrists, and at night I scratched myself so as to make decided lesions on my forearms and shins. I never could find any characteristic appearances and just as I had made up my mind to treat myself, the symptoms gradually disappeared, as I believe, simply from the use of soap and water, in my daily bath. On the other hand, I had quite recently seen a young Harvard graduate, decidedly a swell, who tubbed it as much as any anglo-maniac and probably changed his linen daily, who was suffering with a very generally-developed case of itch.

In a few instances I have seen what would lead one to suppose that a personal susceptibility might have some influence. That is to say, I have seen two mothers of families of several children, all of whom had the disease, and yet the mothers escaped. I also have seen a child out of a large family affected, free from the disease although it was thrown in with the others, and in one instance, slept with an infected member of the family.

The finding a burrow in any suspected case, of course settles the diagnosis, but in my experience the cases in which this can be seen are not common. The distribution of the manifestations of the disease is what *we* have to fall back upon, and this is usually quite characteristic. If burrows are not to be seen, small vesicles, which are almost as characteristic, will be seen between the fingers on the ball of the hand, and at the wrist, with more or less lesions on the forearms, abdomen, gluteal regions and legs, according to the duration or severity of the attack. The condition of other members of the family is important, and the nocturnal aggravation of the itching should be taken into account. With regard to differential diagnosis, scabies might be, and without doubt, often is, confounded with any of the cutaneous diseases which have pruritus as a prominent symptom, and strange to say, its manifestations on the cutis, have in several cases which have come under my observation, been taken for those of syphilis, in which the absence of itching is universally noted. This mistake has been made not only by the patients, but by physicians, whom they had consulted. One would suppose that the irritation of the skin produced by the presence of vermin, that is, pediculi vestimentorum, would be very much of the same kind as that due to the presence of the acarus. The manifestations, however, of these two parasites are quite distinct, and can be easily recognized. The chief difference is to be found in the locality where the results of the irritation are seen. The body-louse, having its habitat on the clothing, irritates that part of the skin with which the clothes are most constantly in contact, that is to say, the shoulders, breast and waist — the uncovered hands not being affected at all. I should say also that the lesions, produced by scratching in cases of pediculosis, have decidedly a greater tendency towards a furuncular inflammation, and the pigmentation of the regions affected is much more marked. It is difficult to form an idea as to the comparative degree of itching from the account given by the patients, but I certainly have never seen the deep excoriations made by the finger-nails in cases of scabies that I have in patients infested with body-lice. As my figures have shown, the aged are comparatively exempt from scabies, whereas the victims of pediculi vestimentation are, as a rule, well along in life. I have been very much astonished by the fact that I have never seen a patient who was afflicted by the itch and body-lice, simultaneously, as one would suppose that the same influences that would expose them to the contagion of the one, would also to that of the other, that is to say, lack of cleanliness, and being thrown in contact with people of similar habits.

It is not easy to determine sometimes whether we have a case of commencing scabies, or one of hyperæsthesia or pruritus. As in cases of general pruritus the regions most easily scratched show most the results of scratching, we find in them the forearms, abdomen, gluteal regions and legs excoriated, very much in the same way as we do in cases of scabies. These cases however, are usually found in old people (pruritus senilis), where the age would be against scabies, or are due to a retention of the biliary secretion, in which case we should have the icterus to guide us.

I will not take time to refer to the differential diagnosis between scabies and urticaria, acute papular eczema, prickly heat, etc., but will merely say that scabies ought to be recognized (although my experience would show that it by no means always is) by the fact of lesions being found between the fingers, on the ball of the hand, and wrists, if not characteristic burrows, at least small vesicles; by the presence of characteristic lesions on the penis in the male subject; by the existence of secondary manifestations on the forearms, buttocks, abdomen, thighs and legs, more or less developed, as the case is of longer or shorter standing; by a decided increase of discomfort in the way of itching during the night, and by the fact that others who are thrown into intimate relations with the patient, are similarly affected. That it is important that it should be recognized and treated, I do not think that there can be any question of. I have been very much surprised by the success of treatment in these cases. It has been so successful in my dispensary work that I have, as a rule, used the same method in private practice. The formula that I have used is the old sulphur ointment that Hardy introduced years ago at the St. Louis, one part of carbonate of potash, two of sulphur, and three of vehicle, for which I have taken petroleum ointment instead of lard, and I can not help thinking that its efficacy has been increased by the change. The objection to the use of sulphur is, of course, its irritating action on the eczematous and pustular secondary eruptions. I have, however, used it in the great majority of the five hundred and forty-nine cases I have seen, and with very good results. We were, until a couple of years ago, only allowed at the dispensary to order a half ounce of ointment, but now we can dispense two ounces. When one thinks of what two ounces will do in the way of treatment for a patient who is pretty well covered with the eruption, it certainly seems extraordinary that very few cases prove obstinate, as has been the fact. My instructions are to grease the hands thoroughly and a hand's breadth above the wrists nightly, and to apply it on the lesions on the trunk and limbs here and there, avoiding however any pustular or excoriative regions. In private practice I have ordered oxide of zinc ointment to be applied to the eczematous patches, and, even without any treatment, as a rule, these heal rapidly when the sulphur ointment has been used elsewhere for a few nights; I also, of course, giving directions as to baths, use of soaps, etc. There are, of course, more elegant preparations, but this does not stain clothing, and does its work; in fact, one of the most interesting results of my observations of these cases of scabies has been the decided success of treatment. In speaking so decidedly as to the usual success of treatment, I do not wish to be understood, as regarding the disease a simple one to treat; on the contrary, I have been very much surprised at this success especially in a class of patients that are not of the most cleanly, and without doubt, many cases have relapsed, or perhaps not even improved much, which I never have seen again. I think that one of the most important lessons to be got from a study of scabies, is the great advantage that would be gained to the community if such patients could be thoroughly treated by skilled employees of the hospitals and dispensaries, to apply the topical treatment properly, and if baths could be furnished for them. These, and a skilled supervision of schools, factories, workshops, jails and even general hospitals, would certainly furnish a great help in controlling if not stamping out the disease. The other points of interest to me, to which I have attempted to call attention, are, the fact of the increasing prevalence of a disease that ought to be, as a rule, so easily recognized; the rarity of typical burrows; the constancy of characteristic lesions on the penis in male subjects, and the difference of the secondary manifestations, according to the region of the cutis, they are developed upon.

— A lady who lost $60.000 at Monte Carlo recently, committed suicide. This is said to make the seventy-sixth case of suicide, owing to losses at gambling, from the beginning of the present season up to about the middle of August. In the last eight years there have been 1,820 suicides at that place.

THE DUNBAR TRAGEDY: WAS IT A MURDER, OR WAS IT A SUICIDE?[1]

BY D. B. N. FISH, M.D., OF AMHERST, MASS.

This case came under the observation of a medical examiner in a county adjoining mine, and my interest in it arose from facts learned by me during attendance at the inquest.

If, in the view here taken of it, I differ from some of my medical brethren, it is done in no spirit of criticism, for I realize the fact that it will probably never be determined by positive evidence whether this was a suicide or a murder, and that every one who forms an opinion will do it from his estimate of the probabilities in the case.

About ten o'clock on the night of the 4th of July, when the sound of a pistol-shot would attract little attention, a man was found upon a side street of a populous town, lying on the ground; the face rested on its left side, the body on the chest and abdomen. At first it was thought he was drunk; soon it was found that he was dead. On examination, a bullet-wound, which was apparently the cause of death, was discovered in the back of his head.

At the autopsy it was demonstrated that "the bullet had entered the head just under the occipital protuberance and just to the right of the median line. The skull was splintered at the point of entrance of the ball. The bullet had passed from the point of entrance upward and forward, and slightly to the right, till it reached a point a little forward of the middle of the skull, from one inch to one inch and a half, to the right of the middle line; then it passed downward, forward, and to the left at quite a sharp angle, and was found in the brain substance over the sphenoid bone, about one and a half inches from the forehead. The skull at the point of entrance was very thick, solid and fine-grained. The left hemisphere of the brain was perfectly normal. The socket of the left eye was found to contain a large clot of blood. It was impossible that the bleeding caused by the bullet should have reached the socket of the left eye. The lids of the left eye were infiltrated with blood and the eye protruded from its socket. There was clotted blood in the left nares. There was no other marks of violence. The hair was not burned nor singed, nor were there any marks of powder on the scalp, the skin or the clothing. There was no abrasion of the skin about the eye or on the face. It was the opinion of all the physicians present at the autopsy that the injury to the eye was caused by a blow on the eye." It was thought that there was no fracture of the sphenoid, ethmoid or orbital plates. The right eye was normal.

Near the body, about three or four inches from the right hand, lay a revolver of a pattern called the "Defender," calibre-32, long; this held one metallic cartridge — a 32, short — and one empty cartridge-shell. To this revolver, by a peculiar arrangement which will be described further on, was fastened a strong hempen string, ninety feet in length. This string, or cord, passed under the right foot and was stretched out along the road for about fifty feet; it was attached to nothing but the weapon. In the left pocket of the coat were three cartridges similar to the one in the pistol. The coat and vest were buttoned. The two pocket-books usually carried upon the person were missing.

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[1] Read before the Massachusetts Medico-Legal Society, February 3, 1886.

From the stand-point of the medical examiner was this a murder or a suicide?

The entire absence of powder-marks, the location of the wound of entrance, the course of the ball through the brain, and the absence of the pocket-books would seem to point to the probability of murder, while the ninety feet of string was a mystery in any view of the case. The arrangement of this string can be reproduced in the following manner: Tie a long cord, about six inches from one end, around the handle of a pistol, just back of the hammer and trigger, with a hard knot directly underneath the pistol; bring both ends of the string up over the hammer and tie in a hard knot directly over the hammer; pull the string back till it slips off the hammer, and the string, with its loop, will be seen as it was found on the "Defender." This loop could not be passed over the trigger and used for firing.

That this pistol was fired within the ordinary suicide limit is disproved by the absence of the scorchings and brandings of the powder, unless it can be shown that some intervening substance had been used, or that it is possible to hold a pistol so closely to the head that no marks of the powder would be seen. One witness stated that a hat was found pressed well down upon the back of the head; others said the hat was on the ground near the body. This hat was missing soon after the tragedy, and was admitted to have been burned by a member of the family, but the medical examiner had assured himself that there was no bullet-hole in it, nor powder-marks on it. I do not believe it possible to fire a pistol so closely to the head that some of the gases will not escape and burn the hair, but if this were possible, some unburned powder would follow the ball into the brain. No grains of powder were found in the wound, and the conclusion is obvious that this shot was fired beyond the limit of the powder-marks. It would seem impossible that one could hold a pistol at such a distance, and fire it so as to send the ball into the back of the head with the upward and forward direction seen in this case. Professor Maschka, of Prague, is quoted, in the *Medico-Legal Journal*, September, 1885, page 228, as laying down the following rule: "Certain well-known appearances, such as burning, singeing, dark discoloration, and hardening of the parts close to the wound, *must* be present for a theory of suicide." This positive statement, taken in its full apparent meaning, would leave no ground for the further discussion of this question; but Caspar has shown that suicides sometimes arrange for shooting themselves at a distance, by means of a string attached to the trigger of a pistol, and I hope to prove that it is possible to shoot one's self with a pistol held in the hand at a distance beyond the limits of the powder-marks.

The black eye, with the extravasation of blood into the orbit, was considered the result of a blow over the eye, and, therefore, evidence of a murderous assault. The three cartridges in the pocket might have been placed there by a murderer to excite a suspicion of suicide, while the absence of the pocket-books seemed to indicate murder and robbery, rather than suicide.

What did the ninety feet of string mean? In the hands of a confederate, it might have served as a means of signalling that the way was or was not clear; or it might have been used to pull away the pistol after firing, in order that no weapon be found upon or near the murderer, should he be apprehended immediately after the shooting, or should miss his aim, or should be discovered and suspected before firing. It was not possible that the pistol had been fastened to the fence or the telegraph pole near by, and then fired by means of the cord by the man himself, for the blood from the bleeding wound of the head had not run down his body or his clothing, as it would have done had he removed any fastening of the cord or pistol after the fatal shot.

The hour and the place were each alike favorable for murder or for suicide. But if this was a murder, what was the use of the peculiar loop of the string on the pistol? By pulling back the hammer, the loop could be slipped over it and used to fire the pistol. The "Defender" has its half-cock so far back that such a loop will slip off the hammer just before it reaches the half-cock, and thus the hammer can be snapped down on the cartridge; but the force of the blow is so slight, that a cartridge can be fired only after repeated attempts. It is not credible that a murderer would use such a clumsy contrivance for firing, for the repeated snapping down of the hammer on the cartridge would be too much like sounding the burglar-alarm before attempting to break into a house.

It was suggested that the string might have been passed under the foot, and the pistol have been fired by the man himself, using the loop over the hammer. This also could be done, and the firing done with some degree of accuracy. Would any use of such a string enable one to hold and fire a pistol, with any degree of accuracy, at the back of the head, and this at such a distance that the powder-marks would not show? From former experiments of my own with revolvers similar to the one used, and from the teachings of the authorities, it seemed necessary that this pistol, with its .32-short cartridge, must be held at least twenty inches from the back of the head to be sure of escaping powder-marks upon some part of the head or neck (a conclusion which subsequent experiments with a "Defender" appear to verify); yet I was obliged to admit at the inquest that I could not then, either with or without the string, hold a pistol aimed at the back of the head at a distance greater than nine inches, and at this distance could not be sure of my aim. But later observation and experiment showed me a method of holding the muzzle of a pistol at even thirty inches from the back of the head with an almost absolute accuracy of aim. Held in such a way, the pistol could be fired by the use of the loop over the hammer, and the string under the foot without using the trigger, but this gave no advantage either in holding or firing the pistol, for it could be fired easier and more accurately by using the trigger alone. After experimenting for a week, I pulled the loop back and well down on the butt of the pistol, and used the string under the foot as a "guy-rope" to steady the weapon. The latter was cocked and held in the right hand at arm's length, with the muzzle pointed towards the head — somewhat as one holds a pen. The butt rested on the little finger, the handle was grasped firmly between the other fingers and the thumb, and the trigger pressed against the palm of the hand. Held in this way, a contraction of the hand, so slight as to be hardly noticed, would fire the pistol. This method of using the string furnished a rest for the weapon, and its great advantage was at once apparent. The aim would be made certain by aiming the revolver at the right eye, and then turning the head half-way round. The cord would keep the hand from moving.

Here, then, is a possible method of firing the pistol with great accuracy at the back of the head, from such a distance that the powder-marks would not show, and a method reasonably accounting for the use of the loop and string. All that seems necessary to establish the probability of this use of the cord is some evidence of such use. The shoes found on the body were worn, and apparently had been recently wet. On the sole of the right shoe (under the instep), and on the left side of the shoe, were creases which can be exactly imitated by steadying a pistol with a cord in the manner above described, held between the thumb and fore-finger of the left hand. There was no crease on the outer or right side of the shoe.

Perhaps it will not be out of place to say here that it was the sight of the loop on the cord and the creases on the shoe which led me to change my belief in the murder theory to the conviction that this was a suicide, although I could not then account for the absence of the powder-marks. I do not believe that these creases, so exactly like those appearing on my own shoe after using the cord in the way I have described, were accidentally caused by pulling on the string at the time of finding the body; the pistol would not furnish resistance enough to make so well defined a mark as was found on the bottom of the shoe.

Was there anything impossible or improbable in the location of the wound, or in the course taken by the ball, provided the pistol had been held and fired in the manner described? A pistol can be aimed and fired so that the ball will strike any given point in a line from the eye to the occipital protuberance. It could be so fired that, if the ball continued its direction after striking the skull, it would make a wound similar to the one found in this case, but to do this would require a position of the head and arm that would be unnatural and strained, and therefore improbable, because there could be no conceivable advantage in trying to give such a course to the bullet. The easiest and most natural method of holding a pistol, aimed at the right side of the back of the head, would send a ball from the right to the left side of the brain provided it was not deflected from its course. A conical ball, fired within a short distance, from a first-class revolver of medium size, will, as a rule, pass into and through the brain in a direct course, but military surgeons have recorded many exceptions to this rule.

This bullet was apparently fired from a very inferior weapon, the "Defender," which, like many of its class, will often, I may say generally, throw a ball so that it will strike wholly or partly on its side rather than on its end, and thus may make a large wound of entrance although fired within a few inches of the head. When such a bullet strikes a rounded and unequally resisting surface, like the region of the occiput, it will be very easily deflected. Considering these facts, it seems very probable that the weapon was held in the more natural position, while the ball, deflected from its original aim, took the course described. At any rate, the location of the wound and course of the bullet do not need a theory of murder to account for them.

I do not believe the condition of the left eye was necessarily the result of any murderous assault. Black eyes, as the result of accident, are so common, and the possibilities of accident in this case so great, that I believe the condition of the left eye might be safely ignored. It was thought by some, as I have said, to have been caused by a blow over the eye, inflicted by the murderer before the shooting, and was held to be one of the stronger evidences of murder; but this seemed to me improbable even when I believed in the murder theory. If it could have been caused by a murderous blow, so slight that it left no mark upon the face, it might equally well have been accidentally self-inflicted; or might have been caused by striking a stone or lump of earth on falling after the shot; or the men who first discovered the body and thought it that of a drunken man may have accidentally struck the toe of a boot against the eye before life was fairly extinct. Any of these things were possible, and, in my opinion, far more probable than the theory that it was a second wound inflicted by a murderer. To adopt the latter theory would be doing great injustice to a very skilful piece of work. If this was a murder it was done in accordance with a preconceived plan to make it appear a suicide, as shown by the use of the pistol of the victim (or at least one like it), by the string and its mark on the shoe, and by the cartridges in the pocket. A man capable of planning and executing such a master-piece would be very careful not to furnish gratuitous evidence of murder by inflicting an unnecessary wound of the eye, either before or after the shooting.

But there is another possible explanation of the condition of the eye which seems to me the most reasonable one, and this is that the extravasation of blood about the left eye was a part of the injury caused by the bullet. Ecchymosis of the lids with extravasation into the orbit of one or both eyes often occurs during whooping-cough, and has been seen after excessive vomiting. It is not infrequent after gun-shot wounds of the head, and has even been observed after a fall upon a carpeted floor. I have found but little written on the subject of "black eyes" from gun-shot wounds, and must confess that I find no record of a case exactly parallel to this in which the effusion of blood appeared upon that side alone which was apparently uninjured. In the "Medical and Surgical History of the War,"[2] are recorded several cases in which ecchymosis of the lids was noted. Among these is the case of an unknown soldier (page 204), who was found "with a penetrating fracture of both tables of the left parietal bone at the anterior superior angle . . . the right eyelid (was) ecchymosed. A puffy swelling existed in the right temporal region . . . death ensued the same evening." In the absence of any record of autopsy it cannot be known what, if any, injury was done to the right side of the head by the ball, but the case is of interest as showing the absence of ecchymosis of the eyelids on the side known to have been injured, and its presence on the other or right side.

Lieut. Lilycrantz (page 193) "was wounded by the discharge of a pistol at a distance of about four feet from his head. The ball perforated the os frontis over the right supercilliary ridge. . . . A probe, five inches long, glided easily, by its own weight, its full length directly backward through the wound without coming in contact with the ball. . . . There was considerable extravasation in the cellular tissue of the eyelids and the pupils were dilated." In this case the ball penetrated the *right* side of the brain while the lids of both eyes were ecchymosed.

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[2] Part I, Surgical Volume.

The case more nearly parallel to the one under consideration is that of President Lincoln (pp. 305, 306). The ball entered the head "about one inch below the superior curved line of the occipital bone and an inch and a half to the left of the median line of the same bone. . . . Over the left eyelid there was slight ecchymosis." This was followed by "excessive extravasation into the orbits, accompanied by great ecchymosis of the eyelids." At the autopsy it was found that "the ball entered through the occipital bone about one inch to the left of the median line and just above the left lateral sinus which it opened. . . . It then penetrated the dura mater, passed through the left posterior lobe of the cerebrum, entered the left lateral ventricle, and lodged in the white matter of the cerebrum just above the anterior portion of the left *corpus striatum*, where it was found." This was about six inches from the entrance wound. "The ventricles of the brain were full of clotted blood. A thick clot beneath the dura mater coated the right cerebral lobe. There was a smaller clot under the dura mater of the left side. . . . Both the orbital plates of the frontal bone were fractured, and the fragments pushed up toward the brain. The dura mater over these fractures was uninjured. The orbits (were) gorged with blood." In regard to this fracture of the orbital plates, Dr. Otis quotes, with approval, the opinion of Prof. T. Longmore, of Netley, from which I make the following extracts: "The ball did not strike the anterior part of the cranium yet the orbital plates of both orbits were found to be the seats of comminuted fracture. . . . This double fracture was decided to have been caused by contre-coup. If the term contre-coup be limited to its precise signification of counter-stroke, that is, the impression made by the stroke on the part of the cranium opposite to that directly struck by the ball, will the force of contre-coup explain the fractures in this instance? . . . I am inclined rather to attribute the lesions mentioned to a transmitted undulatory stroke or sudden impulse of the brain-substance itself, against the thin bony layers constituting the orbitar plates." "The unusually thin orbital plates on either side," says Dr. Otis, "were exposed to the impulse of the cerebral pulp. Even if they were not fully protected by the dense supra-orbital ridges, it might be inferred that the force would be transmitted mainly to the right orbital region, or that opposite the entrance perforation. Whereas *both* orbital plates were fractured. That the fragments inclined upward toward the brain rather than downward and forward, was probably due to the pressure of the blood extravasated within the orbits."

It will be remembered that in the case which forms the subject of this paper, the ball struck against the right side of the vault of the cranium and was deflected sharply towards the left hemisphere of the brain. If the medical examiner had not assured himself that there was no fracture of bone at any point other than that of entrance, the condition of the left eye might have been easily accounted for on the theory that the force of counter-stroke, or if, with Dr. Otis and Professor Longmore, we reject this, the impulse given by the ball to the cerebral pulp had fractured the sphenoid, or the orbital plate of the left, if not of both orbits. It is possible that the effusion of blood appeared first in the left eye because of the position of the body, and that it might have appeared later on in the other had it not been checked by the advent of death. It will be remembered that in the case of President Lincoln, who lived nearly nine hours after the receipt of his injury, the ecchymosis appeared first over one eye, while *both* orbital plates were broken. If, in the case under consideration, we must exclude any fracture of bone, can we not safely admit the possibility that the impulse of the bullet upon the brain-substance may have ruptured some minute branch of the ophthalmic artery and thus caused the hæmorrhage?

Having shown, as I think, that every feature of the injury to the head could be produced by a suicidal shot, it is time for an estimate of the probabilities of the case. I can not see an objection to the suicide theory that does not bear with equal weight against the theory of murder. The former seems consistent in all its parts, while the latter seems inconsistent and in some of its requirements apparently impossible.

On the theory of suicide this man, who was known to be possessed of remarkable ingenuity, who had a few months before purchased a pistol and cartridges similar to those found on the body, who is reported to have asked when buying the pistol: "where can a man shoot himself to cause instant death?" and to have been told "in the back of the head;" — this man determines to commit suicide, and to do it in such a way as to make it appear a murder. He arranges the string on the revolver in such a way that he can shoot himself from a distance that will excite a suspicion of murder, not necessarily knowing that he could fire it beyond the limits of the powder marks. He loads his pistol with two cartridges and puts three in his pocket. He starts out and is seen on the street, but suddenly disappears from the road, or, rather, is not seen to pass a house a little further along his route; he has turned off the road to leave his empty pocket-books, folded and clasped, in plain view in the rear of a building. Perhaps he here receives an accidental injury to the eye. He then goes down to a less frequented street, drops the loose end of the string and unwinds it as he goes. Now he cocks the revolver, holds it directly out from the shoulder at arms' length, adjusts the cord and makes it taut by an almost involuntary up-and-down movement of the hands which causes the cord to crease his shoe, takes his aim by the starlight, for it was starlight, or possibly by the phosphorus from a match rubbed on the top of the barrel and sight of his pistol, turns his face over the left shoulder, presses the palm of his hand against the trigger and the deed is done.

I have been told that this scheme is too ingenious to be credible, but *somebody* thought of this method of using the string before the officers of the law came upon the scene, and if that somebody was a murderer, he had a plan which involved all this and much more. This murdered man must appear to have committed suicide, but there must be evidence on and about the body to make it appear that he had endeavored to simulate a murder. The pistol of the victim by his side, the string with its loop, the buttoned coat and vest, and the creases on his shoe (to be made after the man had fallen), will excite a suspicion of suicide, while the absence of the powder-marks will indicate that he has attempted to simulate a murder by shooting himself at a distance. How much more simple and safe to have placed the weapon to the man's head and fired. His own pistol by his side, the three cartridges in his pocket, and the buttoned coat and vest would have pointed strongly to suicide.

I have not introduced here the supposed blow upon the eye, for I do not see where, in the theory of murder, it can come in with any degree of propriety. No man holding a loaded revolver in his hand, with the intent to shoot his victim in a comparatively public place, would first knock him down, and then stand off and shoot him from a distance. If this was a murder, the assassin, after taking incredible pains to make it appear a suicide, would never have placed the empty pocket-books where they could be easily found, and thus, by his own act, arouse a suspicion of murder.

If we adopt the theory that this was a murder, with no attempt to make it appear a suicide, we have to account for the pistol owned by the victim, for the loop on the string, for the creases on the shoe — so unlikely to have been produced by accident — for the buttoning of the coat and vest at the risk of safety, after rifling the pockets, and for the folding and clasping of one, at least, of the pocket-books after taking what little money might have been in them.

I believe that the medical examiner would have been justified in reporting this as *a case of probable suicide, but one which demanded a legal investigation.*

At the inquest it was shown that the deceased was in straitened financial circumstances, and that he had an insurance on his life of $66,000.

In his summary of this case, Judge Tucker said: "It seems clear that this death was either a murder, accompanied by an attempt to make it appear a suicide, or a suicide with an attempt to make it appear to be a murder. A careful consideration of all the facts compels me to the conclusion that Mr. Dunbar committed suicide. This theory explains all the facts but one — that exception is the injury to the left eye. The evidence leaves it doubtful whether this injury was inflicted by a blow, or was the result of the shock of the bullet-wound. If the latter theory is true, then it is not inconsistent with suicide; if the former, then suicide seems impossible."

It hardly seems probable that the judge intended to exclude the *possibility* that the injury to the left eye was caused by accident, and when he says: "If the former theory — that this injury was inflicted by a blow — is correct, then suicide seems impossible." I must suppose him to mean a blow from the hand of an assassin.

The verdict was that Mr. Dunbar "came to his death by a bullet fired from a pistol, which bullet entered the back of his head, and that said pistol was discharged by his own hand."

REPORT ON THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

ERYTHROXYLON COCA AND ITS ALKALOID COCAINE.[1]

Cocaine paralyzes the sensory nerves by direct action on the terminal filaments; and later on abolishes reflex action by like effect on the posterior columns of the cord. If injected directly upon a nerve-trunk (and this is well worthy of careful notice), it paralyzes its whole distal distribution. It stimulates the respiratory centres, but death is due to asphyxia, the heart continuing to beat after breathing has ceased.

The peristaltic movements of the intestine are increased, thus acting as a mild aperient. It has no appreciable effect upon the voluntary muscle, but its action on unstriated muscular fibres is yet undetermined.

Bosworth has noticed that the drug causes very notable contraction of the nasal corpora cavernosa, "the local application over the whole membrane covering the lower and middle turbinated bones causing these sinuses to become so rigidly contracted that all the blood which they may have contained is absolutely expelled and the membrane clings closely to the bony structures, which then become visible in absolute outline."

This he has confirmed by repeated observation, and has concluded cocaine "produces rigid contraction in unstriped muscular fibres." If this is so the contraction of the capillaries, as well as the sinuses may be due to direct action on their muscular coats, a method which, if I remember right, is shared only (though with paralyzed effect) by amyl nitrite. As the erectile tissue is dominated by the sympathetic, the whole phenomena, however, are fully explained, by the established action of the drug upon that nerve.

Locally applied it has slight (if any) effect upon the skin, unless denuded of epithelium. Superficial injection causes anæsthesia of the surrounding tissue to the extent of two or three inches, but deep injections affect the skin to a much less degree. When thrown down upon a nerve-trunk, while it affects the distal distribution, the centric portion, even a short space (immediately ?) above the point of puncture, is uninfluenced. Dr. Corning has found when the local circulation, in a part into which a solution of cocaine has been injected, has been arrested either by an Esmarch bandage or a tourinquet, the insensibility induced by the drug may be greatly prolonged, as thus the solution of cocaine is kept in contact with the filaments of the sensory nerves. When painted upon the mucous membranes, the tissues become paler and thinner, secretion is diminished and sensation is completely annulled, the effect being greater at the actual point of contact of the drug, and is in proportion to the strength of the solution used, and up to a certain point of the number of applications made. May this not be up to a limit of topical absorptibility (saturation)? It renders the conjunctiva and cornea completely insensible, the ischæmia of the former being well marked, whilst it passes through the latter into the anterior chamber, as fluid extracted therefrom produces similar effects upon the other eye. "In eye under cocaine intra-ocular tension is decreased, and mydriasis is increased in a bloodless eye."

It dilates the pupil by local stimulation of terminal fibres of cervical sympathetic (the mydriatic nerve), and not by paralysis of motor oculi nor of circular fibres of iris. The degree of dilation seems to vary. Knapp, of New York, reports "pupil scarcely ever become as large as with atropine."

"Accommodation is not wholly lost, the range of accommodation being shortened by recession of the near point from the eye, the far point not being appreciably influenced," its action being more upon the ciliary muscle than upon the iris (Knapp.)

As a corollary to its contraction of the capillaries, the drug may yet develop useful qualities as a hæmostatic.

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[1] E. W. Holmes, M.D. Therapeutic Gazette, August 16, 1886.

The contradictory reports of the action of the remedy may be reconciled, I think, either by exceptional idiosyncrasies, or from imperfect or insufficient methods of application, or from the use of inert preparations.

It should also be remembered that cocaine, being a product of organic chemistry is liable itself to deterioration, microscopic growths nourished by the alkaloid destroying its efficacy, boric or salicylic acid being the best preventives of this change. The leaves also contain another principle, "hygrine," an active mydriatic (though cocaine seems to produce mydriasis independently of hygrine), also ecgonin, coca tannin, and coca wax, whose effects, but slightly known to us, may yet modify our conclusions. Those who are interested in chemical analysis would probably be gratified to know that the formula for cocaine is $C_{17}H_{21}N_4O_4$, whilst in chemical terminology cocaine is a "methylbenzomethoxyethyltetrahydropyridinecarboxylate, whilst the impurity ecgonin is merely a methoxyethyltetrahydropyridinecarboxylic acid." Mack has succeeded in transforming benzoyl ecgonin into cocaine by heating several grammes with iodide of methyl and methylic alcohol, and then evaporating. The product conforms to all tests of genuine cocaine. Some of the samples used have been found to be adulterated with eserine. The fatal dose to man has not yet been reached. Twenty grains taken with suicidal intent, produced vertigo, unsteadiness of gait, headache, nausea, vomiting, burning thirst and abdominal gripings, all of which passed off in twenty-four hours.

I have applied from fʒiv to fʒvii (gr. 15⅖) of four per cent. solution to my own buccal pharyngeal and nasal mucosa in the course of four hours, and frequently less amounts to myself and others of same strength. In the smaller amounts, say ʒii, there is a rather pleasing sedative effect, a sensation of well-being and well-doing, of content with yourself and your surroundings, which is sufficiently marked to afford a ready inducement to further appliance. This sedation has never with me run into somnolency, though others on whom I used small amounts *seemed* to experience such result, whilst in children, relieved by cocaine from toothache or earache, sleep, I think, naturally followed the freedom from pain. In the larger amounts there is to myself a sensation of intense cerebral activity, with augmentation of thought-processes, and especially with stimulation of imaginative perceptions and fancies, and I must confess there is a certain witchery which is apt to entice one to further indulgence. Sleep is totally abolished, whilst the continued application induces the rather actual wakefulness, with further a degree of restlessness, which finally becomes almost painful.

There is also vertigo and nausea, going on to vomiting once after ʒiss, and again after ʒv had been used, and very decided tremor of the voluntary muscles interfering somewhat with the use of the pen. The skin is covered with profuse cold clammy perspiration; the pulse is bounding (120), beating full and strong; the brain is on fire, and throbs with unnatural excitement. In fact, after using the ʒvii from eight to twelve, one evening, I could only break myself from its further use by decided effort, and could not compose myself sufficiently to go to bed till about 4 A.M., where I tossed with little sleep till my usual hour of rising, and in the forenoon endured an intense prostration it has seldom been my lot to experience, which by noon compelled me to abandon my daily rounds and return home, where two or three hours' sleep restored my pristine vigor and appetite. I can appreciate now, as never before, the glamour of opium and cannabis indica and the wretchedness of after-repentance. The loss of appetite is well-marked even with smaller amounts, and this is not at all satiety; the repletion of a Thanksgiving dinner, but with slight nausea, a disgust of food, which prohibits hunger, though there is not "the hollowness" of simple abstinence from food. So far as these practical trials on myself go, I would, in view of endurance of excessive fatigue, rather depend on the latent energy of something (to me) far more substantial than cocaine. It should be remembered the above is practically overstimulation — the sudden thrust of an excess — upon an organization unused to any stupefacient, whether in the form of opium, tobacco, or alcohol; ʒi of four per cent. solution contains about gr. 2⅕, mxiii of four per cent. solution contains about gr. ⅛, whilst a handful of leaves, say ʒi, only gives up gr. $\frac{8}{10}$ of the alkaloid. The dose by the mouth is gr. ⅙ to gr. ½.

The rapid sketch I have given must suffice for the most part as indication of the range of usefulness of the drug. I cannot, however, too strongly urge that the anæsthetic effects are purely local, even that upon the nerve-trunk, and the slight or negative effect upon the skin coming under this category, and that to secure the best results, sufficient care must be exercised to convey the solution to the parts indicated. It has been used successfully in operations upon the inner surface of eyelids and tear-passages, and on the eyeball in iridectomy, operations for cataract and glaucoma, and even in enucleation. As a number of failures to induce complete loss of sensibility in the last-mentioned use have been reported, allow me to add emphasis to my caution by a quotation of Turnbull's *modus operandi:*[2]

"In a case of enucleation, two drops of four per cent. solution of cocaine were instilled every three minutes until eight had been used. When Tenon's capsule was opened, one drop of the solution was allowed to flow into the cup. As each tendon was caught up in the hook, a drop fell upon it, and the successive tentomies, each being preceded by a drop, were made at deliberate intervals. The large blunt-pointed scissors, curved on the flat, were next introduced from the nasal side, and with these in position, after thorough sponging, two or three large drops were so instilled as to flow down the blades, one on each side of the optic nerve as a guide. After waiting a minute, the optic, and with it the ciliary nerves, were severed at one stroke, during which the patient remained entirely quiet. There was less than the usual bleeding, and the healing was undisturbed." (Knapp, p. 26).

Outside of ophthalmology, the field is too extended for individual mention. The journals are replete with notes of cases. Some of the less obvious may be given a passing notice. Thus it finds a favorable application in acute atitis media, in removal of small tumors from various parts of the body, and in the lancing of abscesses.

Papilloma of the larynx has been successfully removed with its aid, and operations for fistula in ano, vesico-vaginal fistulæ, and lacerated cervix and perineum have been painlessly performed. Dr. C. H. Thomas, of Philadelphia, claims for it the property of reducing inflammation and engorgement of the tissues in diseases of the endometrium.[3]

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[2] Med. and Surg. Reporter, November 9, 1884.

Circumcision has also been equally satisfactorily done. The mucous surfaces of the prepuce being first carefully cleansed, then slightly moistened, cocaine, in powder, is dusted on the surface to obviate pain from first stab of the needle, then hypodermics are given (four per cent. solution), four minims on dorsum, near frænum, and on each side (sixteen minims in all). Even a hydatid tumor of the liver has been opened and emptied under cocaine. In this case the patient was seventy-two years old, and ether was contraindicated by his general condition. Four per cent. solution was rubbed in for half an hour. Skin and subcutaneous fat passed with trivial pain. Fresh applications were necessary as muscles and peritoneum were reached. The operation lasted an hour. No shock and no peritonitis followed. Patient died on twenty-second day after operation, from inanition due to complete absence of bile from the alimentary canal. Soon after eating, the flow of bile from the sac was very great. The autopsy showed no peritonitis.

The dysphagia and violent irritative cough of laryngeal phthisis have been ameliorated, thus giving us some control not hitherto possessed over these distressing symptoms, though not the complete mastery we were led to hope for. The relief of cutting pains of first stage of labor has followed its application to tissues about the cervix, whilst its endermic use has enabled the painless passage of the head through the actium vaginæ. In senile gangrene, its application has relieved the severe pains of that dangerous disease.

In confirmation of the action upon the nerve-trunk, Dr. Nash, of New York, injected mx viii of four per cent. solution as near as possible in the infra-orbital foramen, reached through the mucous membrane of the mouth. There was complete anæsthesia of the left half of the upper lip and cheek, on both the skin and mucous surfaces; also a portion of the nose and left side of lower border of the gums, from the median line beyond the bicuspids. He inserted a gum wedge very firmly, causing no pain, and excavated and filled the tooth without giving the patient a sensation of pain, although before the injection the tooth was exquisitely sensitive. A similar result followed injection of eight minims into infra-dental nerve at point of entrance into ramus of jaw. An epithelioma has been treated by arsenical paste, the patient being readily able to endure its caustic action by reason of the remedy.

In leaving this part of my subject, I trust it has been well noted that the drug is not too rapid in its action, and that time should be given between successive applications for the preceding to take effect. Of cocaine, when taken by the stomach, I have little to say, my own experience beyond operative measures, and for irritative cough being designedly limited to its local use in hay fever, of which I have spoken elsewhere.

The fluid extract is reported to be a valuable adjunct for treatment of the morphine habit, but is not a specific. Cocaine is said to dilate the pupil contracted by morphine, and to allay the morphine hunger. In chronic alcoholism it is also serviceable, though a case reported to the Mississippi Valley Association of its treatment by gr. 1-5, hypodermically, was followed by cocaine habit, the patient using gr. x daily.

The irritation, when used hypodermically, is not greater than that from morphine, mxx to xv (four per cent. solution), usually causing no constitutional symptoms beyond vertigo, pallor, and dilatation of pupil, whilst larger ones may cause nausea and vomiting also. The effect of the drug lasts according to the strength of solution, and number and efficiency of applications. It would not be strange in a remedy of such marked peripheric force, if investigation would show a further centric impression than is at present accorded to it, but of this additional observation is necessary.

In the later journals, reports of ill effects have not failed to appear. It is said exfoliation of the corneal epithelium, vesicular keratitis, lasting several weeks, and panophthalmitis have succeeded its application. In other cases, general intoxication, nausea and vomiting, lasting an entire day, stumbling gait, syncope (cerebral anæmia ?), pallor and sweating, loss of consciousness, and convulsions are said to have ensued.

In one case that came under my own notice, the use of upwards of f℥i (four per cent.) applied to the nostrils was followed by a disagreeable dyspnœa (over-stimulation of respiratory centres), lasting a considerable time.

Whilst it is by no means established that all the above are surely chargeable to the drug, there is enough to make us watchful and by no means indifferent to the possible results, even though the more grave effects may be exceptional; may be from excessive quantity or from individual idiosyncrasy.

It may be worth mentioning in passing, that the case of poisoning from gr. x hypodermically,[4] resembling morphine-poisoning, is not free from suspicion, owing to the large amounts of alcoholic stimulus injected.

A number of instances of addiction to the excessive employment of the alkaloid have already been reported in our own country. Whilst we are not justified in jumping at any conclusions upon the evidence thus far presented, we are indeed urged the more to greater caution in its prescription both for others and ourselves, with added emphasis to the old adage "A man his own lawyer has a fool for a client."

Dr. Charles N. Dixon Jones, of Brooklyn, writes to the *New York Medical Record*, July 3, 1886, as follows:

"Gastric lavage is rapidly becoming our most reliable treatment in chronic dyspepsia and gastritis. In order to avoid some of the disagreeable features attending this operation, I have resorted to the following expedient: About fifteen minutes before commencing the operation the patient is allowed to hold in his mouth a piece of absorbent cotton saturated with a four per cent. solution of hydrochlorate of cocaine; in a few minutes the palate and fauces are painted with the same solution. The stomach-tube is lubricated with a mixture of olive oil, oil of wintergreen, and cocaine, after which it may be introduced and the stomach irrigated without that disagreeable vomiting of the tube and efforts at gagging which frequently attend the operation. I have adopted this method in some of the most trying and difficult cases, and always with the most happy result."

Bockharb recommends in the *Monatshefte für Praktische Dermatologie*, No. 2, 1886, cocaine as an efficient remedy for the painful tumefaction of the gums occasionally observed in the course of a mercurial treatment. A ten to twenty per cent. solution of the hydrochlorate of cocaine is to be brushed over the affected part several minutes before mealtime. If the mucous membranes present (mercurial) ulcers, a five per cent. solution of cocaine suffices. The brush is to be disinfected with carbolic acid after having been used, as the solution would otherwise soon undergo decomposition through the agency of the bacteria of the mouth.

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[3] Am. Journ. Obstet., February, 1886.

[4] Medical Record, November, 1885.

STROPHANTHIN.

Professor Fraser,[5] after a careful study of the action and uses of this substance, has published a very interesting and valuable account of his experiences as well as the excellent results of its use in a number of cases. He is of the opinion that if a substance could be obtained which exerts a more powerful action upon the heart, and at the same time produces fewer secondary actions, it is not improbable that therapeutic experience would prove it to be a valuable substitute for digitalis, and would even place it in a higher position as a remedy than that substance. This anticipation is to some extent supported by the examination of strophanthus (hispidus?) which is used in equatorial Africa as an arrow poison. The seeds are very active, and, when coarsely ground and formed into a paste, they constitute the poison with which the arrows are smeared. When examining the chemical properties of the seeds Professor Fraser easily separated a crystalline body, having a strangely bitter taste, readily soluble in water, of a feebly acid reaction. It does not contain nitrogen, and when heated with dilute sulphuric acid it yields glucose and a body insoluble in water.

The pharmacological action of strophanthus appears to be an extremely simple one, and may be described by calling it a muscle-poison. However introduced into the body, it increases the contractile power of all striped muscles and renders their contractions more complete and prolonged. As a result of the action on muscle, the heart is powerfully affected.

The changes which occur in the heart's action are the ordinary changes that have been frequently described in the case of digitalis, and they are accompanied by a rise in blood-pressure, which appears to be directly produced by them, and, in certain conditions, by an increased secretion of urine, and a reduction of temperature.

Strophanthus was administered with a view of discovering whether it would serve as a substitute for digitalis. This has been done in a large number of cases, a few of which are reported in the original paper with pulse tracings which are very flattering to this new drug.

The impression received from a number of cases suggested that strophanthus is more powerful and more rapid in its action than digitalis. As it is difficult, by chemical observation alone, to prove the existence of differences between remedies that act in a similar manner, Professor Fraser determined to ascertain if any important pharmacological differences could be discovered, and experiments were made to define the energy of this action on the part of digitalis and of strophanthus. For this purpose, the separated frog's heart was used, and it was supplied with solutions of each substance by means of Williams' apparatus. It was found that solutions of digitalis of 1 part in 100,000, 1 part in 50,000, 1 part in 10,000, 1 part in 5,000, and of 1 part in 4,000, each produced characteristic changes in the heart's action but were not strong enough to kill the heart within two hours. With strophanthin, on the other hand, a solution of 1 part in 100,000 quickly stopped the heart's action in extreme systole, solutions of 1 part in 250,000, of 1 part in 500,000, of 1 part in 1,000,000, up to 1 part in 10,000,000, were each tried, with the result that the heart was characteristically affected, and killed by each of them.

Assuming that the digitalin was a fairly representative specimen of that substance, these experiments point to a very striking difference between strophanthin and digitalin, in reference to their power of producing the changes in the heart's action, which constitute a most important feature in the therapeutic applications of the members of the digitalis group.

It seems probable that strophanthin differs also from digitalin by acting more on the heart and less on the bloodvessels than digitalis.

The experience thus far obtained shows that sickness and gastro-intestinal disturbances are not produced so frequently by strophanthus as by digitalis, nor has intolerance occurred after its uninterrupted administration for several weeks.

The original article deserves careful study from those who are interested in this subject as in it are the mature results of Professor Fraser's labors extending over a long time; the first publications by him on this subject were made in 1870.

(To be continued.)

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Hospital Practice and Clinical Memoranda.

EXTENSIVE PHLEBITIS AND PELVIC ABSCESS, FOLLOWING ABORTION.[1]

BY FRANCIS MINOT, M.D.

The patient, a married woman, thirty years old, entered Massachusetts General Hospital January 23d, 1886, and died March 12th.

Five weeks before entrance she aborted at the third month, without assignable cause. She stated that the entire ovum came away, but she had much flowing for several days. Two weeks after the abortion she had a chill, and another a week later, with vomiting, diarrhœa, pain in the pelvis, and painful micturition. The left lower extremity became painful, swollen and numb.

The patient was much emaciated, with a sallow complexion, and anxious expression. The pulse was small and feeble. There was no evidence of disease in the lungs or heart. The entire left lower extremity was swollen, œdematous and white. There was a small ulcer on the lower part of the calf, resulting from the application of a hot stove-cover during one of the chills. There was much tenderness, especially in the saphenous region and in the calf. No hypogastric tenderness. No vaginal discharge. After January 31st, there was a slight improvement for a few days, and then there was pain in the right calf. The slough on the left leg increased, and another formed on the heel, and the patient slowly failed in strength. Nothing abnormal was detected by digital examination on February 5th. There were chills from time to time, with rapid pulse, high temperature and involuntary dejections. The œdema and the pain in the left leg began to diminish February 14th, but there was no general improvement. There was enlargement of the spleen. On March 7th she was much more comfortable than usual, but on the 8th she had several small, yellowish, and very offensive dejections, containing pus but no blood, and without pain, which continued till her death on the 12th, with symptoms and physical signs of pulmonary œdema; about seven weeks after her entrance into the hospital, and twelve weeks after the abortion.

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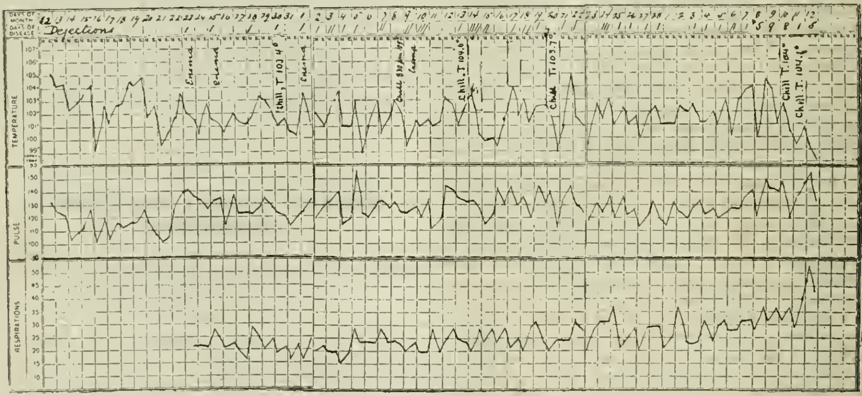
[5] British Medical Journal, November 14th, 1885, p. 905.

[1] Read before the Obstetrical Society of Boston, May 8, 1886.

Autopsy by Dr. Fitz. The inferior vena cava contained a completely obstructing thrombus in the lumbar region, adherent to the wall of the vessel. It was of a reddish color, and tubular, with fluid puriform contents. It extended upwards as far as the liver, as a yellowish-white, parietal thrombus; and downward into the right femoral vein as a completely obstructing thrombus, the centre being softened, like the portion higher up. The left iliac vein was completely obstructed by a pale-red, translucent fibrous plug. The walls of these veins, especially the left iliac, were intimately adherent to the surrounding parts by fibrous tissue. Both renal veins contained opaque white thrombi, not completely obstructing. The uterus and left broad ligament were intimately united to the pelvic wall and left half of the rectum. The left ureter and left third of the posterior wall of the bladder were adherent to the surface of the uterus and pelvic wall toward the base of the peritoneal cul-de-sac. In detaching the uterus from its adhesions the cavity of an abscess, with shreddy walls and offensive reddish-yellow contents, was opened. It extended from between the bladder and vagina to the left side of the pelvis, as far as the brim of the pelvis, and followed the surface of the iliac muscles. A limited purulent infiltration was found just below the bifurcation of the aorta. Near the brim of the pelvis the abscess communicated by a hole with the rectum. The uterus was slightly enlarged; its tissue presented no abnormal appearance. The Fallopian tubes were normal, except that the fimbriated extremity of the left one was adherent to the wall of the abscess, and was covered with a patch of false membrane. The left ovary was intimately connected with the abscess-wall; it was enlarged to the size of an almond, flaccid, and its surface was wrinkled. On section it showed pus cavities and diffuse purulent infiltration. The right ovary showed nothing abnormal. The left broad ligament was almost wholly destroyed, except the portion covering the Fallopian tube, which was swollen and injected. The lungs were extensively œdematous in the lower and posterior portions. In the secondary branches of the right pulmonary artery were soft, opaque, yellow emboli, moderately adherent. Similar emboli were found in the smaller branches of the pulmonary artery in both lungs. The heart, liver and kidneys showed evidence of granular degeneration. The spleen was enlarged to three times the normal size, of a pale reddish-gray color, and soft; the follicles were enlarged and distinct.



The circumstances attending the attack of phlegmasia dolens in this case were the usual ones: debility from loss of blood and probably unfavorable hygienic conditions, a chill, and painful swelling of the left leg. There was also pain in the pelvis with dysuria, and it seems probable that the starting-point of the process was a phlebitis in the uterus or its annexes. Although the patient thought that the ovum came away entire it is quite possible that some fragments may have been left behind, giving rise, under unfavorable hygienic conditions to septicæmia which was followed by thrombosis and abscess. It is remarkable that there was no special abdominal tenderness, and that no swelling was detected by internal examination. The question of laparotomy might perhaps have been entertained had the patient come earlier under treatment; but in her exhausted condition the indications for operative treatment were not encouraging, moreover the signs of pelvic inflammation were very obscure. The great irregularity of the temperature, with occasional wide oscillations, the rapid pulse and the frequent recurrence of chills, as shown by the chart, are characteristic of septicæmia.

— The building of the Medical College of the State of South Carolina was almost ruined by the late earthquakes.

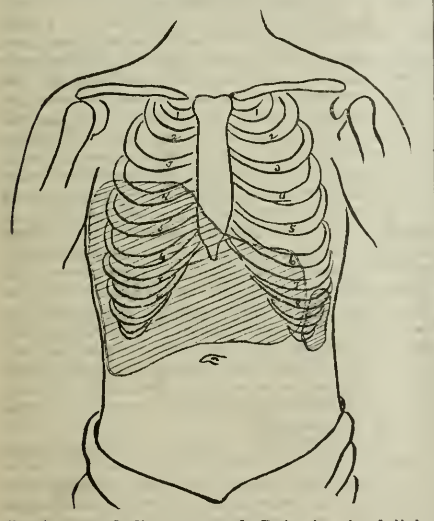
HYPERTROPHIC CIRRHOSIS OF THE LIVER.[1]

BY A. L. MASON, M.D.

Case I. Julia Poivell, aged thirty, married, a very large, fat woman, entered the City Hospital April 11, 1883. She had had one child and three miscarriages, the last within five weeks of admission. Otherwise her health had always been excellent until within two months. She had been a free drinker of beer, but her nerves were steady, and she had not the appearance of a drunkard. There had been no headache and no hæmorrhages; no chills.

When first seen the condition was as follows: intense jaundice; constant nausea and bilious vomiting soon after eating; dizziness, flatulence, and occasional diarrhœa; pain at epigastrium; slight œdema of feet and ankles. The tongue was clean; the pulse 80, temperature 97.8° F.

The urine had a sp. gr. of 1017, a deep yellowish-red color, and contained a little albumen and much bile pigment. Sediment normal. Dejections hard, light yellow.



Physical examination showed great enlargement of the liver and spleen, the former extending from the third intercostal space nearly to the crest of the ilium, and the spleen being readily felt below the ribs. No ascites. Examination of the blood showed the red and white corpuscles in normal proportions.

Three days after entrance the epigastric pain and the vomiting were severe, and were relieved by small doses of morphine. Under this treatment, liquid diet, and the use of an alkali, the symptoms abated, and in three weeks the patient was discharged, although the jaundice continued and the liver was no smaller. The temperature never rose above 100° F.

A diagnosis of hypertrophic cirrhosis of the liver was made, which involved an unfavorable prognosis, and the patient was told to return when she found it necessary. Three months later she came back, and was under the care of Dr. Denny. She had become very weak, and was dizzy and forgetful, hardly remembering her previous stay in the hospital. Otherwise the symptoms were much the same as before — jaundice, large liver, headache, vomiting, and epigastric pain. The feet were numb, but she walked fairly. No ascites. Urine as before. Temperature 97°, pulse 108.

After a few days the appetite failed, micturition became involuntary. She was delirious, and died August 22d, after an illness of about seven months.

The autopsy was as follows:

Autopsy. Twenty hours after death; body medium-sized; abundant adipose development; marked lividity of face and dependent portions; rigor mortis present. Calvaria heavy and very dense. Sinuses contained a small amount of coagulated blood, as did also the vessels of the pia. Brain normal. Heart not much distended with blood, mitral valve admitting the tips of three fingers, tricuspid of five. Muscular substance of heart slightly fatty. Right lung œdematous throughout; left lung slightly œdematous. Spleen normal in size.

The liver extended one and a half inches below the ribs in front, and weighed six pounds four ounces. External surface smooth, with slightly greasy feeling. On section, it was firmer than normal, of a grayish, translucent appearance. Venous portions of acini marked, rather far apart, with grayish, translucent substance between.

Kidneys of usual size; capsule readily detached; surface smooth. On section, cortical portion somewhat opaque; pyramidal portion normal. Stomach and small intestines not unusual.

Large intestines very much distended with fæces. Vessels much injected. Mesenteric glands somewhat enlarged.

Diagnosis: œdema and congestion of lungs; slight fatty degeneration of heart; hypertrophic cirrhosis of liver, with slight fatty infiltration; cloudy swelling of kidneys; enlargement of mesenteric glands.

Case II. Jennie Brennan, aged twenty-nine, married, a well-developed woman of medium size, entered the hospital April 7, 1886, in a delirious state. She had rheumatic fever four years ago, but had otherwise been healthy, and her family stated that she had not been given to excessive drink. For the last six months, however, she had suffered from debility, absence of menses, gastric derangement, and slight swelling of feet for two weeks. She had been in bed for the last six weeks, delirious a fortnight.

At the time of entrance the symptoms were very active delirium suggestive of alcoholism; slight jaundice; moderate fever; pulse 100; respiration 24. The lungs were normal, and there was a soft murmur over the præcordia. The urine was very high colored, specific gravity 1020, and contained a trace of albumen. The abdomen was tympanitic and distended, but there was no dropsy. Enlargement of the liver was not detected. The noisy condition of the patient made thorough examination somewhat difficult.

Soon after entrance she had a severe convulsion, followed by stupor, and she bit her tongue badly.

The usual remedies failed to procure sleep, delirium was constant, the condition became typhoidal, with increasing fever, parched lips and dry, brown tongue; jaundice was noticeable, and she died one week after admission about six months after the beginning of her illness.

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[1] Read before the Suffolk District Medical Society, April 24, 1886.

Autopsy by Dr. Gannett. Brain and its membranes negative. Heart of usual size, flaccid, valves negative, hyperplasia of spleen. Kidneys, slight degree of œdema. Œsophagus, stomach and intestines negative.

Liver much enlarged, weighing seven pounds nine ounces. Edges rounded, showing in general a yellowish color. On section, acini fairly distinct. Central portions for the most part pale red; in other portions of a bright yellow. Peripheral portions of a pale opaque yellow. Lobules separated from each other by gray translucent network. Bile ducts pervious. Diagnosis: chronic interstitial hepatitis, with fatty infiltration.

The symptoms and pathological conditions observed in these two cases correspond almost typically with those which, in recent years, have been classed as hypertrophic cirrhosis in distinction from the ordinary contracting disease which produces the hob-nailed liver of drunkards. While the causation may be the same, the conspicuous absence of dropsy throughout with the presence of jaundice and a greatly enlarged liver and spleen, make quite a different type of disease from that which we usually see as cirrhosis.

The post-mortem appearances as described in published reports have not always held together as they should to establish a characteristic pathology, but the discrepancies have been mainly histological, which might easily arise in examinations at different stages of the liver disease. The principal morbid change consists in a great increase of bile ducts surrounded by fibrous, non-contracting tissue. The portal ramifications are not interfered with as in the ordinary cirrhotic liver; there is seldom venous obstruction; dropsy is rare. The liver may weigh six or eight pounds, quite double its usual size, and the spleen is more or less enlarged. In Case I splenic engorgement was very noticeable at an early period but was not found after death.

The subjects of this disease may be young, as in the cases reported above, not seemingly broken down by drink; whereas atrophic cirrhosis is a disease of slow production, not very common even in drunkards before the age of fifty years. Ascites then first directs attention to the malady, while in the hypertrophic form jaundice is an early sign, and delirium, convulsions and coma more frequently precede death, which is said to be caused by biliary poisoning.

Without entering too much at length into the histories of these cases, I wished to record them on account of their comparative rarity, which may be inferred from the fact that, with the exception of a case reported by Dr. Doe several years ago, no other similar cases have been verified at the City Hospital, I think, although the same symptoms have been noticed in one or two other patients who went away.

— An exchange speaks of a young physician, who has just established himself, and has very little practice, but who is noted for his braggadocio. One of the older physicians, meeting him on the street yesterday, asked him how he was coming on. "I've got more than I can attend to," was the boastful reply. "I had to get out of my bed five times last night." "Why don't you buy some insect powder?" asked the old doctor.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MAY 8, 1886, the President, DR. A. D. SINCLAIR in the chair.

DR. F. MINOT reported a case of

EXTENSIVE PHLEBITIS AND PELVIC ABSCESS FOLLOWING ABORTION.[1]

DR. STRONG gave the following account of the patient before she entered the hospital:

The patient was between two and three months pregnant, and succeeded in the induction of abortion by the use of gin and ergot. The entire ovum came away; but the patient, supposing an afterbirth should also come away, made several attempts to remove what she supposed was the placenta, but what proved to be the posterior lip of the cervix: this she succeeded in nearly pulling off. At the end of a week the patient was doing well; but a few days later there was an attack of uterine pain and fever: phlegmasia came on, and the case was sent to the hospital. No abscess was recognized, although carefully looked for.

DR. MINOT, in reply to questions, said that the most noticeable features in the case, when the patient first entered hospital, were phlegmasia and a slough on the calf of the leg and heel. It seemed remarkable to him that there was so little pain or tenderness in the abdomen. In regard to the use of antipyrine, he thought it gave comfort to the patient in many different classes of cases. He regulated the dose according to the temperature, giving 20 to 30 grains when the temperature was high. He had found the drug of great value in the hectic fever of consumptives: in such cases he gave smaller doses, because the temperature was not high; perhaps eight grains in the afternoon, about an hour before the time of febrile exacerbation. He had never seen any depression following the use of the drug, although it sometimes caused sweating and vomiting.

DR. LYMAN thought it strange that in so large a proportion of cases the phlebitis occurred on the left side. He believed in the use of small doses of antipyrine, enough to bring the temperature down to what might be called the temperature of the disease, and not to the normal point: he thought the exhibition of large doses was followed by too much depression.

DR. E. M. BUCKINGHAM reported, by invitation, the following case of

POSSIBLE AIR-EMBOLISM AFTER LABOR, WITH RECOVERY.

A lady of twenty-seven was delivered of her first child by forceps, after a tedious labor, and with the following circumstances:

The pains had been inefficient, and excepting that for a short time the anterior lip had been a source of annoyance by falling over the head, inefficiency of pains had seemed to be the only reason for the slowness of the labor.

She was etherized for operation and during etherization she vomited, but the mouth was wiped out and there was no choking, for which reasons, as well as for another which will appear later, it is perhaps fair to conclude that no obstruction was caused by vomited matter lodging in the air passages. Etherization was not very profound, not enough so, indeed, as was shown by a pain occurring as the head passed the perineum. Forceps were applied with the patient on her back across the bed, her legs being steadied by the nurse and the husband. Extraction of the child's body was hurried because the cord was wound tightly about its neck and was pulseless, and I was unable to loosen it. The uterus followed the child down. Unfortunately, the perineum was torn and it was sewn up with three sutures, as soon as the placenta had been removed. After this ergot was given and the patient was then placed in the ordinary position in bed. There had been no particular loss of blood, and the uterus did not dilate unless while I was at work on the perineum.

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[1] See page 279.

Almost immediately on changing position she began coughing continuously and with great violence, the face became livid, the pulse weak with 150 beats to the minute, the respiration rapid and laborious, and she cried out that she was faint, and asked if she were dying. Air could be heard entering both lungs. The heart sounds were weak but no murmur nor other abnormal sound was heard, although as no stethoscope was used and the patient was violently shaken by the cough, it is possible that such may have existed. Any attempt at altering her position from the back increased her distress, especially an attempt to turn her toward her left side. She was given fresh air, together with small, frequently repeated quantities of brandy and of coffee, and in all twenty drops of laudanum in divided doses. In two hours after the occurrence of these alarming symptoms she was coughing much less and said that she was somewhat easier. She was, however, still livid. The pulse was weak, but had fallen to 120, and the respirations were 60. Brandy and coffee were continued, with hot milk. Two hours later yet, Dr. Swan saw her with me. The number of respirations had sunk from 44 to 48 in the minute and the pulse was stronger. The second sound of the heart was weak even compared with the first. The abdomen was somewhat tympanitic and therefore the binder which had been applied was loosened. It was agreed to give digitalis, if the heart should fail. In the evening, some twelve hours after labor, color was improving, but no further change had occurred in pulse or respiration. Carefully moving the patient across the bed increased her distress.

On the following morning, February 15th, the pulse was 110, a gain of ten beats; respiration 36, a gain of eight to twelve breaths. She was now able to lie on the right side, but was not allowed to try the left. Tincture of digitalis was prescribed, ten drops every eight hours, in order to lessen the need for brandy, of which more than half a pint had been used. By the third morning the second sound of the heart was louder and had resumed its normal relation to the first sound, the number of pulse beats and respirations remaining, however, about the same. By the fourth morning the pulse was less than 100, and on the fifth day the number of respirations sank to 20. On the sixth day the patient was allowed to lie on the left side while I was present and suffered no inconvenience, she having then a pulse of 96, respiration 22.

The case went on improving steadily; but not until the fourteenth day was she allowed to sit up, although it caused no inconvenience at that time; she then had a pulse of 78 and respiration 16.

Dr. Minot had seen one quite similar case: it did not occur to him at the time that it was a case of air-embolism; but possibly it was.

Dr. J. S. Greene, present by invitation, said that some years ago he had studied the subject of air-embolism, and had made notes from time to time of reported cases. By his own reading and by the experiments of others, he was led to believe that there is a great variety of symptoms of air-embolism. Experiments have been made in which large quantities of air had been injected into the veins of animals; but there is no experiment to prove what symptoms may follow the introduction of small quantities of air clinically. The subject needs further study and elucidation: careful records should, therefore, be kept of all cases. When supposed air-bubbles are found in the veins *postmortem*, they should be examined chemically: such bubbles may sometimes prove to be not air, but the product of decomposition. It did not seem to him that Dr. Buckingham's case was one of air-embolism.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

SCARLET-FEVER AND SCARLATINIFORM ERUPTIONS FOLLOWING INJURIES AND OPERATIONS,

by Dr. I. E. Atkinson, of Baltimore.

The speaker first referred to the literature of the subject referring to the cases on record. In many of these cases, it was held that the affection had been a true scarlatina. In other cases the scarlatiniform rash was of a septic origin. Various drugs which are frequently prescribed in traumatic cases will produce such eruptions, special reference being made to the cinchona alkaloids. The eruptions produced by these drugs are usually of an urticarial appearance, but they may be of scarlatiniform nature. The following conclusions were presented.

(1) Unprotected persons who have suffered injury or undergone operation are much more liable to scarlet fever than healthy individuals. This probably holds good with reference to other infectious diseases.

(2) When an epidemic tendency to these symptoms prevails after injuries and operations, it may be concluded that true scarlet fever is present.

(3) Septicæmia is occasionally accompanied with a scarlatiniform eruption.

(4) Medicinal eruptions, especially from cinchona alkaloids, may follow accidents and injuries.

DISCUSSION.

Dr. P. A. Morrow, of New York. The speaker has not mentioned the rash which often follows the use of antipyrine, which frequently simulates scarlatina although it is usually of a more measly character. Again, carbolic acid and iodoform dressings will often produce rashes presenting the objective appearances of scarlet fever. There is another eruption known as the "doctor's rash," which appears upon the persons of sensitive individuals stripped for examination. I have seen this in several cases, in one of which it was very marked.

Dr. L. N. Denslow, of St. Paul. I recall the case of a young woman who stated that a scarlatinous eruption always appeared upon her body on exposure to sunlight. In order to test the matter, she was directed to come to the hospital closely veiled and gloved. She was then placed in a dark room and one glove removed. A ray of sun-light was then allowed to fall upon the hand and at once a strip of erythema appeared. The same occurred on the face when it was exposed.

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[1] Concluded from page 262.

Dr. I. E. Atkinson, of Baltimore. While I have seen the rash mentioned by Dr. Morrow, I did not consider them in my paper because I was specially interested in these scarlatiniform eruptions following traumatism and referred to medicinal eruptions only incidentally.

FRIDAY. — THIRD DAY.

MORNING SESSION.

Dr. J. E. Graham, of Toronto, Canada, exhibited the specimens from a case of ainhum.

The first paper was entitled

REMARKS AND QUERIES ON, AND AS TO THE RELATIVE FREQUENCY OF MOLES AND THEIR PATHOLOGICAL CHANGES ON THE HEAD AND FACE,

by Dr. S. Sherwell, of Brooklyn.

The history and etiology of this class of affections is very slightly referred to in works on dermatology, but the author's experience has led him to pay increased attention to these formations. In looking up the statistics of one of the institutions with which he is connected, he found that in a period of eighteen months he had seen forty-seven cases suffering with neoplastic and hypertrophic growths. In thirty-six of the cases the growths occupied the face and head. In only eleven cases were the growths found on the body and limbs. Seventeen of the cases in which the growths were on the face were classed as epithelioma. It might be urged that the exposure of the unclothed portions of the body would lead to the formation of neoplasms, and the occurrence of destructive activity in them. If that were so, why should not telangiectasic deformities, nævi, etc., undergo degeneration? The speaker had never seen malignant action, or what simulated it in such growths. Mechanical irritation of the parts might be considered one reason for the frequency of these growths and their malignant tissue alterations, but other parts of the body would seem more exposed to irritation than is the face. Moles and similar growths, while common on other parts of the body, as well as on the face, yet in other situations they seem less likely to undergo destructive pathological changes. The field electively most inimical to the presence of these growths and destructive activity in them, when already present, may be bounded thus: a quadrangle, just taking in the lower lip, the corners of the mouth, extending back to the ears on both sides, vertical lines extending upwards to about an inch above the supra-orbital ridge, united by another horizontal line. Of the space thus included, the vicinity of the eyelids and bridge of the nose was, in the author's experience, the most usual seat of these growths.

The most rational explanation for the frequency of these growths in the situations described is the nature and abundance of the circulatory nutrition, which must favor hyperplasia. If, however, we accept the above hypothesis, why should these errors of the capillary system, such as nævi, not oftener degenerate? He had frequently operated on these latter deformities, often causing much irritation, but has never seen more than a slight keloid change result. The speaker then referred to the special danger of malignant degeneration which attended the presence of moles in persons of advanced life.

In regard to treatment, he stated that he had operated on these growths in many ways, and had come to the conclusion that when malignant action is either present or suspected, the combination of Volkman's curette, followed by the potential cautery, is the most efficient and easiest method of treatment. Of all escharotics, he preferred the liquor hydrargyri nitratis.

DISCUSSION.

Dr. I. E. Atkinson, of Baltimore. The probable explanation of the frequency of moles, etc., upon the face, as compared with other portions of the body, is that, when in this situation patients seek relief, while when covered with clothing attention is not attracted to them. We should expect that sebaceous new growths would be more commonly seen upon the face, because there we have the greatest activity of the sebaceous apparatus.

Dr. James C. White, of Boston. I think with Dr. Atkinson, that these new formations referred to are not more frequent on the face than on other portions of the body. That they undergo degeneration and form epitheliomatous new formation on the face more frequently than on other parts of the body, I think cannot be doubted. In regard to the possibility of angiomatous formations undergoing degenerative processes, I have never seen them undergo the so-called malignant change, but they do undergo degenerative processes tending to a spontaneous cure.

I formerly used the liquor hydrargyri nitratis to a large extent, but within recent years I have used the concentrated nitric acid, and seem to obtain about the same effect.

Dr. E. B. Bronson, of New York. I think that in the cases of syphilitic growths, the mercurial preparation is more active than the pure nitric acid, and tends to promote more rapid absorption.

Dr. L. N. Denslow, of St. Paul. With reference to the caustic, I may say that for the past year I have used a solution of one drachm of bichloride of mercury in one ounce of traumatacine. Its application is not painful at first, and does not excite inflammation for some time. It is particularly useful in the case of children.

Dr. R. W. Taylor, of New York. The author is to be congratulated upon the clear manner in which he has called attention to the danger of these various growths upon the face in a person over forty-five years of age. Such growths are very prone to assume malignant action. In the same connection, it may be remarked that any inflammatory mass about the prepuce, particularly if the result of anterior lesion, should, in old persons, always be ablated.

NOTES OF A CASE OF EXFOLIATIVE DERMATITIS (PITYRIASIS RUBRA (?), WITH BULLOUS LESIONS,

by Dr. W. A. Hardaway, of St. Louis.

February 21, 1886, the author was called to see Mrs. X., with an annoying disease of the skin. The patient was forty-five years of age, stout, and somewhat nervous. She had always been healthy. The present disease came on February 1st, after a night of fatigue and exposure to the night air. The following day a red patch appeared on the pit of the stomach. Others developed, soon running together, leaving no healthy skin between. There was very little scaling at first, and no moisture. There was some degree of pruritus. When seen by the author, the chest, arms, back, and thighs presented the usual appearances of pityriasis rubra. There was neither moisture, crusts, nor appreciable infiltration. The skin was shining, and of a violaceous hue. In the morning a handful of scales could be gathered from the sheet, but they were not as large as is usual, and were inclined to be furfuraceous. The face was not involved. Three or four days after the first visit, there appeared upon the thighs, abdomen, and buttocks, a number of tense bullæ. Their appearance was preceded by a distinct chill, and followed by a moderate elevation of temperature. The blisters did not run into each other. The bullæ appeared in successive crops of not more than a dozen, each crop being preceded by a chill. Quinine was freely administered, and at the end of a week the bullæ ceased to appear. Dr. Hardaway was obliged to discontinue his visits at this period of the case, but the patient gradually improved.

The writer thought that this and other cases which he had seen showed that diseases usually supposed to run a dry course may, under certain circumstances, be complicated with lesions containing fluid.

A CASE OF PROBABLE TUBERCULOSIS OF THE SKIN,

by Dr. G. H. Tilden, of Boston, Mass.

The patient, a healthy-looking boy of two years of age was first seen in July, 1885. The only lesions were six or eight cutaneous lesions scattered over various parts of the body. These were about the size of a split-pea, slightly elevated above the level of the skin of a bright red color, which disappeared entirely on pressure. These nodules were hard to the touch, with borders of sensible infiltration. These lesions had appeared within the previous five months and had been very slow in growth. During the previous three months there had been failure in appetite and strength and the child exhibited an indisposition to walk. He was under observation for three months during which time one or two fresh nodules appeared. In nearly all of the older ones, there ensued softening with formation of pus which discharged and was followed by cicatrization. About two weeks after the first visit a fluctuating swelling of the size of a hen's egg made its appearance on the inner side of the left thigh over the knee-joint, but not communicating with it. This was opened and pus discharged. It healed in a week. The general health became visibly affected. In November there appeared in the left buttock a swelling which gave an obscure sense of fluctuation. In the proximal phalanx of one finger there appeared a pyriform enlargement resembling that seen in dactylitis syphilitica. The child was again seen in February. The swelling in the buttock had increased in size and there was more fluctuation in it. There was at this time, sufficient outward curvature of the lumbar vertebræ to justify a diagnosis of Pott's disease. In his remarks with reference to the case, the speaker said that in the outset the diagnosis of the nature of the cutaneous lesion had been impossible, but from the subsequent course of the disease he thought the most probable diagnosis to be tuberculosis of an unusual form. In arriving at a conclusion, the following affections were considered: furunculus, erythema nodosum, sarcoma, and syphilis.

Dr. Le Grand N. Denslow, of St. Paul, made a supplementary report with reference to

THE TREATMENT OF ACNE BY THE USE OF SOUNDS.

At the last meeting he had reported five cases in which this plan of treatment had been of value. Four of these cases were adults, and all had remained well. The fifth case was that of a boy about fourteen years of age, and in this case relapse had occurred.

Dr. S. Sherwell, of Brooklyn. I have treated cases of acne with the use of sounds and I believe that it does good. I employ this method as an adjunct to other treatment. I of course do not use it in all cases.

A communication with reference to the organization of a Congress of American Physicians and Surgeons was received and the following committee of conference, to report at the next annual meeting of the Association, was appointed: Drs. H. G. Piffard, of New York; F. B. Greenough, of Boston; R. B. Morison, of Baltimore; G. H. Tilden, of Boston, and LeGrand N. Denslow, of St. Paul.

The following officers were elected:

President, Dr. H. G. Piffard, of New York.

Vice-Presidents, Dr. F. B. Greenough, of Boston; Dr. R. B. Morison, of Baltimore.

Secretary, Dr. G. H. Tilden, of Boston.

Treasurer, Dr. LeGrand N. Denslow, of St. Paul.

The Association then adjourned to meet at the call of the Council.

Recent Literature.

A Manual of Surgery. In Treatises by various authors. In three volumes. Edited by Frederick Treves, F.R.C.S., Surgeon to, and Lecturer on Anatomy at the London Hospital. Vol. I. General surgical affections; the bloodvessels, the nerves, the skin. Vol. II. The thorax, the organs of digestion, the genito-urinary organs. Vol. III. The organs of locomotion and of special sense; the respiratory passages, the head, the spine. Duodecimos. 1866 pp. 213 engravings. Per volume, cloth, $2.00. Philadelphia: Lea Brothers & Co. 1886.

The work appearing under the above title is the production of thirty-three writers, including the editor, many of whom are recognized authorities in their especial subjects.

It is published in the compact, neat form which characterizes the manuals of this series, each volume containing about six hundred pages, systematically arranged and conveniently indexed. Also in each is a list of contributors, table of contents, and separate index of subjects, to which is added, in Volume III, a general subject index of the whole work.

Each article is headed with the name of its author, and heavy-type headings render easily intelligible to the reader its plan of subdivision and classification, The work aims to be an epitome of the leading facts and principles of modern surgery included under the clinical history of surgical affections, their diagnosis and treatment.

Brevity is everywhere a striking feature of the work. Theories are conspicuous by their absence, and only those (as a rule) which have stood the test of experience are even alluded to, except to be declared worthless. Pathology is introduced only so far as it directly affects the clinical history and intelligent treatment of the affection described.

The general principles of operative surgery are concisely stated, but the technical details of special operations, except such as are atypical, for example, gastrotomy, nephrectomy, *et alii* are intentionally omitted. This is somewhat disappointing, since more attention to this department would have added much to the value of the work. A knowledge of the best methods for typical operations is far more frequently required than of those strictly atypical, especially in a manual designed for the use of students or practitioners — to be used by the former to prepare for general surgical practice, and by the latter as a book for rapid reference when in doubt as to the special operative treatment in any particular case.

In regard to atypical operations also, a more detailed description would, in some instances, add greatly to the value of the article; for example, the description of intestinal resection; no mention is made of the form of needle best fitted for suturing the intestine.

In some instances, an operation is alluded to without any attempt to describe it; for example, thyroidectomy. The different articles are, however, all well written, some exceedingly so, and any omission is perhaps due to the limited space allotted the author. The contents of the different volumes is stated by the above titles, and the few criticisms to be made are chiefly regarding minor details, which will probably be altered in a subsequent edition.

The article on tumors would be greatly increased in value by the addition of illustrations, for in no department of medicine is their assistance better appreciated than in that of pathological histology, and the excellent figures and diagrams in other parts of the work make their absence here the more conspicuous.

In the article entitled "General Principles of Operative Surgery" — an interesting and valuable one — it is to be regretted that this very important subject is so concisely handled. Apparently the great influence in operative surgery of certain pathological conditions, for example, chronic parenchymatous nephritis, entitles them to a much less abridged notice.

Volume III is especially well written, and contains, in an epitomized form, the latest views, both clinical and operative, in those branches of surgery, in which within a comparatively brief period such rapid important changes have occurred. The intestinal suture described on page 266 of this volume is usually credited to Gussenbauer, not Gegenbauer.

The articles throughout the entire work contain data of value, especially to a practitioner who has not time to read an extensive monograph, while some of the subjects are written in a manner which makes them almost ideal articles of reference.

The editor and his colleagues are to be congratulated on the successful result of their efforts, and the work they have produced justly deserves the high commendations with which it has been received.

— The number of students in the Imperial University at Tokio is said, by the *Medical Record*, to be nearly one thousand, a large proportion of whom are students of medicine. Five of the professors in the medical faculty are Germans.

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 23, 1886.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly, by CUPPLES, UPHAM & CO., *Boston. Price, 15 cents a number; $5.00 a year, including postage, to subscribers in the United States and Canadas. Foreign subscribers are charged the postage in addition.*

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RECENT VIEWS ON "RAILWAY SPINE."

A BRIEF report upon Duménil and Petel's investigations on spinal concussion was given last year [1] in the JOURNAL, but since then the subject has been discussed at considerable length, and the theory that the symptoms observed in such cases are simply manifestations of a traumatic hysteria has been vigorously attacked. Thomsen and Oppenheim, in a discussion of anæsthesia in general,[2] before Duménil's paper appeared, assert that hysterical anæsthesia is so capricious in its onset, its oscillations, and its disappearance, that a stationary condition of the disturbances of cutaneous and special sensibility, lasting for a long time, is extremely rare. After speaking of several diseases where anæsthesia is a symptom, they report a number of cases of injury to the head and of "concussion;" and, after quoting the well-known conclusions of Walton and Putnam, they assert, basing their statements on their own cases, that the discovery of anæsthesia or hemi-anæsthesia, with an implication of the special senses, does not suffice for a diagnosis of hysteria, since this symptom may be found in other functional and organic diseases of the central nervous system. In these cases the course is stable, and exhibits none of the changes characteristic of hysteria, especially the sudden improvements; the prognosis for recovery, too, is unfavorable. The mental condition is not like that of hysteria, but there is often a constant condition of melancholia. Besides that, there are sometimes symptoms pointing to severe and irreparable disease of the nervous system — Argyll-Robertson pupils, optic atrophy, genuine epilepsy, vesical paralysis, and progressive paralysis of the extremities. A part of the symptoms may be functional, but the whole disease is not necessarily functional, and functional and hysteria are not synonymous terms.

Page, in a fresh consideration of the subject,[3] considers the trouble a mixed one. There is first a sprain, which, by causing pain and stiffness in the back, may direct attention to the spine. In addition to that, the accident produces a severe mental effect, so that, even without any injury, there may be collapse. This is followed by headache, pains, weakness, prostration, and fatigue on exertion. The patient becomes nervous, weak, emotional, melancholy. There is a lowered nerve force, neurasthenia. This may be attended with functional "hysterical" disorders, anæsthesia, paralysis, catalepsy, and trance. The neurotic suffer most. All these cases tend to recover, but recovery may not be complete in severe forms, and various causes — melancholia, the prospect of damages, and the improper use of bromide of potassium — may delay it.

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[1] Vol. CXIII, p. 296.

[2] R. Thomsen and H. Oppenheim. Ueber das Verkommen und die Bedeutung der sensorischen Anästhesie bei Erkrankungen des centralen Nervensystems. Archiv. für Psychiatrie, xv., 2, 3, pp. 559, 633, 1884.

[3] H. W. Page. On the Abuse of Bromide of Potassium in the Treatment of Traumatic Neurasthenia. Medical Times and Gazette, April 4, 1885.

Charcot[4] attacks the conclusions of Thomsen and Oppenheim with great earnestness, and defends the theory of the hysterical nature of the affection. He affirms that these grave and obstinate nervous states, rendering work impossible for months or years, are only hysteria, nothing but hysteria. In the female, the symptoms of hysteria are usually unstable, although they may be tenacious, but in the male they are often fixed and tenacious, and resist treatment. Melancholia is not uncommon in the male. This permanence prevents their recognition. Charcot cites cases in "La Salpètrière," among them a case of right hemianæsthesia with a classical limitation of the field of vision, where the symptoms had been observed for twenty years without even a temporary modification. Hystero-epileptic attacks have been observed in some of the traumatic cases, but in others they may fail, and we may find only the permanent stigmata of hysteria, anæsthesia, contractures, etc.

In a recent paper devoted exclusively to this trouble, Oppenheim reports ten new cases and defends his former position.[5] It is difficult to say how far the mental shock plays a part in the ætiology, but all the patients exhibited some mental alteration, melancholia, emotional disturbance, terror or sleeplessness. There was, however, no disturbance of the intelligence. Vertigo and faintness were not uncommon, and one suffered from genuine epileptic attacks, while another had petit mal, and another had attacks of confusion with hallucinations, the psychical equivalent of epilepsy. Headache, pressure in the head, vertigo, tinnitus, and loss of sexual power were also observed. There was usually anæsthesia, including anæsthesia of the special senses, but true hemianæsthesia was rare; if one-half of the body was markedly affected, however, the other half was found to be less sensitive than normal. Bilateral symmetrical anæsthesia was also seen. Limitation of the visual field may or may not be present. In many cases the mobility of the legs was impaired, and the patients were very cautious about jarring the vertebral column. The gait was slow and straddling, and they sometimes staggered with the eyes shut. Tremor and hemiparesis were also noted. Some patients had much difficulty in micturition, one having to use the catheter; others suffered from constipation. Two patients had some optic atrophy, a third Argyll-Robertson pupils with inequality. These symptoms Oppenheim claims differ from those in the cases reported by Charcot, and he asserts that Charcot is enlarging the already vague boundaries of hysteria by admitting permanent states of depression among its symptoms. Autopsies are lacking; but in two of his cases a portion of the nervous system, the optic nerve, showed visible morbid changes. If this is a symptom of hysteria, he says, then the firmest pillars of our knowledge are overturned. Although epilepsy in various forms was seen, hystero-epilepsy with its grand movements, *arc du cercle*, was absent. He repeats his former statement that anæsthesia with implication of the functions of special sense is not characteristic of hysteria. Other symptoms observed, too, are not common in hysteria: obstinate headache, vertigo, vomiting, motor disturbances, loss of virility, disturbances in micturition, and the girdle-feeling, beside Argyll-Robertson pupils and optic atrophy. He concludes that the symptoms developing after railway injuries, etc., do not present a single uniform type, that in many cases they do not agree with any one form of disease, that some cases are a mixed form of psychosis and neurosis, while a large percentage indicate definitely a lingering organic disease of the nervous system. He reasserts, too, that a functional nervous disease is not necessarily hysteria. The prognosis, of course, is often very important. He differs from Page, who thinks that most cases finally recover, and states that he has never seen perfect recovery.

Westphal, who some years ago advanced the hypothesis of little foci of myelitis or encephalitis, or foci of multiple sclerosis as a cause for these troubles, has recently stated[6] that he sees no reason for bringing such cases under the rubric of hysteria.

Not even Oppenheim would venture to deny that grand hysteria or neurasthenia may be caused by injury, especially by such injuries as railway accidents. The cases reported by Charcot, Page, Putnam and Walton seem to have established this fact beyond question. It is a different matter, however, when the claim is made that the majority of cases of "railway spine" are hysteria. It would be difficult to make the cases reported by Oppenheim fit any definition of hysteria as we ordinarily recognize it, and, in fact, the evidence of organic change in the nervous system in some of his cases seems conclusive. We shall probably have to admit that several different affections, some functional and some organic, may result from railway injuries, although at present our knowledge is too uncertain to make a correct classification. Above all, autopsies, with a careful examination of the nervous system, are essential.

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[4] J. M. Charcot. Apropos de six cas d'hysterie chez l'homme. Le Progrès Médical, Nos. 18, 23, 32, 1885.

[5] H. Oppenheim. Weitere Mittheilungen über die sich an Kopfverletzungen und Erschütterungen (in specie: Eisenbahnunfälle) anschliessenden Erkrankungen des Nervensystems. Archiv fur Psychiatrie. xvi. 3, p. 743, 1885.

[6] Archiv fur Psychiatrie, XVII, 1, p. 282, 1886.

THE INDEX-CATALOGUE. VOLUME SEVEN.

The seventh volume of the Index-Catalogue of the Library of the Surgeon-General's office, completes the index through Leghorn and thereby gives the student of medical literature control over certain very important subjects: the intestines, the jaw, the joints, the kidneys, the knee-joint, labor, the larynx, etc. The Index with its present issue comprises 70,500 book titles and 254,000 journal articles. There is prefixed to this seventh volume a consolidated list of all the abbreviations used in the first seven volumes of the catalogue, which has been prepared to obviate the necessity of consulting in some cases, several volumes in order to determine the precise scope of a given abbreviation. It would almost seem as though the fact that this volume contained such a list might properly have been noted on the cover. "The additions to the abbreviations of titles published in each volume have become so numerous as to make a consolidation necessary for the convenience of the reader," but only those on intimate terms with the great index will know of the existence of this perfected list, or be able to remember the volume which contains it. It is, however, pretty certain that a supplemental list will again be necessary before the Index is completed. There will be required six or seven more volumes which will at the present rate require as many years for publication. During that time there are sure to appear a certain number of new periodicals, undoubtedly their number could be pretty accurately foretold by comparison with the past, and the new publications must be represented by their appropriate abbreviations.

A very little use of the Index makes evident the very great care that has been bestowed upon it, in order that it may reach the highest possible degree of usefulness. The long lists of titles under important heads are carefully subdivided so that one is able to refer at once to the minute portion of the great subject in which he is interested. In the present volume, for instance, *Intestines* is divided into many subheads, *Abnormities and malformations of; Absorbtion by; Adhesions of; Animals, insects, etc., in;* and so on, the larger subheads being divided again and again, as *Intestine, (obstruction of); treatment of by abdominal section; by electricity;* and so forth.

One sometimes hears a regret expressed that our republican government cannot, or does not, give to scientific medicine the same encouragement that is afforded by some of the more autocratic governments of the old world, by the maintenance of professorships whose incumbents devote their lives to scientific research. It is a gratification to know that in a different way our own government is exerting an influence in raising the average of medical knowledge. The manner in which this is being effected by the government was very forcibly brought out by Dr. Billings in his recent address before the British Medical Association, and patriotic physicians may find cause to temper their regrets with the reflection that our government in its own way is doing an important work for the profession.

After speaking of the Army Medical Museum, Dr. Billings says of the library:

"The library, which commenced in a collection of those books relating solely or especially to military medicine or surgery, which were required in the compilation of the 'Medical and Surgical History of the War' has expanded into a great medical library which is one of the best practical working collections of the kind in the world. These collections then no longer appertain exclusively or chiefly to the business of one department, but belong to the whole profession of the United States as a body; and the department which has charge of them is managing them from this point of view. The influence of the library in stimulating research and upon the quality of medical literature is already very perceptible and is destined to increase with advancing years. I think I may also venture to claim that the utility of these collections and especially of the library is by no means confined to the medical profession of the United States, for the catalogues and indexes which are being issued in connection with them, are of service to medical writers and teachers all over the world."

This is by no means overestimating the valuable influence of the Surgeon-General's library, and of its index-catalogues. The latter has been a stimulus to other medical libraries in the preparation of their own particular catalogues, and has helped to keep alive that enthusiasm which makes the collection and preservation of books a pleasure and not a labor. The library of the Boston Medical Library Association is particularly rich in medical journals and its librarian has from the first taken pride in seeing its sets of valuable journals complete. It is hardly possible to estimate the value which has been added to the collection by the index to periodical literature which the index catalogue contains.

It is now comparatively easy to know all that has been written on any given subject, or rather all that is contained in the Surgeon-General's library which is about as near all as one library can ever contain, and of course the work of a man who desires to look up the literature of any given subject is comparatively lightened.

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MEDICAL NOTES.

— The death of Dr. James G. Wakley, for twenty-five years editor of the *London Lancet*, occurred August 30th, from cancer of the tongue. He was the youngest son of Thomas Wakley, founder of the *Lancet*. Dr. James Wakley succeeded his father, on the latter's death in 1862, as editor of the paper. An older brother was associated with him as half-proprietor of that journal.

— Herr Paul v. Ritter, of Basle, has signified his intention of leaving 300,000 marks to the University of Jena, for the purpose of promoting the study of philogenetic zoology according to the Darwinian theory. He will give 130,000 marks at once, and the balance will be paid after his death. Professor Haeckel, of Jena, an enthusiastic teacher of evolution, proposes to use the gift for the establishment of a professorship of zoology to be called, after the donor, the Paul v. Ritter Chair of Zoology.

— A serious and remarkable case of poisoning is reported in the British medical papers as having occurred at a wedding breakfast in Carlisle. In all, nineteen persons, partook of the meal. Four only escaped unharmed. One person, the bride herself, died on the fifth day. The dishes were all prepared by a professional cook the previous day, and kept in a dry, cold cellar. No peculiarity of taste was noticed, except a little bitterness of some of the jelly. The symptoms were much like those of cholera. They were peculiar in appearing late. The breakfast was at noon; some of the persons were taken ill at 8 P.M., others at midnight, some the following day, and one on the second day. The source of the poisoning is as yet wholly unknown. Metallic poisons seem to have been excluded, and some ptomaine has been suspected.

— In the discussion at the recent meeting of the British Medical Association at Brighton, on the duration of life with heart-disease, Dr. Bristowe made some very excellent and apposite observations on this subject. "It is," he said, "quite early enough, in my opinion, for a man to know that he has heart-disease when he begins to feel the effects of it;" and with this sententious remark most practitioners will agree. Incalculable harm has often been done by the abrupt announcement that a patient has cancer, or that another has heart-disease; and the evil is aggravated by the fact that, as in all other human affairs, the diagnosis may be wrong, or the prognosis may not be realized. Sir Andrew Clark told a very amusing but instructive anecdote of his having been called to see a gentleman suffering from bronchitis, who, fifty years before, had been precipitately superannuated on full salary, an the announcement by the medical officer to an insurance-company that he was the victim of an incurable form of heart-disease, and would probably not live more than six months.

— Toronto does not seem to be an encouraging place in which to practise medicine, according to the following paragraph, which has been going the rounds of the medical press, under quotation from the *Toronto Globe:* "There is only one medical man in this city who last year earned $5,000 from his profession, combined with the interest he received on his previous savings. There is not one man on the list who had $4,000, and only four who touched $3,000. When we come to the comparatively modest and moderate $2,000, we naturally conclude that we shall have a full legion. But no, we have only fourteen, all told, who came up to this figure. When we come to between $2,000 and $1,000, the number becomes encouragingly large. As many as fifty-one of the best-known and greatly-sought-after doctors of our city are put down under their own hands and seals as having last year lived on from $1,000 to $1,800. Some of these are professors. There remain only the unfortunates who worry along from $800 down almost to zero. Of these, we are sorry to say, there were last year thirty-six." How the exact figures were ascertained it does not appear, but we trust the amounts returned are not (as in some cases is to be suspected) an exaggeration over the reality. An accurate statement of professional incomes for any given locality, which are very difficult to obtain, would be of a good deal of interest to the resident profession.

NEW YORK.

— The Board of Health has decided to employ twelve physicians in vaccinating service for the next two months.

— The State Board of Health suffers a severe loss in the resignation of Dr. E. M. Moore, of Rochester, which has just been announced. Dr. Moore was one of its original members and has always been one of the valuable and active workers in its service.

— Dr. William W. Jackson, for the past ten years physician to the City Prison and medical examiner of the Department of Charities and Correction, died September 15th, at the age of fifty-six years. He had had a very large experience as an expert in insanity, and was highly esteemed both for his skill and many amiable qualities.

— Mr. Parrott, a reputable engineer, has undertaken to criticize the building of the proposed great Quaker Bridge dam for the formation of a storage reservoir, on the grounds both of inadequacy of supply and unhealthfulness. Notwithstanding the enormous proportions contemplated for it, he claims that it will not be sufficiently large to hold the surplus water of a wet year in a dry one. As to the question of unhealthfulness, he estimates that the artificial lake thus created will receive the entire drainage of about one-half the total area of three increasingly populous counties. This lake, according to his calculations, will have a border of seventy-eight miles' length, with flat and miry shores; so that when the water is level with the aqueduct opening there will be nearly 3,000 acres of "malarial mud" exposed to the summer sun, while the residue which the aqueduct cannot empty will constitute a pool of eight billion gallons stagnant from year to year. Whether Mr. Parrott's views are correct or not, the matter would seem to be worth thoroughly investigating before the building of the big dam is commenced.

The plan which he proposes in place of the one now contemplated, is to abandon the near-at-hand water-supply, and derive the supply from Ulster and Greene counties on the west shore of the Hudson where he finds an ideal drainage and storage territory. This will long be sparsely inhabited, and there are numbers of spots where brooks may be dammed within deep and rocky reservoirs; offering a strong contrast to the flat basin within the Quaker Bridge dam. The various reservoirs could be connected by tunnels, and all, he thinks, could be drained into Esopus Creek, from whence the main supply could start for the city through a pipe line from an elevation of five hundred feet above tide level.

Miscellany.

FAREWELL DINNER TO DR. R. T. EDES.

A farewell dinner was given to Dr. R. T. Edes at Young's Hotel, Boston, Friday evening, September 17th, prior to his departure for Washington where he intends to make his home and practise his profession.

About thirty of Dr. Edes's medical colleagues sat down at the table with him, the staff of the City Hospital, the Harvard Medical School and the Dorchester Medical Club being especially represented. Dr. Francis Minot presided, and addressed the guest of the evening on behalf of the Harvard Medical School; Dr. H. W. Williams spoke for the staff of the City Hospital; Dr. W. S. Everett for the Dorchester Medical Club, and short speeches were also made by Drs. Wigglesworth, Morton Prince, W. L, Richardson and George B. Shattuck. Sincere regret at Dr. Edes departure from Boston, and warm wishes for his future welfare and happiness were the common sentiments expressed by all. It is not given to every one to resign a hospital appointment and a Harvard professorship in the prime of life and excite thereby the real regret of younger as well as of older colleagues. The evening closed with the singing of "Auld Lang Syne," and was as enjoyable as the occasion for the gathering would allow it to be.

DILATATION OF THE STOMACH IN CHILDREN.

In the *Archives of Pediatrics* for July, 1886, there is a review of an article on this subject by Blache from the *Rév. Mens. des Mal. de l'Enfance*, February, 1886. According to this author the condition is not a rare one among children, especially as the result of continued digestive troubles where there is alternation of diarrhœa and constipation. A number of such cases have been seen by the author in children between the ages of twelve and eighteen months, especially among those who have been fed from the bottle and have been fed too frequently. Less frequently the same condition occurs among children who have been nursed at the breast. In most of the author's cases there was a precedent condition of gastro-enteritis. Moncorvo, of Rio Janeiro, who has also written upon this subject, found that most of his cases originated from bad hygienic surroundings, from hereditary syphilis, or from malarial intoxication; but this experience did not occur to the author, the digestive and intestinal troubles, as already observed, being most prominent as causative influences. The stools in these cases are frequent, watery, and contain, more or less, half-digested food with an abundance of epithelium from the intestinal mucous membrane. They are discharged from the bowel in a stream or jet, and are accompanied by the passage of gas. They sometimes have a fetid odor and sometimes an acid one, or no odor at all. Their greenish color is a noticeable point, the color being due to a change from the natural brown or yellow by the action of the acid juices which convert a portion of the bile into biliverdine. They also contain a quantity of glairy mucus. All these indications point to an advanced condition of gastro-intestinal catarrh, and in nine times out of ten the author affirms that a dilated condition of the stomach will coexist. Thus, it is seen that a dilated condition of the stomach is only an attendant phenomenon of a local or diathetic diseased condition. The diagnosis of this condition is not thought to be a difficult matter, even though the præ-gastric walls do not project beyond the general level of the surface of the body. By placing the child upon the back and drawing up the knees a sound may be obtained by percussion, which is called a hydro-aërial sound, which indicates a dilated condition of the stomach. Of the consequences of this condition two at least are to be noted, one having reference to the heart and lungs, the other to the nervous system. As to the former, the author has noticed that in some children the excessive enlargement of the stomach is associated with dyspnœa and with cardiac palpitations; as to the latter, night-terrors have sometimes been associated. In addition to the excessive and improper feeding which may produce this condition the author also mentions as exciting causes, weaning, dentition, and bad hygienic surroundings. A tonic and reparative treatment is, of course indicated.

REFLEX NERVOUS PHENOMENA FROM INJURIES TO THE TESTICLE.

We note the two following cases illustrating serious reflex symptoms following wounds of the testicle and the tunica vaginalis. The first occurred during the tapping of a hydrocele, and is described in the *Lancet*, July, 1886, p. 23. M. Loumeau tapped a hydrocele in a healthy man, aged forty-four, and drew off about one hundred and twenty-five grammes of clear fluid. The operator then injected gently sixty grammes of a mixture of tincture of iodine with twice its volume of water. All at once the patient complained of severe pain in the spermatic cord and loins, with cramp in the right forearm. The ulnar border of the right hand then became flexed, the ring and small fingers being completely bent, while the index and middle fingers became flexed at their metacarpo-phalangeal articulations. The thumb also was flexed and brought near the fingers. Exactly the same position was shortly afterwards assumed by the left hand. There were no convulsions nor syncope. After a few minutes the ulnar muscles began to relax, and the index and middle fingers became flexed completely on the hand, which itself became strongly flexed on the forearm. All the muscles on the front of the forearm became hard and contracted. The palmar fascia was strongly retracted, and the palmaris brevis quite tense. On both sides the ulnar affection had given place to contraction of the muscles supplied by the median nerve. The tongue hung loosely in the mouth, and the patient was unable to articulate a sound. The forearms were shampooed, and nearly an hour afterwards the muscles relaxed. The patient recovered completely, leaving the hospital cured, in a few days. The author had no idea of the cause of this attack, but attributed it to reflex irritation of the nerves of the serous membrane of the testicle.

The second case is one of sudden death from a blow on the testicles, and is reported in the *London Medical Record* (August 16) from the Bulgarian *Meditzinsko Spisanïë*, June 20, 1886. A man, aged between forty-five and fifty, fought with a woman on the street. During the fight the woman dealt a violent blow on his genital organs. The man shouted, "I am dying," staggered, and fell insensible. The author, Dr. Ivanoff, who was almost immediately fetched to the spot by a policeman, found the patient lying on his back, motionless, pulseless, and breathless, his face, neck, and scrotum being very red. Not a trace of ecchymosis or any other signs of injury was detected anywhere in the man. Since there seemed to be heard a slight cardiac murmur, and a slight tremor to be felt in the carotides, Dr. Ivanoff, without any delay, resorted to artificial respiration. But neither forty-five minutes' manipulations nor electrization could establish the man's breathing. The congested parts soon became livid, and every sign of life extinct. At the post-mortem examination, there were found only intense congestion of the meninges and brain, congestion of the lungs, with numerous punctiform ecchymoses, accumulation of dark-red fluid blood in the cardiac cavities, congestion of the stomach, liver, kidneys, and testicles. Everything else was quite normal. Basing his conclusions on all the facts, as sketched above, Dr. Ivanoff stated (forensically) that death followed from syncope, which had been brought about by sudden violent pain caused by a blow on the testicles.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 11, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	—	—	—	—	—	—	—
Philadelphia (Sept. 4)	971,363	372	141	20.90	11 73	12.58	6.29	2.29
Brooklyn	690,000	355	195	29.40	10.92	19.32	.28	4.48
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	219	95	24.68	15.17	16.28	2.74	3.66
St. Louis	400,000	174	83	30.78	7.31	10.83	2.28	10.83
Baltimore	417,220	163	75	26.84	14.64	13.42	4.27	2.44
Cincinnati	325,000	106	46	24.84	12.22	10.34	1.88	10.34
New Orleans (Sept. 4)	238,000	94	30	23.44	10.64	10.64	1.06	2 12
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	115	46	10.44	9.57	6.09	3.48	.87
Pittsburgh	190,000	70	36	37.18	4.29	10.00	5.72	8.58
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	70	34	8.58	10.00	2.86	1.43	—
Worcester	68,383	25	15	20.00	20.00	16.00	—	4.00
Lowell	64,051	33	14	48.48	6.06	27 27	15.15	3.03
Cambridge	59,660	26	10	26.95	3.85	23.10	—	3.85
Fall River	56,863	28	14	32.13	14.28	10.71	10.71	3.57
Lynn	45,861	20	3	10.00	15.00	—	5.00	—
Lawrence	38,825	6	1	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	7	39.96	13.33	39.96	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	18	10	27.77	—	—	11.11	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	6	2	33.33	16.66	33.33	—	—
Taunton	23,674	9	6	33.33	22.22	22.22	11.11	—
Haverhill	21,795	10	5	30.00	20.00	30.00	—	—
Gloucester	21,713	9	6	22.22	11.11	11.11	—	11.11
Brockton	20,783	5	3	40.00	—	40.00	—	—
Newton	19,759	7	4	28.56	—	14.28	14.28	—
Malden	16,407	9	3	33.33	—	22.22	—	11.11
Fitchburg	15,375	11	5	18.18	—	—	—	9.09
Waltham	14,609	10	5	20.00	—	20.00	—	—
Newburyport	13,716	7	2	28.56	14.28	28.56	—	—
Northampton	12,896	4	3	50.00	20.00	50.00	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,896: under five years of age 909: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 517, consumption 215, lung diseases 78, diarrhœal diseases 283, diphtheria and croup 80, typhoid fever 65, malarial fever 32, whooping-cough 25, scarlet fever 16, cerebro-spinal meningitis seven, measles six, erysipelas three. From malarial fevers, New Orleans 11, St. Louis six, Baltimore five, Brooklyn four, Charleston three, Philadelphia two, District of Columbia one. From whooping-cough, Brooklyn nine, Pittsburgh six, Baltimore and District of Columbia four each, Lowell and Cambridge one each. From scarlet fever, St. Louis four, Brooklyn three, Baltimore, Cincinnati and Pittsburgh two each, Philadelphia, Fall River and Lynn one each. From cerebro-spinal meningitis, District of Columbia four, Fall River, Gloucester and Fitchburg one each. From measles, Brooklyn and Pittsburgh two each, Philadelphia and Salem one each. From erysipelas, St. Louis two, Brooklyn one.

In the 22 cities and greater towns of Massachusetts, with a population of 1,015,634 (population of the State 1,941,465), the total death-rate for the week was 23.61 against 20.51 and 22.88 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending August 28th the death-rate was 20.1. Deaths reported 3,497: infants under one year of age 1.233: acute diseases of the respiratory organs (London) 160, measles 57, scarlet fever 49, whooping-cough 48, fever 35, diphtheria 27, diarrhœa 562.

The death-rates ranged from 13.9 in Bristol to 26.8 in Preston; Birmingham 21.0; Blackburn 19 1; Hull 17.4: Leeds 21.2; Leicester 24.7; Liverpool 24.6; London 18.3; Manchester 23.7; Sheffield 22.0; Sunderland 18.4.

In Edinburgh 16.6; Glasgow 18.7: Dublin 18.2.

For the week ending August 28th, in the Swiss towns, there were 30 deaths from consumption, diarrhœal diseases 17, lung diseases 13, diptheria and croup one, whooping-cough seven.

The death-rates were: at Geneva 9.1; Zurich 11.5; Basle 19.2; Berne 21.4.

The meteorological record for week ending September 11, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Sept. 11, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 5	30.372	62.5	65.8	58.4	90.0	83.0	84.0	85.7	N.E.	S.E.	S.	5	10	1	O.	O.	F.	—	—
Monday,.. 6	30.371	67.1	70.4	61.9	84.0	83.0	95.0	87.3	N.W.	S.E.	W.	3	12	4	F.	F.	G.	—	—
Tuesday,.. 7	30.301	74.0	84.9	62.0	92.0	50.0	90.0	77.3	W.	W.	W.	6	12	12	O.	C.	F.	—	—
Wednes... 8	30.132	74.2	84.5	66.6	88.0	49.0	87.0	74.7	W.	S.W.	W.	12	20	16	C.	C.	F.	—	—
Thursday, 9	29.997	75.1	84.6	67.4	88.0	62.0	81.0	77.0	W.	S.W.	S.	11	14	6	C.	F.	O.	—	—
Friday, ...10	29.851	64.1	71.8	62.1	99.0	89.0	92.0	93.3	N.E.	N.E.	W.	8	6	4	R.	T.	O.	—	—
Saturday, .11	29.847	71.7	80.9	64.0	91.0	34.0	56.0	60.3	W.	N.W.	N.W.	11	15	8	O.	C.	C.	10.30	0.21
Mean, the Week.	30.125	69.8	77.3	63.2				79.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 4, 1886, TO SEPTEMBER 17, 1886.

Middleton, P., major and surgeon. Assigned to duty at St. Francis Barracks, St. Augustine, Fla., as post-surgeon. S. O. 126, Division of the Atlantic, September 2, 1886.

La Garde, L. A., captain and assistant surgeon. Upon departure of 3d Infantry from Fort Ellis, M. T., to proceed to Camp Sheridan, Mammoth Hot Springs, Wyo. Ter , and report to the commanding officer for duty, relieving Assistant Surgeon Pilcher. S. O. 87, Department of Dakota, August 27, 1886.

Wakeman, Wm. J., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for three month's extension, to take effect when his services can be spared in the Department of the Platte. S. O. 207, A. G. O., September 6, 1886.

Pilcher, James E., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon La Garde from duty at Camp Sheridan, to return to his proper station, Fort Custer, M. T. S. O. 87, Department of Dakota, August 27, 1886.

Wales, Philip G., first lieutenant and assistant surgeon. Granted leave of absence for one month with permission to apply for an extension to November 5, 1886. S. O. 70, Division of the Pacific, August 31, 1886.

Banister, Wm. B., first lieutenant and assistant surgeon, (recently appointed). To report by letter to the commanding general, Department of Arizona, for assignment to duty. S. O. 208, A. G. O., September 7, 1886.

Walker, F. V., first lieutenant and assistant surgeon. Assigned to temporary duty at Fort Adams, R.I. S. O. 131, Division of the Atlantic, September 8, 1886.

Wales, Philip G., first lieutenant and assistant surgeon. Resignation accepted by the President, to take effect November 5, 1886. S. O. 212, A. G. O., September 11, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 18, 1886.

Simons, M. H., passed assistant surgeon. Detached from the "Alert," and placed on waiting orders.

Norfleet, E., passed assistant surgeon. Detached from the "Alert" and placed on waiting orders.

Bogert, E. S., medical inspector. Ordered to Navy Yard, New York, September 28, 1886.

RESOLUTIONS IN MEMORY OF CHARLES D. HOMANS, M.D.

The Surgeons of the Massachusetts Charitable Eye and Ear Infirmary have heard with profound sorrow of the death of Dr. Charles D. Homans, the President of the Board of Trustees of the Infirmary.

They wish publicly to express their high esteem for his character and their sense of the void his death leaves, both in the profession and in the community.

They recall with pleasure his genial and manly presence, his skill as a physician, his manner courteous and kindly to all, his years of gratuitous service in the relief of the sick and suffering, and with deep feeling regret that a life which promised years of continued usefulness should now be brought to a close, and they would herewith tender to the family and friends a sincere and heartful sympathy in their affliction.

(Signed.)

G. Hay,
Hasket Derby,
Henry L. Shaw,
F. P. Sprague,
B. Joy Jeffries,
Robert Willard,
Clarence J. Blake,
Charles H. Williams.

DEATH.

Died at Wollaston, Mass., September 13, 1886, John Lang Bennett, M.D., M.M.S.S., aged thirty-five years.

BOOKS AND PAMPHLETS RECEIVED.

Report of the President of the Board of Health to the Legislative Assembly of 1886. Honolulu, H. I. 1886.

Leprosy. Report of the President of the Board of Health to the Legislative Assembly of 1886. Also an Appendix to the same. Honolulu, H. I. 1886.

Fourth Annual Announcement of the Northwestern Ohio Medical College, Toledo, Ohio. Session of 1886–87. Toledo, 1886.

Proceedings of the Association for the Advancement of Physical Education, at its Organization at Brooklyn, N. Y., November 27, 1885. Brooklyn, 1885.

Transactions of the Louisiana State Medical Society at its Eighth Annual Session held at New Iberia, La., April 14, 15 and 16, 1886. New Orleans, 1886.

Intubation of the Larynx as a Substitute for Tracheotomy in the Treatment of Pseudo-Membranous Laryngitis; with a Report of Eighty-Three Cases. By F. E. Waxham, M.D., Professor of Diseases of Children, College of Physicians and Surgeons.

The Non-Identity of Croupous Tonsillitis with Diphtheria. By L. Emmett Holt, A.M., M.D., Instructor in the New York Polyclinic. (Reprint.)

Transactions of the Obstetrical Society of London. Vol. XXVIII. For the Year 1886. Part III for May, June and July. London: Published by the Society 1886.

Führer durch das Medicinische Berlin. Nach anthentischen Quellen bearbeitet. Mit 7 Grundrissen und 1 Plan. Berlin, 1886. Fischer's Medininische Buchhandlung.

A Treatise on Electrolysis and its Applications to Therapeutical and Surgical Treatment in Disease. By Robert Amory, A.M., M.D. (Harvard.) New York: Wm. Wood & Co. 1886.

Ein Fall von Divulsion der Harnröhre bei einer hochgradigen mit Harnverhaltung verbundenen Urethralstrictur. Von Dr. Leopold Casper, Berlin. (Separat-Abdr. aus Berliner klin. Wochenschr., 1886, No. 30.)

Surgical Lesions of the Brain and its Envelopes. A Lecture delivered at the College of Physicians and Surgeons, Chicago, Ill. By Nicholas Senn, M.D., of Milwaukee, Professor of Principles and Practice of Surgery and of Clinical Surgery in the College. (Reprint.)

Leprosy in Hawaii. Extracts from Reports of Presidents of the Board of Health, Government Physicians and others, and from Official Records, in Regard to Leprosy before and after the Passage of the "Act to Prevent the Spread of Leprosy," Approved January 3, 1865. The Laws and Regulations in Regard to Leprosy in the Hawaiian Kingdom. Honolulu, H. I. 1886.

Original Articles.

BERIBERI IN BRAZIL.

BY HORACE M. LANE, M.D., OF SAO PAULO, BRAZIL.

Having occasion to visit all of the principal cities of Brazil twice during the past year, I embraced the opportunity to collect such facts as were accessible concerning this strange disease, which, of late, seems to have embraced the whole Atlantic coast of Brazil from 5° north of the equator to 28° south. We have no assurance that it may not yet invade our Gulf coast, where there is a considerable strip of country within the limits ascribed to it, and where conditions apparently favorable to its development exist.

I was shown every courtesy by resident physicians of public or private hospitals, and officials in charge of penal institutions. It was, however, extremely difficult to get statistics of mortality of beriberi, or the extent to which it prevailed; the epidemic was always just in advance, and I never came up with it. There exists a great deal of confusion in the minds of many physicians as to exactly what constitutes a case of beriberi, but in some places, as was observed in the early days of the disease in India, there is a tendency to call every fatal disease of debility or obscure case of dropsy or paralysis, beriberi, so that it is impossible to reconcile statements made concerning it at different points on the coast. I have, therefore, shaken together the results of all of the observations made in upwards of one hundred cases, at Para, Maranham, Pernambuco, Bahia, and Rio de Janeiro, and endeavored to give a fair general view.

It is by no means as new in South America as is generally supposed. The first recorded observation of the disease is found in an old Portuguese work of 1756 (1),[1] where it is described as seen in Maranham, in the first half of the last century. Nothing is heard of it for one hundred years or more, when it is again recognized in Bahia (1860). It is probable, however, that it existed in Maranham and the neighborhood from the time of its first settlement, unrecognized, and treated as rheumatism, scurvy, or some of the ordinary medullary and cardio-hepatic diseases. It is also certain that it existed in Bahia many years before the epidemic of 1863 (2). At this time, however, it attracted the attention of observing physicians of the place, among whom were Drs. Patterson, Wurcheron, and Silva Lima, the latter writing and publishing, in 1872 (3), an elaborate description of its clinical features, based upon one hundred and twelve cases, and a review of the literature of the subject, making it clear that the disease was the veritable beriberi of India. It is to be regretted that this eminent clinician has not revised his work of fifteen years ago, and given to the profession the results of his later observations and riper experience, and of the extensive pathological research he is known to have made during this time. With his unrivalled opportunities and his acknowledged ability, no one could make a more valuable contribution to the literature of this obscure subject.

The geographical limits of the disease are now enlarged to include various points of India, the Malabar coast, part of Ceylon, Java, a limited area in Africa, China, and the coast of Bengal, Borneo, Cuba, Paraguay, and Brazil. It has a remarkable tendency to select certain strips of coast, leaving others in the same latitude, and apparently in the same condition untouched. Thus it is found in Java, while at Baly (Clapham), separated only by a narrow strait, it is unknown. In Cuba it has never been recognized out of Cardenas. It occupies the whole coast north of Madras (Lat. 13° 6′ N.), but is never seen south of it (Aitken). It is found only on the west side of the Bay of Bengal, from 15° to 20° N. Lat. In India it never extends more than forty (4) to sixty miles from the coast (Morehead), while in South America it has been seen in Matto Grosso (Araujo Braga), five hundred miles from the coast, and fifteen hundred miles up the Amazon (Herndon), and in São Paulo, at an elevation of nearly three thousand feet (Bertoldi), and in Bolivia, on the Atlantic slope of the Andes. It has been seen as far north as 40° Lat., and as far south as the 28th parallel, though it may be said to be limited to about 25° either side of the Equator. It is a singular fact that the disease has not yet been found in the West Indies, except at Cardenas, in Cuba, nor on the west coast of Africa, nor north coast of South America, nor in any part of Central America or Mexico, or the United States (5).

The very name is suggestive of something foreign, and we are prepared to learn that it is of Indian origin. Its etymology is obscure. It is probably from the Singhalese word *beri*, meaning weakness, inability — equivalent to our generic term *disease*. The repetition is common in the East to indicate intensity. It has also been said to come from the Hindoostanee word *bheri*, a sheep, from the resemblance of the doubling gait of the beriberic patient to the walk of a sheep. Others trace it to bhebheri, meaning numbness, rheumatism, a sore or swelling.

The word was found in use on the Malabar coast, where the disease was first discovered, and has been handed down by Anglo-Indian and Dutch medical writers, as a name for almost every fatal disease of debility, such as various kinds of paralysis, reflex paraphlegia, dropsy, anasarca, scurvy, anæmic rheumatism, various heart diseases, etc., known in the East. Later writers, however, have used it with greater precision. It is known in Japan as kake-kake (6); in Ceylon, as the bad-disease. The "Parangi" — which depopulated the "Vanni" district in Ceylon, and reduced it to a jungle, was probably *beriberi* (Evezard and Clapham). In Africa, it is the *sleeping sickness*. Authors speak of it as *Hydrops Asthmaticus*, *Indosynclonus*, *Synclonus-Beriberia*, etc., etc. So much for the name.

The disease, as found on the Brazilian coast, may be defined as "a constitutional disease, characterized by dropsy, paralysis, degeneration of muscular tissue, and progressive anæmia, whose chief features are numbness of surface, and hyperæsthesia of deep muscles of the extremities — gradual and incomplete ascending paralysis, both motor and sensory. Total absence of fever. Præcordial oppression, scanty and high-colored urine, hoarseness, and dusky discoloration of the skin, the fatal cases terminating by suffocation, asphyxia, or asthenia; favorable cases by an abundant flow of urine (Silva Lima), slow convalescence, and great tendency to relapse (Lacerda)."

Clinically, it may be divided into three forms: I. The *paralytic*, dry, or atrophic form — *B. Atrophia* — where paralysis is the marked feature, and where there is a deficiency of fluids in the vessels, with, in rare cases, muscular atrophy. 2 The *œdematous* or wet form — *B. Hydrops* — in which there is a watery condition of the blood, with effusions into the cellular tissue and serous cavities. 3. The *mixed* — *B. Polysarcia* — where symptoms of either or both the other forms are found, with wide variations, and where the sharp lines of difference are lost.

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[1] These figures refer to the Bibliography at the close of the article.

There are two well-marked stages: the prodromic and the active. There is, in the first, a tired feeling, indisposition to move, weakness about the legs; in walking, a slight inclination of the toes to drag, obliging the patient to step higher than usual, inability to retain on the foot the heelless slipper usually worn by the poorer classes of Brazil; a drowsy feeling, and a sense of extreme shortness of breath on the slightest exertion, loss of appetite, and a sense of fullness at pit of the stomach; slight pains, generally attributed to rheumatism or neuralgia; numbness and tingling at tips of fingers, and of toes, around corners of mouth, and over anterior tibial muscles, a sensation around the waist as of a cord drawn tightly, with a knot over the epigastrium, and a slight pain at or beneath lower end of sternum. Up to this point, the symptoms are common to all forms of the disease. In the *paralytic* form, the patient now begins to feel anxious, the skin of the legs becomes dry and falls *asleep;* there is great sensitiveness, on pressure, about the deeper muscles of the calves of the legs, the belt gets tighter, and the knot over the epigastrium larger and harder, and distresses the patient fearfully, the tightness sometimes reaching up to the axilla, the dyspnœa becomes frightful, the face assumes a livid hue, the pulse becomes small and weak, the urine scanty and almost the color of coffee, the appetite lost; sometimes there are partial convulsions, clonic spasm of the muscles; patient complains that he is suffocating, is covered with cold, clammy sweat, and does really die of suffocation, in full possession of his mental powers, and *without* fever.

In the second form, the dyspnœa is a troublesome symptom and very early there is an unaccountable sense of weariness (canceira); there is an apparent swelling and hardening of the calves of the legs, which is, however, only a contraction of the surrounding tissue; the tendon reflexes are usually exaggerated, rheumatic pains in, and heaviness of the feet, the anasarca, a pathognomonic symptom of this form, first appears in the anterior part of the leg, and *not in the feet*, as in other diseases. The pulse is full and compressible, a systolic murmur is heard over the pulmonary valves, and in the large arteries; the patients become low spirited and alarmed. The dense, and slightly elastic œdema increases everywhere, hardly pitting at all on pressure. The serous cavities fill with effused liquid. There is a slight degree of numbness and often a little paralysis; the urine is, as in the first form, scanty and high-colored, of acid reaction and spec. grav. 1007-1030. Death comes by asphyxia, visceral congestion, or occasionally, by embolism of pulmonary artery (Silva Lima), and sometimes suddenly and unexpectedly (Lacerda).

The symptoms of the third form vary greatly. Sometimes the paralytic, and sometimes the œdematous predominating, and sometimes both come on simultaneously. These are the cases that become suddenly bad, and are known as "*Gallopante*" galloping, or acute pernicious form, the patient dying in six to twenty-four hours. In the mixed form, the sensitiveness of the muscles is very great, the feeling of exhaustion very pronounced; the dyspnœa great, swiftly progressing to asphyxia; there is a rapidly ascending paralysis, involving all of the respiratory muscles. The paralysis, either motor or sensory, is never complete. The sphincters are never involved in either form. There is never œdema without some paralysis, nor a case of pure paralysis, without some œdema; the diaphragmatic belt, a characteristic feature of the disease, is always present, but much more marked in the paralytic than the wet form. Rapidly increasing œdema marks the gravity of the case. In all cases there is a peculiar puffiness and lividity of the face, sometimes producing a mottled appearance. The white line produced by drawing the finger across the surface disappears slowly. In the œdematous cases there is an extreme turgidity of superficial vessels, and not infrequently pulsation of the jugulars. There is often tenderness of the periosteum of the long bones, with a peculiar roughness of surface. Digestion is nearly always deranged; dysentery, diarrhœa, and other tropical diseases often complicate it. Urine is *always* scanty, high-colored and contains epithelial cells, and degenerate fat corpuscles, with urate of ammonia, but rarely any albumen. It is to be regretted that no accurate quantitative analysis has been recorded that shows the amount of urea secreted. The skin is dry and harsh. The walk of the beriberic is unique, resembling that of a child learning to walk; the forward movement is nearly normal, the trouble being in recovering the feet. There is also a peculiar hoarseness of the voice in this disease, accompanied by a jerky, sighing breathing. Many of the isolated symptoms might be attributed to other well-known diseases; it is the grouping together, the peculiar association of the separate features that marks this formidable disease as *sui generis.*

In a disease characterized by symptoms so constant and marked, we should naturally expect to find marked anatomical changes, but we are disappointed. There are no constant lesions met with either in the cord, or large organs that cannot be considered secondary; the blood alone shows important morbid changes in the destruction and degeneration of the red disks, and has evidently lost its nutritive and oxygenating properties. The areola tissues of the heart, lungs, brains, and abdominal viscera, are found soaked in serous fluid, with effusion into the cavities; in eighty per cent. of the wet cases the pericardium is found distended with fluid, containing flakes of fibrin. In this variety the heart is found enlarged, softened and flabby, of pale-yellow color, filled with dark blood, sometimes fluid, sometimes clotted; when the latter, the dark clot extending into the pulmonary artery and large venous trunks. The muscular tissue of the heart-walls is always found undergoing fatty degeneration (which according to Ondenhover, is often the cause of death). The same condition is found in the tissue of the paralyzed voluntary muscles. In the paralytic form the heart is smaller and empty, and the degenerative changes are less marked.

The appearance of the brain and cord is variable: sometimes the medullary substance seems harder than normal, oftener, however, it is softened. It is frequently found, with ecchymotic spots at emergence of the nerves, the meninges are injected; the cord is sometimes altered by minute effusions of fluid into its substance, congestion of its vessels, spots on the surface of the arachnoid; microscopic examinations have revealed annular sclerosis invading the antero-lateral pillars, with encysted granular masses in different parts of the spinal marrow. Sclerotic patches in the lumbar and dorsal regions of the cord are often found, the nerve tissue is often yellowish white and granular in appearance (Lacerda). Proliferation of interstitial connective tissue in the lateral columns and posterior roots is found. These varying conditions of the cord, however, do not always bear a just relation to its known mechanism in producing the symptoms found. Serous effusion into the minute connective tissue is the only constant change found.

There is evidently, first, a paresis of the cardiac ganglia, rendering the heart weak, and emptying its cavities; rapid degenerative changes follow in the muscular walls; there is a feeble vis-a-tergo and they yield to blood pressure, thereby producing dilatation and tricuspid insufficiency, with the inevitable regurgitation, capillary stasis and dropsy. A vaso-motor paralysis, acting in like manner upon the pulmonary arteries and arterioles, accounts for the murmur. Congestion alone may destroy life by impairing functions,— by sheer physical changes, and the inevitable consequence which want of circulation entails upon the blood;—blood-stasis, and separation of the elements, formation of coagulum, deposit of pigmentary matter, faulty oxygenation, etc.

If we allow ourselves to consider a single symptom or group of symptoms, the diagnosis is somewhat puzzling; but if regarded as a whole, the symptoms and physical signs present a case not easily mistaken. The individual symptoms, or even a group of the symptoms, may be found in rheumatism, myelitis, trichinosis, scurvy, reflex paraplegia, ordinary anasarca, pernicious anemia, and often the bronzed skin of Addison's disease is observed, granular degeneration of the kidneys, the cachetic dropsy of Andral, various forms of heart disease, and almost every disease due to profound anemia; but in all these there is some essential feature lacking, or in beriberi, there are well-marked symptoms incompatible with the known facts in other diseases. It is essentially a disease of inanition; there is starvation of the cerebro-spinal centres, and consequent anemia, from some important change in the blood that impairs the complex process of nutrition.

The pathognomonic features are the gait, fatigue, the diaphragmatic belt, and incomplete ascending paralysis, never involving the sphincters. The anæmia can hardly be said to be a distinguishing feature, as it is the most common of all conditions incident to tropical life.

What can we say of the cause of the disease? We cannot resort to that convenient term, malaria or marshmiasm,—the great asylum of all obscure diseases, —as it has none of the chief characteristics of malaria, no chill no fever, and when epidemic, almost no recoveries. It has a much narrower limit, also, and is not found in many places where malarial disease most abounds. Then, again, when we say malaria, we say nothing precise or definite, and before we use the term in so important a connection, we should at least define it, and give its elements a fixed character, and explain their *modus agendi*. We have only two points to guide us: first, its limited range and erratic distribution; second, the fact that it requires a residence of six or eight months to be subject to it.

One is thoroughly impressed with the belief that it depends upon some specific poison generated outside of the body; this belief finds corroboration in the fact that Dr. J. B. Lacerda, Director of the Government Laboratory of Experimental Physiology in Rio, and the discoverer of the application of permanganate of potash to snake-bites, has actually found in the spinal marrow and blood of persons dying of beriberi, and isolated, a germ which is in some manner constantly related to the disease.

Dr. Lacerda (7) has published a very interesting work, describing the micro-germ, and telling how he discovered it. He also finds the identical germ in certain kinds of rice. This receives strong support from observers in India where rice is one of the articles of diet *prohibited* to beri-beric patients. This talented observer has, during the past year, pushed his studies into a still more interesting field, and has found the microbe of beriberi to be identical with that which produces the horse-pest (*Peste de Cadeiras*) in the great island of Marajo (8). This disease of horses, in its clinical features, so closely resembles beriberi in the human subject, that Dr. Lacerda's discovery causes no surprise. It also receives strong support from the fact that, wherever the pest exists there also beriberi is found; to wit: in Bolivia, on the Solimoes (Herndon) Mattogrosso, Madras, (9) etc.

The limits of this paper oblige me to forego the pleasure of giving a synopsis of this most interesting work of one of Brazil's foremost investigators. Suffice it to say, that he follows Pasteur's methods, and has isolated this germ, which belongs to the great group of *ascomycites*, and cultivated it, and demonstrated its effects upon various animals, and its causal relation to beriberi, in a most convincing manner. If we accept this, the pathology is comparatively simple. The wide diversity of symptoms is explained by the periods of vegetation, or greater or less activity of the germ, as well as the varying susceptibility of persons attacked. The universal law governing the action of these micro-germs also obtains; in order that they may become noxious elements it is necessary that the normal forces of resistance be lowered, or that some inter-current abnormal condition be present, lack of acclimation is simply lack of habit to resist.

The question naturally suggested is, does the poison primarily affect the blood or the nervous system? The first evidence of morbid change is in the nervous system. The pain, an early and a characteristic symptom, depends upon a hyperæmic condition of the affected parts, due to a vaso-motor paralysis. The varying periods of incubation do not imply any difference in the character of the germ, but it is a question of the quantity introduced and the degree of resistance which it meets. The evidence that there is a primary lesion in the cord is strong; the paralysis is due to pressure from effusion; the effusion dependent upon rapid, destructive changes in the blood. The distrophy, the marasmus, would be indirectly connected with the disturbed function of the cord. The œdema would be referred to the disturbance of the vaso-motor enervation.

The slight paralytic disturbance, in the wet form, where trophic changes predominate, only shows how variable is the localization of the medullary trouble, now in the motor region, and again in the trophic area. Admitting the existence of a specific germ, we easily understand how the pathological changes are most sharply accentuated in the spinal marrow; a selective affinity, which is a property of all morbigenic germs, enables it to seek the spinal marrow, as the most congenial breeding ground.

Once established in the cord, it has a two-fold action, a mechanical and obvious one, blocking up the capillaries, and disturbing the interstitial circulation, producing congestion, compression of the cellular elements, and consequent atrophy; a chemical action produced by the poisonous detritus, or ptomaines of the micro-organism, in its rapid reproductions, with their well-known fermenting and dissolvent action upon the blood, which is the receptacle of all the residue of organic cellular life; and this explains the dyscrasia, and the rapid and general serous transudation, the acute anasarca, which is the gravest feature of the disease. Now, then, it is not difficult to connect the symptoms with the lesions of the cord, as far as observed, and which are located chiefly in the lumbar and dorsal regions. When we remember that the spinal cord more completely fills the vertebral canal in the dorsal region, than either above or below, it will be understood how symptoms from serous effusion and other lesions will manifest themselves, first, by paralysis and unsteadiness of the lower limbs. Again, the nerves which supply the skin and muscles of the leg and foot arise from the third sacral, and are damaged by a lesion involving the lower part of the lumbar enlargement. It will be remembered that one of the earliest symptoms is a pain in the lumbar region. The actual loss of sensation with wasting points, especially if irregularly distributed, as in beriberi, refers to damage of the nerve-roots, outside of the cord, and relates to the meninges rather than the cord. This, too, coincides with observed lesions. (Lacerda.) Subacute and symmetrical myelitis of the anterior cornua, in the lumbar and cervical enlargement, causes paralysis and atrophy of all four extremities, the upper part of the limbs being normal; the sclerotic patches already mentioned, and other changes are most frequently found in this region.

The morbid agent and its products are eliminated slowly through the kidneys.

It is generally supposed that the number of deaths from beriberi is greater than that of any other disease on the Brazilian coast. I am inclined to think that this is an exaggeration. The percentage of deaths among those attacked is very much smaller than it was fifteen years ago, and it would be safe to say does not exceed 30 to 40 per cent.

Dr. Silva Lima's report of 112 cases gives the death-rate as 62.50 per cent. as follows:

Paralytic, 66 cases with 33 deaths . .	50 %	62.50%.
Œdematous, 23 cases with 18 deaths .	78.26 %	
Mixed, 23 cases with 19 deaths . . .	82.60 %	

In India the death-rate is usually about 25 to 30 per cent. (Malcolmson).

The coast line where it prevails in Brazil, is nearly 3,000 miles long, from Manáo's, on the Amazon, to Santa Catherina, and its existence at all seasons of the year enables the aggregate of its victims to reach a high figure (10).

Concerning the treatment: this is extremely simple. Drugs do no good whatever. The patient should be removed at the earliest possible moment to a place where beriberi does not prevail. Bahia, beautifully situated along a high ridge, easily drained and continually exposed to the sea breeze, seems to be the headquarters of the disease. If patients are removed early before irreparable damage has been done, to the island of Itaparica, a low, flat place, just across the bay, they recover almost as if by magic.

The treatment should plainly be directed to removing the effused fluids, regulating the functions of the important abdominal viscera, especially the kidneys, increasing the action of skin and restoring to the blood its normal constituents; to these ends diuretics, cathartics and tonics are indicated. In India, Maxwell gave phosphorus in substance in 1–2–3 grain doses with success (11). (Lacerda explains the predilection of the micro-germ for the nervous tissue by the fact that this tissue abounds in phosphorus and he observed that the microptyte multiplied most rapidly in a culture acidulated with phosphoric acid.) A great variety of medicines are given, but change of surroundings is the only thing that cures, and in the acute pernicious type this fails. In Pernambuco a preparation of the "Mandioca" plant is used, and has a local reputation. It is simply a powerful diuretic. The *treek-farook*, so extensively used in India, is composed chiefly of terbinthinates with rhei and acts as a prompt diuretic and cathartic (12).

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REPORT ON THERAPEUTICS.[1]

BY FRANCIS H. WILLIAMS, M.D.

ERGOT.

NOT long ago, Professor Kobert showed that the noteworthy constituents of ergot are ergotinic acid, which does not promote uterine contractions, and cornutine and sphacelinic acid, which do. What he has published in the *Practitioner*[2] will be found of interest.

"Ergotinic acid: As regards this substance and its sodium salt, I may say I have administered it internally and hypodermically to pregnant bitches, rabbits, cats, and sheep. The doses given were at first small, and then increased, till finally they were toxic. The results of all these experiments entirely agreed with my former ones; when administered internally, even the largest doses are well borne, without the supervention of uterine contractions, and without any material disturbance of the mother. At most, the stools became semi-fluid. When injected subcutaneously, relatively large doses cause complete narcosis, lasting twenty-four to forty-eight hours, during which reflex action ceases; nevertheless, neither contraction of the uterus nor expulsion of the young occurs.

"After very large doses the blood-pressure falls very low, and, as a consequence, the young die, but are not expelled. From these experiments, it will be seen that ergot of rye does not owe its ecbolic power to the ergotinic acid contained in it, and that we may consider as clinically worthless all preparations of ergotinic acid, and of sclerotinic acid (so-called) and all aqueous extracts which do not contain those principles which are soluble in alcohol.

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[1] Concluded from page 279.

[2] Vol. 35, p. 415.

"Cornutine: This substance is now prepared and supplied commercially by Gehe & Co., and is not to be confounded with the very different ergotinine of Tanret. The latter is quite inert. The former, however, produces uterine contractions, both in animals which are pregnant, and those which are not pregnant, but with the difference that in these latter the contractions are accompanied by coincident vomiting, diarrhœa, salivation, and irregularity of the pulse; but in the former, the irritability of the uterus is much increased, and, as a consequence, the uterine movements come on after doses so small that no other symptoms at all appear. Consequently, it was always possible, in dogs and cats, to bring about the expulsion of the fœtus without seriously jeopardizing the life of the mother, when the cornutine was injected subcutaneously. It was a matter of no consequence whether the young were mature or not. The amount necessary to accomplish this result was less than an eighth of a grain. Gehe's preparation, not being as yet a chemically pure one, must be administered in larger doses.

"Sphacelinic acid: This is a resinous body, insoluble in water, and consequently, must be administered by mouth in the form of an emulsion. In dogs and cats, a sufficient dose never failed to evoke powerful labor pains in the pregnant uterus, followed rapidly by the birth of the fœtus; yet not one of the mother animals lost her life in consequence. The contractions after this substance we may describe as being tonic, and after the cornutine as being clonic. From the foregoing, it will be seen that in the ecbolic action caused by ergot, both cornutine and sphacelinic acid take part.

"As hinted at in my previous communication to this JOURNAL, cornutine acts by influencing directly the centre for the uterine contractions situated in the spinal cord, but sphacelinic acid acts directly upon the uterus itself. And the combined action of these two substances is necessary if we wish to produce the action of ergot upon the uterus, and yet avoid any other untoward effects. Therefore, the only rational preparation for use in cases of parturition is one which contains all the cornutine and sphacelinic acid, but no ergotinic acid, for the latter is very injurious to the stomach, and has no influence upon the uterus.

"At my desire, Gehe & Co. have been good enough to prepare and supply commercially an article answering the above indications (extractum secalis cornuti cornutino-sphacelinicum Kobert). This is, of course, not in any way identical with other ergotins now in the market. Internally administered, it was, *when fresh*, exceedingly active, producing abortion with absolute certainty in pregnant animals. In the form of pills, it has been employed with success in man to stop hæmorrhages in various organs, and also in the treatment of vascular dilatation in cutaneous diseases. Unfortunately, it does not keep well for more than six months, and must each year be prepared afresh; a preparation a year old is almost absolutely worthless. It is necessary to state that neither ergot itself nor any of the numerous commercial and European and American preparations which I have examined have retained their therapeutic powers for more than twelve months. Of course the ergotinic acid remains unaffected, but this is valueless."

The work of Professor Kobert is valuable and interesting, and, it is to be hoped, will be supplemented by careful clinical observations.

CALOMEL AS A DIURETIC.[3]

Dr. Ernst Jendrássik, assistant to Professor Wagner, of Budapest, has created a genuine surprise by his exposition of a virtue residing in calomel, which has hitherto remained wholly unknown.[4] In fact, though some older writers recommend calomel in dropsy, and also allude to a certain diuretic action of the drug, this property is not even mentioned by any of the text-books at present in use. Wherever calomel is now being used in the treatment of dropsy, its drastic action alone is taken into consideration.

Being called upon some two years before to treat a case of dropsy in view of the wholly obscure causation of the affection and the strong suspicion of a syphilitic basis, our author instituted a mercurial treatment, beginning with inunctions of blue ointment, soon followed by small doses of calomel in combination with jalap. Scarcely two days had elapsed after the calomel treatment when the urine was voided in such quantities that the dropsical infiltration completely disappeared in a few days. A relapse of the dropsy a couple of weeks later was with equal promptness cured by the exhibition of calomel and jalap. This discovery, of course, led Jendrássik to further researches in dropsical cases, in which the diuretic action of the drug was distinctly established.

Calomel was generally given combined with jalap, though this addition is of no importance. Urination increased up to 9,500 c.c., in twenty-four hours, the polyuria usually being proportional to the extent of the œdema present. Jendrássik found that three-grain doses, given three to five times daily, showed the promptest effects. It is important and interesting to note that the diuretic action of calomel only shows itself simultaneously with the appearance of the symptoms which indicate the absorption of the mercury. The diuresis appears three days after having taken the drug and persists until the œdema has completely disappeared.

Constant experiments proved that in the combination doses of calomel and jalap, the diuretic effects referred alone to the first constituent, as the latter never produced these results when given alone.

The degree of the diuresis was found to be dependent upon two factors,— first, upon the size of the dose ordered; and second, upon the extent of the dropsy present. It was observed that the diuretic effects proceeded pavi passu with the manifestations of mercurial absorption such as metallic taste in the mouth, increased salivation, stomatitis, etc.

Many of the observations of Jendrássik are too interesting to be wholly omitted.

Employing doses of two to three grains of calomel, he invariably obtained the diuresis, while larger doses, six to seven grains, always failed. Our author justly concludes that in this, as in other instances, the effects of a medication depend not upon the amount of medicine ingested but upon the amount absorbed. In the instance of calomel, larger doses provoke diarrhœa, and thus to a large extent prevent the absorption of the drug. But little time appeared to intervene between the taking of calomel and the appearance of its diuretic effects.

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[3] Therapeutic Gazette, August 16, 1886.

[4] Deutsches Archiv. für Klinische Medizin, April 22, 1886.

If given in the proper dose, the diuresis appeared usually within a couple of days. At the same time it was noted that a certain quantity only of calomel was required to effect the diuresis, and that any further surplus was wholly ineffectual, especially when polyuria had already set in.

The author can give no clue to the manner in which the diuretic action of calomel in dropsy is effected, since neither the heart nor the kidneys are directly influenced.

Experiments made with calomel (and also with jalap) on healthy individuals remained wholly negative; stomatitis and salivation set in, but no polyuria. The same failure was obtained in a case of pleuritic exudation with diminished urination. Still, the hypothesis (as a result of exclusion of other modes) is ventured upon that the primary factor in the diuretic action of calomel is the resorption of the œdematous fluid by the blood.

In high grades of dropsy depending upon heart-disease, the drug evolves its highest diuretic powers; in cases of slight œdema in pleurisy, and in the œdema of kidney-disease, the drug fails.

In conclusion, the undesirable after-effects of calomel, such as diarrhœa and stomatitis, are briefly referred to and means suggested to obviate them. Against the diarrhœa a small dose of opium (one-seventh grain) acts as a sufficient check, without influencing the diuresis.

Stomatitis is to be met by the use of chlorate of potassium given as a gargle, or if this be insufficient, internally (twelve grains daily).

FURTHER OBSERVATIONS ON URETHAN.[5]

Krapelin emphasizes at the very beginning of his paper that the drug produced in no instance any untoward secondary effects, only in the case of an alcoholic subject suffering from gastric catarrh, the stated large quantity of urethan caused vomiting. Interference with the appetite was never observed, even when the drug was given for several weeks in succession. Ten to fifteen minutes after ingestion of the drug a quiet sleep ensues, lasting usually several hours, and from which the patients wake refreshed. If this sleep is interrupted by any external causes, the hypnotic effects assert themselves again after the removal or disappearance of the interference.

Urethan, however, is not an energetic hypnotic and fails usually in cases of intense or even considerable excitation, where it is far inferior to paraldehyde. In delirium tremens especially, Krapelin saw no effects as observed by Sticker. Again, urethan is no anodyne, it does not remove pain, and in this respect can of course never replace morphine. In combination with morphine, urethan seems quite useful.

Krapelin mentions as especial indications for urethan the affections of the melancholic and paralytic type; in mania and as intimated above, in delirium tremens, urethan is useless and paraldehyde ought to be resorted to. Hence we see that only conditions of slight excitation or depression constitute the principal indications for urethan; besides, it is claimed to be useful in exhausting diseases even when fever coexists.

The drug has certain advantages over paraldehyde, which cannot be questioned: among these are the longer duration of its effects and the absence of gastric irritation after its use.

Urethan can be taken simply in a watery solution, or, to correct its taste, with tinct. aur. cort.

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Hospital Practice and Clinical Memoranda.

CHILDREN'S HOSPITAL.

CASES IN THE SERVICE OF DR. A. T. CABOT.
REPORTED BY MR. W. B. FISKE.

TREPHINING FOR EPILEPSY.—TEMPORARY IMPROVEMENT.

Kate E., six and three-quarters years old, was admitted to the Children's Hospital, May 13th, 1885.

Her parents were healthy and intelligent. There had been no nervous trouble on either side of the family. The child herself was said to have been healthy and perfectly bright until October, 1882. At that time she fell about four feet, making a wound over the left parietal bone.

She was not made unconscious by the fall, but in an hour began to have convulsions which lasted with slight intermissions for twenty-four hours. During the following month they recurred almost daily, gradually increasing in frequency till she once had twenty-three in one day.

When seized with a spasm she would fall down suddenly, grow livid, foam at the mouth, and clench her hands. After a few minutes the muscles would slowly relax and she would pass into a sleep. The body would usually be drawn to the left. About six months after the fall her mental powers began to fail. One year later she was seen by Dr. Cabot, who advised an operation.

At the time of entrance she was an idiot, her mind having failed greatly since she was seen the year before. About one and a half inches above and behind the base of the mastoid process on the left side, could be seen the scar of the old scalp wound. Just in front of this was a slight depression which was almost imperceptible, and could be covered with the ball of the finger. Slight pressure upon this point would make the child dodge the head as though it were painful. The mother said that she frequently put her hand there just before she had a convulsion.

The girl had a clear history of convulsions following an injury. There was a slight depression of the outer table of the skull, and the aura seemed to take its departure from that point. On account of the otherwise hopeless condition, it was decided to trephine, with the hope rather than the expectation of relieving the child by the removal of the depressed fragment, if such should be found. On May 21st, 1885, Dr. Cabot operated with thorough antiseptic precautions.

A crucial incision was made just in front of the scar and over the depression. The whole of the depressed portion was covered by the trephine.

The button of bone removed showed a decided thickening and had a considerable projection from the inner table. There was no intimate adhesion to the dura and no especial thickening of that membrane was noted. A thickened ridge upon the inner table extended from the seat of operation down towards the base of the skull. This, which seemed to be the callus along a line of fracture was cut away with the bone-forceps. A drainage-tube was inserted, the flaps brought together with sutures and the wound dressed with iodoform and Lister gauze. After the operation she was placed in a room by herself, away from the noise of the wards. She was very comfortable until midnight. She then began to have convulsions, and had fourteen in the next eighteen hours. In the first twelve the twitching was noticed to have been on the left side as before the operation, but in the last two it was chiefly on the right. The dressing was changed under the spray, the discharge was very slight and the wound looked well. Ice cap applied. Pot. brom., gr. 10. t. i. d.

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[5] Therapeutic Gazette, August 16, 1886.

She slept well during the night of the 22d, and had on convulsions until the following morning. She had one then and one in the afternoon. They were shorter and less severe than the preceding ones had been and the twitching seemed equal on both sides. She slept considerably during the day but when awake was quite talkative and seemed more rational than she had been. Bromide increased to gr. 50 in the twenty-four hours. The dressing was not disturbed till the 26th, when the tube was removed.

June 1st the wound had healed by first intention and the dressing was left off.

She continued comfortable and seemed to improve in her mental condition. The bromide was reduced and discontinued on June 5th. From May 23d till June 12th there were no convulsions. June 12th she was brought down to the open ward among the other children, and within the first twenty-four hours she had eight convulsions. She remained in the hospital till June 20th, and had convulsions almost daily. From the time of the operation till her discharge, a period of four weeks, she had thirty convulsions. Sixteen of these occurred within two days after the operation, the remaining fourteen in the week after she was brought down among the other children. In the interval of nearly three weeks during which she was isolated she had none.

The mother was advised to take this child to an asylum where she could have absolute quiet, with intelligent watching, in the hope that the conditions which existed for three weeks after the operation might be encouraged and perhaps confirmed. She could not be induced to do so, but took the girl back to her home among other children where the convulsions soon returned and became about as frequent as they had been before the operation.

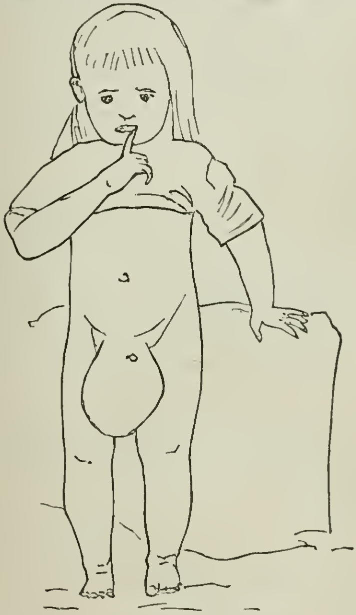
LARGE SCROTAL HERNIA. OPERATION FOR RADICAL CURE.

The child was two years and a half old. The hernia was first noticed when he was eight months of age. It had increased rapidly in size, so that when admitted to the hospital in June, 1885, the scrotum was as large as a cocoanut, the penis was almost obliterated. The hernia was on the right side. The ring through which it came was very large, easily admitting the thumb. The hernia was readily reducible but all efforts to keep it up by means of a truss had been fruitless. As a large portion of the intestines had been outside of the abdominal cavity for so long a time it was thought best to reduce the hernia and to keep it up, by rest in bed and bandages in order that the abdomen might adapt itself to its increased contents before proceeding to an operation.

This attempt was attended with considerable difficulty; in fact it was found impossible to keep the hernia up by any sort of bandage, as the slightest flexion of the hips would let the bowel out from under the pad. Finally a hip-splint was applied immobilizing that joint, and now pressure could be successfully used and the hernia controlled. It was thus kept in place for a week, and the child then suffering no distension or inconvenience, operation was decided upon.

Dr. Cabot operated July 6th, as follows:—

An incision about two inches long was made over the ring, care being taken not to prolong the incision toward the scrotum any further than was necessary in order to make it possible to keep the dressings from soiling with the urine. The sac was exposed and the bowel, which was allowed to descend at the beginning of the operation, was reduced to the abdomen. The sac was not opened or ligatured, as a portion of the intestine which seemed like the vermiform appendage, was adherent to it. The ring was represented by a triangular aperture in the abdominal wall with its base about an inch in length upon Poupart's ligament, and with its apex at about the site of the internal ring. The tendinous edges of a considerable part of this opening were so widely separated and so resistant that they could not be brought together. The greatly redundant sac of the hernia was drawn up out of the scrotum, folded together and thrust into the opening. Stitches were then taken through the tissues about the pillars of the ring and these parts were drawn together as far as possible over the plug which the sac made in the ring, so as to hold it in place.



A short drainage-tube was inserted, the wound closed with sutures and a dressing of iodoform and carbolic gauze applied. In order to keep the parts as quiet as possible a wire hip-splint was adjusted which immobilized the right leg. Every precaution was taken to protect the dressing from urine by means of a rubber cloth.

He was very comfortable after the operation, complained of no pain and had a good appetite, but was allowed only liquid diet. The outer part of the dressing was overhauled the second day, but as it was perfectly sweet and free from urine the inner dressing was not disturbed. One week after the operation the dressing was changed, one of the sutures was removed and a small quantity of pus welled up from the wound. The drainage-tube which had been inserted could not be seen or felt. He was now rather restless at night and his temperature was a little raised. Three days later another suture was removed and the drainage-tube was found and taken out. His temperature at once fell and afterwards continued at normal. The discharge was very slight from the wound and everything progressed favorably. On August 5th, the wire hip-splint was left off, and on August 13th, the wound was completely healed. Considerable induration remained about the ring through which no distinct opening could be felt.

When he coughed the parts bulged out, but there was no descent of the hernia. He was now allowed to be up and about with a T bandage adjusted to keep up pressure over the ring. He was sent to the Convalescent Home August 17th, stayed there a month, during which time there was no descent of the bowel and was finally discharged September 17th. In October he was again admitted to the hospital with pneumonia, in which both lungs were involved. During the first night he coughed violently and the bowel was forced out for the first time since the operation.

Unfortunately the pneumonia affected a large part of both lungs and the child succumbed to the disease. The benefit following the operation in this case was very marked, and the hernia which had before been entirely beyond control was easily retained by a light bandage and did not come down even when this was removed.

He had quite a severe cough for some time before entering the hospital the second time, and it was only when the cough became excessive and the child was much weakened by the disease that the obstruction at the ring was finally overcome.

LIPOMA OF RAPID GROWTH, SIMULATING MALIGNANT TUMOR.

The patient was a boy, two years seven months old. The tumor appeared on the inside of the thigh close to the pubes a year and a half ago. It was seen by several of the surgeons of the hospital in consultation, one year ago; and at that time although of but six months' growth it was as large as an orange, of hard consistency, and apparently deeply attached among the adductor muscles. The opinion then prevailed that it was a lympho-sarcoma, and as the result of an operation seemed doubtful the parents decided against it.

Last spring, however, the mother took the child to some physician who applied caustics. The eschars which were made readily healed, and this fact led to the hope that the growth might not be malignant. The mother was accordingly advised to take the child again to the city for advice. Dr. Cabot, who now saw the child, found that the tumor although much larger was softer and less firmly fixed. He advised its removal, and the child entered the hospital June 2d, 1885. The tumor now extended from the pubes almost to the inner condyle of the femur; was elastic and indistinctly lobulated. On June 3d, the child was etherized and an incision was made down to the tumor extending from just below the os pubis nearly to the inner condyle. The tumor was easily dissected out with very slight hæmorrhage; a few bleeding points were tied. A drainage-tube was inserted at either end of the incision, the wound was irrigated with liquor iodæ chlorinatæ 1-20, the edges of the incision brought together with sutures, carefully dried and dressed with iodoform gauze. By bandaging the leg to an outside splint, compression was applied over the wound.

During the night the child was very restless, and despite the use of chloral slept but little. In the morning his temperature was 103.8°.

The dressing was changed and the wound found to be looking well with the exception of considerable œdema of the thigh, in consequence of which two of the stitches at the upper end of the incision were removed.

He continued restless and fidgety, seeming stupid and saying nothing. June 6th, the third day after the operation pus was found upon the dressing for the first time, and in the tubes were shreds of foul-smelling, fatty tissue. A large phenyle poultice was applied in place of the previous dressing. June 10th, four days later, there was a free discharge of pus from both ends of the wound, and the scar from the caustic had softened and was opened, a little thin fluid and pus escaping.

During this time the child was in a state of semi-consciousness; he recognized no one and had not spoken since the operation. His pulse was rapid and feeble, and temperature about 101°. The amount of urine was noticed to be diminished on June 6th; on the 8th a trace of albumen was found, and a week later granular and epithelial casts with renal epithelium were found. After the 10th, he slowly regained consciousness and would recognize his friends, protrude his tongue, etc. He seemed to understand what was said in the room. The wound continued to look well, discharging i-ii℥ of laudable pus daily. The discharge became very thick and increased in amount about the 18th. At the same time the upper third of the thigh became considerably swollen and had a hard indurated feeling: no fluctuation could be detected. This swelling continued to increase for nearly a week, when it slowly began to diminish, but it was several weeks before it disappeared. There was no perceptible difference in the amount or character of the discharge either with the increase or decrease in the swelling.

June 25th, his temperature rose to 104.2°, there was a slight blush about the wound and the discharge stopped, but there was no constitutional disturbance. The temperature came down the next day, the blush rapidly faded and the discharge again became free. From this time convalescence was rapid and uninterrupted. The discharge gradually grew less and had ceased by July 16th. The thigh slowly resumed its normal size, although considerable induration remained along the line of incision.

He went home July 16th, and since that time has been well.

The growth was a fatty tumor, but the lobules of fat instead of being large and distinct were very small and white and surrounded by a fibrous stroma, which gave to the cut surface much the appearance of a glandular tumor.

The rapidity of growth in this case was rather remarkable as was the marked change in the seeming character of the tumor, as it increased in size. At first, while buried between the muscles of the thigh, it was hard and immovable, while later, when it pushed its way up from among them, it was much softer and had considerable mobility.

PYÆMIA.

Albert D., admitted Saturday, June 20th. A strong, rugged boy. A week before while at play, he had fallen six or seven feet from a fence, striking on his side. He complained of soreness about the body on Sunday but went to school as usual on Monday. On Tuesday he became feverish, vomited and complained of pain in the neck and back; these symptoms continued and on Thursday he became delirious. His parents brought him to the hospital and he was admitted on the medical side, but no definite diagnosis was made. Numerous fine moist râles and patches of consolidated lung were found, which seemed to indicate a broncho-pneumonia, but there were also some of the symptoms of typhoid. There was a pustular eruption scattered over the body, most marked about the knees.

His condition remained unchanged for the first two days; he was actively delirious a part of the time, and nothing happened to throw any light on the case. On the third day, June 22d, the parotid gland on the right side began to swell and grow painful. Dr. Cabot now made a diagnosis of pyæmia, and the boy was transferred to the surgical side. On the following day the middle joint of the second finger of the right hand became swollen and painful, and the next day a swelling appeared in front of the left ankle. The swellings all rapidly increased in size, and fluctuation was soon found. They were all opened early. That of the finger communicated with the joint and contained thick fetid pus; the one at the ankle was more superficial, but extended five or six inches up the leg, necessitating two openings; this also contained thick and fetid pus. The parotid abscess contained thick laudable pus.

The delirium passed away, but the boy lay in a typhoidal state most of the time, taking brandy ʒi every three hours, and quinine gr.iii t. i. d. June 30th, the parotid on the left side began to enlarge, but this subsided under poultices, without forming an abscess. He remained in about the same condition until July 11th, when his right elbow suddenly became painful and swollen, and the next day a swelling appeared in the region of the submaxillary gland on the left. Both of these abscesses enlarged so quickly that they were ready for operation by the 13th.

The pus evacuated from the submaxillary region was extremely fetid. At the elbow, an incision was made on the outer side and a counter opening on the inner side; a drainage-tube was passed directly through the joint. The contents of this abscess was then seropus.

The boy seemed better and brighter after these two abscesses were opened. His stimulants had been increased to iv℥ daily; this with eggs constituted almost all his food. He went on for about ten days without any set-back: the discharge from his numerous wounds was slight and he seemed to improve; but on July 24th, the right thigh was seen to be swollen posteriorly; three days later this was incised and a large quantity of pus was evacuated. There was no communication with the hip joint or the pelvis, as far as could be found. While he was upon the operating-table a swelling about the size of an egg opposite the lower dorsal vertebræ on the right side, was noticed. It was soft and fluctuating and could be made to disappear by pressure as though it were pushed within the cavity of the body. There were no symptoms connecting this in any way with the spinal canal. As it was evidently quite different from the other swellings, it was thought wise to aspirate it, and about ℥i of clear fluid, containing a few shreds of tissue, was obtained. This was sent to Dr. Gannett, who reported that it closely resembled cerebro-spinal fluid. It contained a small amount of albumen and some chlorides.

From this time the boy improved steadily. The discharge from all the abscesses rapidly diminished, and those which did not communicate with joints healed quickly.

By October 2d, he had gained strength enough to sit up. On the night of October 14th, he began to complain of pain in the left elbow, and in the morning it was found red, swollen and fluctuating. An internal angular splint was applied and the pain and swelling rapidly disappeared. In two weeks the splint was removed and all signs of trouble were gone.

The past month he has gained much in strength and is running about the ward. There is still a slight discharge from the elbow and finger, and from the submaxillary gland. The elbow has become anchylosed, and excision is proposed when he becomes stronger.

A CASE OF PARIS-GREEN POISONING.

SERVICE OF O. W. DOE, M.D., BOSTON CITY HOSPITAL.

REPORTED BY CHARLES E. TAFT, M.D., FORMER HOUSE-PHYSICIAN.

Michael K., was brought to the Boston City Hospital, May 24th, by friends who stated that he had poisoned himself.

The following history was obtained:

For some time his health had been poor and for the past few days his mind had not been clear. He had not been melancholic.

About six o'clock this morning, after drinking a cup of coffee, he went to a cupboard to get some licorice-powder which he had been accustomed to take for constipation. By the side of the licorice stood some Paris-green which had been recently obtained by the family to use about the place for vermin. As it was rather dark in the cupboard he did not notice the difference in the powders and took three or four teaspoonfuls of the poison.

The mistake was soon noticed and a physician sent for, but between one and two hours elapsed before he arrived. An emetic was then given and vomiting induced. His physician then ordered his removal to the City Hospital. Before arriving there he vomited several times and had some cramping of the muscles of the arms and legs. In all it was six hours and a half before he reached the hospital from the time he took the powder. He arrived there at 12.30.

Examination showed a man about sixty years of age and of rather poor nutrition. His temperature was very slightly subnormal, pulse 96, and of fair strength. There was no tenderness over the abdomen. Said he did not feel sick and there was certainly but very little in his aspect to indicate his condition. Said he had no burning sensation in throat or abdomen.

Very soon after entrance he vomited freely, the vomitus containing considerable greenish powder. A stomach-tube was introduced and the stomach was thoroughly washed out with warm water and warm lime-water. He vomited very freely while the tube was in his stomach. The vomitus appearing to be too thick, from the large amount of green tenacious mucous which it contained, to come away readily through the tube. Soon afterward he had a loose dejection containing some of the greenish powder. An enema of olive oil, suds and turpentine was given and two ounces of castor oil by mouth. The latter was almost wholly vomited.

He remained quite comfortable till 2 P.M., when vomiting commenced again. Dialyzed iron and the hydrated oxide of iron were freely given.

Now he began to look badly. His hands and feet were cold and his pulse was weak and increased in frequency. He complained of cramps in his legs and occasionally in his abdomen. Heaters were applied and abundant stimulation given. He failed steadily and died at 6 P.M., in a collapsed condition.

Autopsy sixteen hours after death by Dr. F. W. Draper: Brain rather moist. Few sub-pleural ecchymoses. Hæmorrhage into the lungs in many places. Subendo-cardial hæmorrhages. Hæmorrhages into both kidneys. The stomach contained considerable mucous and had extensive hæmorrhages, especially about the pyloric end. There was some Paris-green in the plyroic end of the stomach. Intestines contained Paris-green along the whole extent. There were no hæmorrhages into the intestines.

Two points in this case seem especially worthy of mention: the slight amount of abdominal pain, usually a prominent symptom in cases of arsenical poisoning, and the length of time which elapsed before the symptoms began. Until the character of the vomitus was seen, the absence of prominent symptoms after so long an interval, the strength and general appearance of the man made it seem extremely doubtful whether he had taken a fatal amount of Paris-green.

Reese, however, mentions a few cases where the symptoms were delayed from seven to sixteen hours after the arsenic was taken.

— The administration of very small frequently repeated doses of calomel, is recommended by Dr. Musser, of Philadelphia (*Therapeutic Gazette*), in the treatment of summer diarrhœa and vomiting of infancy. In severe cases he recommends a powder containing one-eighth to one-twentieth of a grain of calomel, combined with one-twelfth to one-fourth of a grain of Dover's powder, if there be much pain, fever, or restlessness. These ingredients, combined with a small quantity of powdered sugar, make a very minute powder, which is placed dry on the tongue, and washed down by a spoonful of water, with or without stimulant. He recommends that the dose should be repeated every half-hour at first.

Reports of Societies.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated meeting, March 25, 1886, the President, Dr. J. C. Wilson, in the Chair.

INTRA-CRANIAL HÆMORRHAGE: RECORD AND CLASSIFICATION OF ONE HUNDRED AND FORTY-THREE CONSECUTIVE FATAL CASES OBSERVED IN MEDICO-LEGAL PRACTICE AND IN PRIVATE AUTOPSIES IN THE CITY OF PHILADELPHIA,

by Dr. H. F. Formad.

Dr. Formad made some remarks on the different forms of intra-cranial hæmorrhages he had observed, and presented a number of specimens in illustration. There existed, he said, no well-defined descriptions of the various forms of intra-cranial hæmorrhages with reference to their etiology, and no classification that could be of any service in medico-legal examinations, and Dr. Formad suggested the classification and observations presented below as particularly adaptable for the latter purpose. These records may also be of some use to the surgeon who wishes to trephine. The observations were sufficiently numerous to warrant conclusions of importance for various ends. Dr. Formad regretted that he met his cases on the autopsy table only, and hence was unable to offer clinical details. In some cases the history was far from being reliable, and in a few the history was left to conjecture from the surroundings, the circumstances of the case, and the appearance and general lesions of the body. Dr. Formad wished to give credit to his colleague in coroner's work, Dr. R. R. Stewart, whose assistance in these observations he enjoyed, and also to his assistants, Drs. A. J. Plumer and George H. Chambers. Dr. Formad's cases of intra-cranial hæmorrhage embrace the results of kinds of head injuries (traumatic), and cerebral apoplexies (idiopathic hæmorrhages) as well. By the term cerebral apoplexy, he meant exclusively hæmorrhage in the brain, and did not refer to "congestive," "serous," "embolic," or "nervous," apoplexies, and other affections which tyrannic nomenclature has thrown together under the name of apoplexy.

Idiopathic cerebral apoplexy should also be strictly separated from traumatic cerebral hæmorrhage (this is not done by many writers). The latter can be further sub-divided into very well-defined sub-varieties of hæmorrhages, each etiologically distinct, as will be shown below. These observations will clearly show the necessity and usefulness of a classification such as suggested. There should never be any reasonable doubt at the post-mortem table as to whether a cerebral hæmorrhage was due to disease or to injury, or to both combined; nor as to whether a head injury preceded or followed an intra-cranial hæmorrhage. Dr. Formad believed that the diagnosis between the conditions just stated was much more difficult during life. He had seen errors made by foremost surgeons and physicians, and in the best hospitals in this city. Dr. Formad had seen cases of apoplexy diagnosed as fracture and trephined, and he had seen cases of fracture of skull unrecognized and untouched — left to die in the medical wards.

Dr. Formad divided the cases of intra-cranial hæmorrhage observed by himself into the following eight different classes, the accounts being given here in abstracted form.

CLASS I: TWELVE CASES.

Post-mortem Appearance. One or more small hæmorrhages in the fasciculi teres in fourth ventricle; also ecchymoses in the lining of the other ventricles (no massive hæmorrhage anywhere); cerebral substance, as well as membranes, intensely congested. Cranium much congested; drops of blood oozing from cut surface and from periosteum all over. Marks of contusion in scalp, with more or less ecchymoses noted in all cases.

Histories. In two cases death was caused by electricity (details will be recorded elsewhere). Ten cases revealed histories of concussion of brain from injuries to head, without fracture of skull. Death was rapid or sudden from shock in all these cases. Six were males, and six females; the majority were young persons.

CLASS II: TWENTY-THREE CASES.

Post-mortem Appearance. Massive hæmorrhage (blood clot) of various sizes found between pia and dura mater; location, in the majority of cases, about opposite to place of application of violence. In none of these cases was this meningeal blood-clot located immediately beneath the point of application of violence. Ventricular ecchymoses also usually found. Brain anæmic in the majority of cases; whenever hæmorrhage large. Scalp injury well marked in some, in others less so, while in a few cases it was hardly noticeable.

Histories. Concussion from injuries to head, without fracture, in twenty-one cases; with fracture of skull in two cases. Death rapid (all within one hour) or sudden, either from shock or from compression of brain, the result of pressure from clot, or from both. Fourteen males, nine females; ages varied.

CLASS III: FORTY-FIVE CASES.

Post-mortem Appearance. Massive hæmorrhage (blood-clot) usually quite large; located between dura mater and inner surface of fractured skull, and at the site of application of violence only. Brain anæmic.

Histories in all cases revealed injuries to skull from accident, blows or other violence, resulting in fracture of skull. Death, on the average, ensued slowly from compression or anæmia of brain in the lapse of from several hours to several days (in few cases, from five to eight days). Thirty-eight males and seven females. Majority young and middle-aged persons.

CLASS IV: TWELVE CASES.

Post-mortem Appearance. Massive hæmorrhage, the same as in the preceding class, but occurring both at site and application of violence, and also on same point on the opposite site of skull; the first, a large clot, between dura mater and skull, while the latter, usually a smaller one, in the arachnoid (between dura and pia mater). At the side of the injury there was found a fracture of the skull in all these cases, so that they presented the combined features of Classes III and IV.

Upon the post-mortem table, however, there should be no difficulty in diagnosing such lesions at the present status of morbid anatomy as a distinct and well-defined science. After sufficient accurate observations have been made, and after seeing conditions repeat themselves, case after case alike, and having, in the majority of instances, cause and effect directly before the eyes, one should be enabled, in disputed cases, to make a post-mortem diagnosis which leaves but little room for doubt.

Histories in these twelve cases observed, showed injury to skull resulting in both fracture and concussion.

Death was nearly instantaneous in all these cases. Nine were males and three were females, mostly young and middle-aged persons.

CLASS V: NINE CASES.

Post-mortem Appearance. Punctiform and multiple hæmorrhages into the tissue of the dura mater which showed much thickening and adhesions to inner surface of skull from chronic pachymeningitis; great œdema of the pia mater. Brain congested, but no blood-clots in either ventricles or substance.

Histories in these cases revealed former attacks of sun-stroke or old injury of head. Death usually sudden and usually following a fall or severe intoxication and excitement. Ages of deceased between twenty and fifty; all males.

CLASS VI: THIRTY-FOUR CASES.

Massive hæmorrhage of various sizes into the brain substance proper, and thence into one or both of the lateral ventricles. Hæmorrhagic softening of brain substance of corpora strata or their vicinity. No meningeal hæmorrhage in any of these cases, though in some instances blood was observed to have leaked out from the inner ventricles through the transverse fissure and the fourth ventricle and some usually liquid (post-mortem) blood would be seen upon periphery of brain, in the fissures and within the meshes of the pia mater and the arachnoid. Brain substance in nearly all cases quite anæmic. Atheroma of cerebral vessels in all but three cases. Multiple small aneurisms of cerebral vessels noted in several cases. Chronic pachymeningitis in various degrees in all but five cases. In some cases there were scalp injuries from secondary falls; that is, falls that were the result of cerebral hæmorrhage. Many of these cases came under coroner's jurisdiction on account of suspicion of violence.

Histories wherever obtainable revealed either alcoholism, rheumatism or syphilis; middle or advanced age: twenty-six males, eight females. Death in the majority of cases ensued slowly. These are true cases of idiopathic cerebral apoplexy.

CLASS VII: SIX CASES.

Post-mortem Appearance. Massive hæmorrhage of various size, below pia mater, into brain substance, without breaking into lateral ventricles. In one case the blood-clot involved the substance of the pons and protruded into fourth ventricle; in two cases it occupied the substance of the right parietal lobe which was the seat of an abscess; in three cases the hæmorrhage was multiple, in small foci, with localized hæmorrhagic softening of periphery of brain substance in various places. In three cases there was atheroma and in the other three fatty erosions of the cerebral vessels. Chronic pachymeningitis in all cases. Brain substance congested.

Histories were those of former head injuries, alcoholism and probable syphilis. Death rapid, following intoxication or exertions. Age advanced in all cases; five men, one woman. Foul play had been suspected in all these cases.

CLASS VIII: THREE CASES.

Post-mortem Appearance. Massive meningeal hæmorrhage, below pia mater, combined with hæmorrhage into ventricles; no visible hæmorrhage into brain substance. Atheroma, and multiple small aneurisms of vessels of pia and of choroid plexus. Echymoses in scalp.

Histories of accidental falls. No previous symptoms of cerebral disease had been noted. Intemperate habits, injury of head leading to rupture of the diseased vessels, evidently had preceded the cerebral hæmorrhage. The persons were at work (washing) at the time, when nearly simultaneous with the concussion from the fall, death ensued. Both were women; ages fifty-seven and sixty-three years.

REMARKS AND COMMENTS.

A number of cases of intra-cranial hæmorrhage observed by Dr. Formad, he had excluded from the series above detailed. Several cases of compound comminuted fracture in which the skull, membranes and brain were partly pulpified into a mass and hence the hæmorrhage not being satisfactorily made out were excluded from the above records. He also excluded chronic cases of cerebral hæmorrhage and those resulting in abscesses or in a fatal lepto-meningitis or cerebritis after the patients had partly recovered from the immediate effects of the hæmorrhage. Dr. Formad did not incorporate into these records another large class of intra-cranial hæmorrhage, namely, that of infantile meningeal hæmorrhage. Of these he had seen many in coroner's work. Meningeal hæmorrhage is common in infanticides and fœticides; and even in still-born children. Dr. Formad could not plausibly explain the frequency of meningeal hæmorrhage observed in the still-born, otherwise than presuming that they were due to traumatic injuries from violence or to compression of the cranium during protracted labor or when forceps had been injudiciously applied. He did not meet with cerebral hæmorrhage in children, other than meningeal.

Returning to his classification, Dr. Formad stated that the quantity of the hæmorrhage or the size of the clot in any case of intra-cranial hæmorrhage appeared in all the cases he observed, to depend upon the duration or the time that elapsed from the moment of injury to death. In cases where death ensued rapidly or instantaneously from shock, as in many fatal cases of concussion, or even in fractures of skull followed by immediate death as in falls from a great height, the bulk of the ante-mortem hæmorrhage (the blood-clot) was remarkably small: or clots were occasionally entirely absent and only a post-mortem oozing of liquid blood could be observed. When death was protracted for several hours, then the blood-clot was usually large, weighing up to six or eight ounces, and causing death by compression of brain. In some cases of fracture of skull the hæmorrhage was probably delayed for several hours or ensues but very gradually. Some patients are said to have walked around for many hours after the injury and subsequently when the blood oozed out in sufficient quantity to compress the brain, they fell, became unconscious and died in coma. In one case of this nature he had found a meningeal clot weighing eight ounces.

Dr. Formad observed that in the cases in which the intra-cranial hæmorrhage was voluminous and death instantaneous, there was very little scalp ecchymosis; whereas scalp hæmorrhage was more pronounced if the intra-cranial hæmorrhage was small and death delayed.

Further, Dr. Formad noticed that in no case where there was internal cerebral hæmorrhage, was there any meningeal hæmorrhage when cerebral vessels were normal; and in no case of traumatic meningeal hæmorrhage did he see any coincident ventricular hæmorrhage (except small echymoses) unless there existed some old lesion of the vessels or substance of brain. It appears, however, that blood from the lateral ventricles may leak through the foramen of Monroe into the third ventricle and thence by the aqueduct of Sylvius find its way into the fourth ventricle, but Dr. Formad did not see in any one of the cases he observed that a primary hæmorrhage into the fourth ventricle ever extended to the lateral ventricles, probably on account of its rapidly fatal character.

A hæmorrhage on the outside of an uninjured pia mater cannot reach the interior of the brain or the lateral ventricles.

The source of the hæmorrhage is often very difficult to determine. In fracture of the skull, the hæmorrhage is often diploic; in concussion of brain the hæmorrhage has for its source the vessels of the pia mater; in diseased conditions of the brain or in atheroma of vessels the small feeding branches of the middle cerebral and of the basilar artery bleed most frequently, and the blood breaking into the lateral ventricles forms clots, in either one or both of the ventricles.

The view expressed by Dr. J. A. Lidell in his large treatise on apoplexy (New York, 1873, p. 113) that "meningeal hæmorrhage not unfrequently occurs spontaneously, as well as in consequence of the operation of violent causes;" and that (see p. 120) "meningeal hæmorrhage of spontaneous origin is not a rare affection," is unquestionably erroneous. Yet such "*views*" are quoted by writers on forensic medicine and presented to juries in murder trials *as facts.* Ignorant or ill-informed post-mortem examiners can set murderers free, or on the other hand, can create unnecessary court trials.

CONCLUSIONS:

I. Hæmorrhage exclusively above the pia mater and above the dura mater, that is, on the outside of the brain, are always due to *traumatism* or to *sunstroke*, provided a cerebral source for hæmorrhage is excluded and the cerebral vessels and membranes were not diseased.

II. Hæmorrhage in the floor of the fourth ventricle is always traumatic, provided there are no blood clots in the lateral ventricles or any other part of the cerebral substance.

III. Hæmorrhage exclusively below the pia mater or in any part of the brain substance or in the ventricles (except the fourth), is always idiopathic, that is, is due to disease.

IV. There must be a diseased condition of the cerebral vessels or substance in order to ascribe a hæmorrhage to disease. There must be traumatism (a fall or violence) in order to account for a hæmorrhage in a normal brain.

V. The blood clot in concussion of the brain is not found at the point of application of violence, but always somewhere about the opposite side of the brain, and always within the arachnoid, that is, between pia and dura mater.

VI. The blood clot in fracture of skull is always found at the point of application of violence immediately below and always between the dura mater and the fractured part of the skull itself.

VII. A blood clot formed within the cranial vault is more favorable to the patient if due to fractured skull than if due to a mere concussion.

VIII. Only clotted blood and infiltration of blood corpuscles into tissues indicate an ante-mortem hæmorrhage; liquid blood is due to post-mortem oozing, and only stains, but does not infiltrate tissues.

IX. Severe bruises and cuts of the scalp may be seen in cases of idiopathic apoplexy where a sudden cerebral hæmorrhage causes a person to fall.

X. In some cases it is impossible to decide by medical examination alone as to whether a head injury and the resulting hæmorrhage is due to a fall or to violence.

XI. External marks of violence may be invisible to the unaided eye in some cases of injury to the head or other parts; but are easily detected and distinguished from post-mortem spots by means of the microscope.

XII. The bulk of an intra-cranial hæmorrhage stands usually in inverse proportion to that of the external scalp hæmorrhage.

Dr. T. D. Dunn presented an unusual case of cortical hæmorrhage with rhythmical contractions of the left side of the body. A widow, aged seventy-three years, came under his care June 23, 1886, with the symptoms of congestive apoplexy. In a few days she recovered sufficiently to be able to leave her room. With the exception of some mental impairment for several months before the attack her health had been good. February 6, there was a second attack during the night, and when Dr. Dunn saw her there were regularly recurring movements of the left side of the body. Sensation and consciousness were not affected. The right side of the body could be moved at will, but articulation was impossible. The contents of bowels and bladder were discharged involuntarily. The movements continued during sleep. The movements gradually diminished, being lost in the leg on the fourth day and in the arm on the fifth. She died six days after the attack. At the autopsy a clot as large as a hen's egg was found situated on the right side of the brain very superficially extending from the ascending parietal convolution to the occipito-parietal fissure and from the convolution of the longitudinal fissure to the temporo-sphenoidal lobe. The convolutions pressed upon and partially destroyed were the ascending parietal, the convolution of the longitudinal fissure, the supra-marginal and the angular gyri.

ANOMALY OF HANDS.

Dr. F. A. Packard presented a patient having a congenital anomaly of both hands. The right hand consists of a thumb, an index finger and a little finger with only two metacarpal bones. The thumb has two phalanges and articulates with the same metacarpal bone as the index finger. The power of flexion is absent. The index finger has three phalanges. It can be flexed as a whole but the individual phalanges are fixed. The little finger has three phalanges. The left hand consists of a thumb, index, ring and little fingers with four corresponding metacarpal bones. The patient is one of five children. His mother and father are normally formed. One sister has one hand that resembles his left. Another has a left hand similar to his, and on the right hand has the middle and ring fingers united throughout their length. One brother has both hands similar to this man's left. The only member of his generation not deformed is his twin brother. He has several children, all normally formed, and so, too, with his nephews and neices.

CARCINOMA OF THE STOMACH.

Dr. J. M. Barton presented a tumor of the stomach removed from the body of a man, aged forty-seven years. His digestion became impaired two years ago, and soon afterward he noticed the tumor. The symptoms were mainly those of chronic gastritis, with at one time a profuse hæmorrhage. The tumor was hard and well defined, and occupied the epigastric region. At the autopsy the tumor was found occupying the upper portion of the pyloric outlet of the stomach and did not encroach enough on the outlet to prevent the ready passage of a finger. It was found on microscopic examination to be a scirrhus carcinoma.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

Eleventh Annual Meeting held in the hall of the Johns Hopkins University, Baltimore, Md., September 21, 22, and 23, 1886.

FIRST DAY. — MORNING SESSION.

The Society was called to order by the President, Dr. Thaddeus A. Reamy, of Cincinnati.

After the calling of the roll, Dr. H. P. C. Wilson, of Baltimore, delivered the address of welcome.

In the name of the resident Fellows, of the general profession and of the citizens of Baltimore and in the name of her women, he extended to the Society a hearty welcome. Were our hands as big as our hearts, the speaker said, we should kill you with kindness. Baltimore is ever ready and willing to welcome you whenever you are ready to come. I can assure you of the great interest which this community takes in the subjects of your deliberation.

The first paper was on

THE DIVISION OF THE CERVIX BACKWARDS IN SOME FORMS OF ANTEFLEXION OF THE UTERUS WITH DYSMENORRHŒA AND STERILITY,

by Dr. H. P. C. Wilson, of Baltimore.

This is an old subject. The operation from want of a judicious selection of the cases, by being done by unskilled hands in proper cases, by being done in unsuitable cases and from want of appropriate after-treatment this operation has been barren of good results in certain hands and followed by bad results in other hands. This operation has been substituted by the use of stems, sponge tents, and dilators, but I have found no measure so safe and efficient in the classes of cases to which I shall call attention, as the knife.

The classes of cases in which I would recommend the operation are:

First, Those of anteflexion of the uterus, with a hard indurated cervix, where the body is bent upon the neck, or the neck upon the body, forming a more or less acute angle.

Second, Those cases of acute flexion where the cervix is hyperplastic and indurated and dense as cartilage.

Third, Those cases where there is a hard unyielding internal os, through which the probe passes with difficulty and in its passage gives the sensation of passing over rough dense cartilage, while the finger in the sulcus between the body and the neck in front, gains the sensation of a strong cord tied around the uterus. This third class is frequently combined with the first, and often with the second. In a typical case calling for the knife, all these lesions co-exist. Nearly all these cases are sterile. In all of them the nabothian and utricular glands are hypertrophied and indurated.

The different methods of operating were then reviewed. If the patient escapes the secondary results which are liable to follow the use of tents, they are the most efficient means of overcoming the difficulty, next to the use of the knife. The forcible dilatation does not restore the anteflexed uterus. For the purpose of rectifying the difficulty, the knife is the surest means in the cases which have been referred to. Where the posterior lip of the cervix is divided and the internal os is divided anteriorly and posteriorly, the muscular fibres are paralyzed and the longitudinal fibres contract and tend to rectify the position.

The method of operation was then described. With the patient under an anæsthetic, the uterus is drawn downwards by a tenaculum in the anterior lip. The posterior lip is then divided with scissors up to the vaginal junction. An uterotome is next passed and the internal os divided anteriorly and posteriorly to an extent sufficient to permit the introduction of a large sound. The parts are allowed to bleed freely. A pledget of cotton soaked in a mixture of Monsel's solution, iodine and glycerine is then introduced into the cervix and over this pledgets treated with Monsel's solution and water and the vagina lightly tamponed. These are not removed until the third day. All manipulation of the uterus is avoided for at least two weeks. A sound is then carefully passed and every second day the os is gently stretched with a steel dilator. The patient is allowed to fully recover from the operation, which usually requires one month. Local treatment is then suspended for one month to allow the intra-uterine mucous membrane to improve. The patient then returns and applications of Churchill's tincture of iodine are made to the endometrium two or three times a week. The treatment after the lapse of a month is again suspended to be resumed in the course of one or two months. If this after-treatment is not carefully and properly carried out, the operation had better not be done. The speaker had performed the operation four hundred times, and had never obtained as good results from any other method. In no case has he had a death which could be attributed directly to the operation. If the patient is not disturbed by meddlesome after-treatment for ten days subsequent to the operation, there is not much danger of inflammatory troubles.

There are some cases of dysmenorrhœa and sterility where this operation is entirely unsuited. It was recommended only in the cases described in the beginning of the paper. Several illustrative cases showing the good effects of the operation in overcoming dysmenorrhœa and sterility were related.

DISCUSSION.

DR. T. A. EMMET, of New York. Fifteen or twenty years ago, I should have been willing to endorse all that has been said by the speaker. I think that I have done as much harm as any one by this operation. We must separate dysmenorrhœa and sterility as being due to widely different causes. Mechanical dysmenorrhœa, I believe to be a myth. We must also separate two conditions of flexion, one a flexure of the neck, a congenital defect, and the other a flexure of the body of the uterus due to preceding inflammation outside of the uterus. Sterility resulting from this latter cause is not relieved by the operation, and its performance is attended with great risks to life. The congenital flexion is the only one in which I operate to relieve the sterility. I do not operate for the dysmenorrhœa. There are a few cases of the inflammatory form of flexion where the operation benefits the reflex symptoms by its revulsive action.

In those cases where I have done the operation I have not left a raw surface but have drawn the vaginal mucous membrane to the bottom of the wound and secured it with stitches. This does away with the necessity for plugging and the fear of hæmorrhage.

This operative procedure is not free from danger. I have known of at least twenty deaths from it. If, as has been suggested by Dr. Wilson, all the effects of previous inflammation are removed, there is not the same danger, but I cannot see that the operation will do any good.

DR. JAMES R. CHADWICK, of Boston. I have not been successful with this operation in curing sterility or dsymenorrhœa. I regard the flexion as always congenital, the result of the persistence of the infantile shape of the uterus. This I am convinced is not confined to the anatomy of the organ, but also involves the function. The defect probably extends to other portions of the genital tract. The only cases in which I have had any results from operation have been where there is flexion with a small external os. In a certain proportion of these cases impregnation has followed the operation. I think that the operation should be restricted to those cases in which there is flexion with a small external os, but in which the uterus seems to be well developed in other respects.

DR. W. H. BAKER, of Boston. Some ten years ago, I saw a number of cases in which this operation was done, and while the immediate results were very gratifying, yet in many cases the patients did not retain these good results. The question arises, if this operation which was performed so frequently, was successful, would it not have lasted? It was found that in many cases, less severe measures would give equally good results. This has led to a clearer discrimination of the cases. Of late years I have limited the operation to the class of cases to which Dr. Emmet refers, in which there is a congenital malformation and those in which there has been an inflammatory condition, the results of which have been removed. The good results which Dr. Wilson reports must be explained by the great care in the after-treatment which he practices.

DR. FORDYCE BARKER, of New York. Some thirty years ago I saw Simpson perform this operation a number of times. He performed it in his office and did not seem to apprehend any danger from hæmorrhage. I employed the operation in a few cases, but

I soon gave it up. The only cases in which I employ it is where the narrowing is at the os externum.

Dr. J. Scott, of California. I have practised the operation, but while the immediate results have been good, I have been disappointed in the ultimate results. I have gradually come to limit the operation to the cases described by previous speakers. After the operation, the patient should be confined to bed at perfect rest, and hot water injections be employed every two hours.

Dr. W. T. Howard, of Baltimore. I have given all the operations alluded to a fair and full trial. My experience has not shown me that any particular operation is the one for all cases. By the antero-posterior incision, I have had some excellent results. With the precautions adopted in operating in other portions of the body, an incision of this kind, in the majority of cases, should not be dangerous. Dr. Mundé, in a paper on this subject, reports over three thousand cases, with only nine deaths. I think that forcible divulsion is attended with as much risk as incision. In my practice, the method adopted has varied according to the case. In some I have employed the posterior incision, in others the bilateral incision, but, in the majority of cases, I dilate, using antiseptic precautions, and never taking less than twenty to thirty minutes to complete the operation.

Dr. H. P. C. Wilson, of Baltimore. I have not heard anything in the discussion to convince me that, in properly-selected cases, division of the cervix is not the best thing to do. As I have already said, if the operation is not followed by proper after-treatment, it had better not be done. The danger is not from the operation itself, but from the improper after-treatment.

ANOTHER MODIFICATION OF EMMET'S CERVIX-OPERATION, WITH A CASE IN POINT,

by Dr. B. Stansbury Sutton, of Pittsburg.

A case of old-standing neglected double laceration of the cervix was reported. The cervix was composed of dense, hard, hyperplastic tissue, almost cartilaginous in character. An operation by the ordinary method was out of the question, for the sutures would not have held. In order to overcome the greatest amount of cicatricial tissue and remove the condition, the following procedure was resorted to: The lower lip of the laceration was denuded of its altered mucous membrane, leaving only a narrow strip, corresponding to one-half of the strip usually left to serve for the future os; the upper lip was treated in the same way, leaving the opposite half of the strip of mucous membrane. When the flaps were brought together, the strips of mucous membrane lay side by side, with the undenuded surface of one flap in apposition with the denuded surface of the opposite flap. In this way, union in the position of the future canal was prevented. Good union followed the operation, and at the end of three weeks a Simpson sound was passed without difficulty. This operation may be of service in certain cases where the usual operation cannot be performed.

DISCUSSION.

Dr. Thomas A. Emmet, of New York. The modification seems to be an ingenious one, but its value can only be determined by future trial. In such cases, however, where there has been such cystic degeneration, it is often better surgery to amputate a portion of the cervix, so as to get into healthier tissue. In a certain number of cases, I have always performed amputation. I have always objected to amputation of the cervix in so-called elongated cervix. I use the term in the sense in which it is employed by the Germans. If we remove the tissue to a depth below the follicles, the remaining dense tissue will gradually soften. I do not mean to amputate to as great a depth as the dense tissue extends.

Dr. George J. Englemann, of St. Louis. I have found no difficulty in preventing union, and I have paid very little attention to the strip of mucous membrane. I have, in such cases, as has been described by Dr. Sutton, cut away nearly all the mucous membrane, and inserted a short piece of fine catgut. This keeps all the opening which is necessary. When, however, we come to such extreme cases, I think that it is better not to attempt what has been termed Emmet's operation, but to resort to partial amputation, as is performed in Germany.

Dr. W. H. Baker, of Boston. I think that if we can restore the healthy character of the strip of mucous membrane and retain it, that is the best surgery. In this class of cases, I have been in the habit of removing a transverse wedge-shaped portion of each lip of the cervix, and then bringing the parts together. In this way, the hyperplastic tissue preventing the apposition of the surfaces is removed. If proper preparatory treatment is employed, I think that the saving of the strip of mucous membrane can be accomplished.

Dr. R. Stansbury Sutton, of Pittsburg. In the case described, there was only one of two things to be done — either to remove the cervix, or devise some new method of operating. This modification gave complete satisfaction in this case, and I purpose trying it in other similar cases.

In the absence of the author, the following paper was read by the Secretary:

NOTES ON THE TREATMENT OF RECENT LACERATION OF THE CERVIX UTERI,

by Dr. Elwood Wilson, of Philadelphia.

Occasionally a tear of the cervix can be recognized immediately after labor, but sometimes this cannot be done. The patient should always be examined ten or twelve days later. If laceration be found immediately after labor, injections of corrosive sublimate solutions, one to five thousand, with the insertion of an iodoform suppository, should be resorted to. The vagina should be irrigated every other day, and the suppository renewed. When the laceration is found within three weeks after delivery, the following treatment should be employed: After the surface has been carefully cleansed and dried, it should be painted with a solution of nitrate of silver, one drachm to the ounce of distilled water. From three to five applications, at intervals of five days, are usually required In every case in which the author has tried this measure (six in number), the result was entirely satisfactory.

DISCUSSION.

Dr. Fordyce Barker, of New York. It seems to me that the practice recommended in the paper is better worthy of trial. It is much preferable to the rule laid down within the past few years, that if there is a laceration it should be closed immediately after labor. If this method will effect union it should be tried.

Dr. Thomas A. Emmet, of New York. I suppose that a certain amount of laceration occurs in every labor, but it is wonderful what nature will do to restore the cervix where septic poisoning is not present. It seems too, that in all cases where, under favorable circumstances, nature has failed to repair the damage, there have been symptoms indicating septic inflammation. In the cases reported I believe that the same results would have been obtained even if nitrate of silver had not been employed.

DR. J. SCOTT, of San Francisco. In only one case have I attempted to sew up the cervix shortly after labor. In this case there was an extensive tear of the cervix and of the perineum. There was considerable bleeding, and five hours after labor I thought it advisable to sew up the cervix. The tissues were so soft that it was with the greatest difficulty that I could get the sutures to hold. Union took place, however, both in the cervix and in the peritoneum.

AFTERNOON SESSION.

The first paper was entitled,

PELVIC INFLAMMATION; CELLULITIS, VERSUS PERITONITIS,

by DR. THOMAS ADDIS EMMET, M.D., of New York.

In this country the term cellulitis has come to signify pelvic inflammation, without reference to the special form, but its origin is supposed to have been in the connective tissue. So close is the relation between the connective tissue and the peritoneum, that it seems impossible for inflammation to be present in one without affecting the other. There are situations, however, as between the uterus and bladder, and between the uterus and rectum, where cellulitis might exist without involving the peritoneum. Inflammation in these situations tend to resolution, and so the tissues soon regain their healthy condition if suppuration does not take place. After septic poisoning, the peritoneum rapidly becomes inflamed and adhesions occur, the circulation in the bloodvessels becomes more or less obstructed, and the actions of the absorbents is greatly impeded. Finally a condition is produced which remains long after the symptoms have subsided, and one not prone to change or amenable to treatment. In such cases a fresh attack is provoked by slight causes.

It has been objected that when the abdominal cavity is opened for the removal of the ovaries, very slight evidences of inflammation are found. In a recent case, I expressed the opinion from the vaginal examination that a thickened and shortened left broad ligament would be found at the operation. No broad ligament was found, but there was an enlarged tube lying against the side of the vagina. Similar cases have been noted. I should explain these cases in this way. If there is an inflammation between the folds of the broad ligament, it must involve the peritoneum. As a result of the inflammation, the connective tissue disappears and adhesion of the opposing surfaces takes place. The broad ligament is flattened out so that Douglass' cul-de-sac disappears on that side. The vaginal wall is raised up so that it and the tube lie in contact. This is the condition found by the surgeon when he operates for the removal of the diseased fallopian tubes. In all these cases I feel satisfied that there has been inflammation of the connective tissue. I think that the inflammation has been secondary to the cellulitis in every instance except where the primary inflammation was the result of gonorrhœa. If my observations are correct they would prove that the connective tissue never regains its integrity after having been once inflamed. If the surrounding tissue has restored the loss the part will return to its normal condition. If the loss cannot be replaced, nature can only repair the injury by a process of adhesive inflammation of the parts involved.

I have used the term thickening of the broad ligament, but I have not meant to imply that there is a deposit of lymph between the layers of the broad ligament. The enlargement is, I think, due to the dilated state of the veins. The condition is one easily aroused to activity.

It is still a moot question as to the way in which the tube has become involved where gonorrhœa is not the cause of the inflammation. In septic poisoning after surgical injuries, I believe that the connective tissue of the veins and lymphatics first become involved and that the inflammation of the peritoneum is secondary. There is no evidence to prove that the inflammation passes into the uterine canal and thence to the tube, except in such cases where the process is due to gonorrhœa.

The prognosis as to the result to be gained by local treatment is doubtful in those cases due to gonorrhœa, in those cases where the pelvic inflammation is of long standing, without reference to the cause, and in those with a history of frequently recurring attacks. In cases which can secure every attention a cure by local treatment can sometimes be effected, but a long time is required. In cases which have to gain their own living, we may seriously consider the advisability of an operation after having gained the consent of the patient after a true representation of the operation and its results. We should enter a protest and the profession should demand a recognition of the responsibility of those who are indiscriminately operating for the removal of tubes and ovaries. It requires an expert to determine when the operation is necessary, and still more experience and skill to do it with safety to the patient. It should only be done as a last resort after other measures have failed. In a number of cases in private practice I have succeeded in restoring the patient to health by local treatment, for whom the operation had been strongly urged. If we could get accurate statistics I think that it would be shown that the average amount of benefit gained does not compensate for the amount of risk. I believe that the operation is done too often even by those who have the least death-rate. I predict that five years will not pass before it will be almost necessary to offer an apology when this operation is proposed.

DISCUSSION.

DR. ROBERT BATTEY, of Georgia. From my experience it has seemed to me that the pelvic cellulitis which gives so much trouble, was in a large proportion of these cases secondary. So far as disease affecting the tubes is concerned, I believe that if we throw out of consideration the gonorrhœal cases, the primary disease starts in the ovary. I regard most of these serious inflammations of the pelvic cellular tissue as dependent upon cystic or cirrhotic disease of the ovary.

With reference to the frequency with which this operation is done, I must confess that I am largely in sympathy with the speaker. I think that the operation is done too often. I do not believe that every case of organic disease of the ovary requires operation.

In reply to a question of Dr. Fordyce Barker, asking him to state the grounds on which he would advise removal of the tubes and ovaries, Dr. Battey said that every case must be determined for itself. If I had a poor miserable patient, without the means of comfortable subsistence, suffering with ovarian or tubular disease, I would operate. If I could put such a patient under suitable surroundings and under a prolonged course of treatment, I might not think of the knife, but we have to look at the cases as they exist. I do not require in my cases an absolute diagnosis of disease of the tubes or ovaries prior to operation. It is sufficient for me to know that the general health is broken down by reason of the perverted function of her ovaries, that she is utterly miserable, that there is no reasonable hope of restoration to health by other means, and that there is a reasonable prospect of restoration by removal of the ovaries. Under such circumstances I unhesitatingly operate, and contrary to my former view, I do find that the ovaries are diseased.

Dr. R. Stansbury Sutton, of Pittsburgh. I believe that when the ovary is diseased and cannot be cured by ordinary means, when it is interfering with the health of the woman and her duties in life, it should be removed. If the ovary is diseased and is a burden to the woman it is as much the duty of the surgeon to remove that ovary as it is to remove a diseased eye-ball. I agree that the operation is being done too often, not, however, by competent men, but by incompetent men.

The conditions which require the operation are not always clearly understood before the abdomen is opened. I do not believe that a man is compelled to be positively certain of what he is going to find before operating. The speaker then presented several specimens and described the cases from which they were removed.

Dr. Busey, of Washington. I think that if pathologists will return to the histological basis, there will not be the difference of opinion which now exists. I believe that it is now held that the cellular tissue is really a vast lymphatic structure and that the peritoneum is a large lymphatic sac. Instead of discussing nice distinctions between pelvic cellulitis and pelvic peritonitis, it would be better to classify as pelvic lymphangitis, these different varieties.

Dr. J. Scott, of San Francisco. I might mention some of the cases bearing upon this point which I have seen. One was a patient supposed to have fibroid tumors. The abdomen was opened and both ovaries found to contain pus. They were removed and the patient recovered. In a second case the patient presented a tumor in the right side. The temperature record was kept for two months, during which time it did not vary half a degree. On opening the abdomen, the ovary was found to contain ten ounces of pus. The right ovary was removed, but the left appeared to be healthy and was left in position. During the operation the bladder was opened. This was sutured and the patient made a good recovery. Five weeks later the patient complained of pain in the left side, and on examination, I found an enlarged left ovary; this was removed and the patient promptly recovered. In a somewhat similar case, one ovary was removed. In a short time the other enlarged, but the operation was postponed and the woman died of rupture of the abscess.

Dr. Matthew D. Mann, of Buffalo. I wish to allude to the possibility of one tube and ovary being diseased without involvement of the other. There is no reason why it should be so; I have in several cases where the disease appeared to be limited to one side, removed but one ovary and the result has been a perfect cure. This operation avoids some of the objections urged against the removal of both ovaries.

Dr. H. P. C. Wilson, of Baltimore. I believe that where there is a general cellulitis, there is more or less pelvic peritonitis. These two affections are often associated. In the early stages, the inflammation is often controlled by active treatment. If it is not controlled, it may go on to the formation of abscess. The pus may be discharged and the patient recover. Occasionally the abscess occurs in the tube or ovary and these are the cases in which laparotomy is often called for. I agree that the operation is done too frequently. The point which Dr. Mann has raised that it is not always necessary to remove both ovaries, is a very important one.

The officers for the ensuing year are as follows: *President*, Dr. A. J. C. Skene, of Brooklyn; *Vice-Presidents*, Dr. John C. Reeve, of Dayton, O., and Dr. Elwood Wilson, of Philadelphia; *Secretary*, Dr. Joseph Taber Johnson, of Washington; *Treasurer*, Dr. Matthew D. Mann, of Buffalo; *Council, additional Members of*, Drs. W. H. Baker, of Boston; C. C. Lee, of New York; T. M. Trysdale, of Philadelphia; and A. Reeves Jackson, of Chicago.

The following new members were elected: — Drs. Charles M. Green, of Boston; A. F. A. King, of Washington; E. C. Dudley, of Chicago; A. W. Johnstone, of Danville, Ky.; J. E. Janvrin, of New York; H. Marion Sims, of New York; I. F. Baer, of Philadelphia; and W. Gil Wylie, of New York.

It was decided to hold the next meeting in New York, beginning September 15th, 1887.

A communication with reference to the organization of a Congress of American Physicians and Surgeons, was presented.

Dr. John C. Reeve, of Dayton, O., offered the following:

Resolved, That this Society expresses an opinion favorable to the formation of the proposed Congress, but that the committee be instructed not to favor any plan looking towards a surrendering of its distinctive title character, or to interfere with the full and entire management of its own affairs in every respect.

The following amendments were offered and accepted.

(1) That this Society does not favor meetings of the Congress oftener than biennially.

(2) That the committee opposes, as far as possible, meetings in the month of June.

Resolution as amended adopted.

The committee consists of Drs. Samuel O. Busey, of Washington; Fordyce Barker, of New York; T. A. Emmet, of New York; James R. Chadwick, of Boston; and Joseph Taber Johnson, of Washington.

(To be continued.)

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 30, 1886.

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CEREBRAL INFANTILE PARALYSIS.

Strumpell[1] reported two years ago twenty-four cases of cerebral infantile paralysis, in children from four weeks to six years old. The affection comes on without known cause, attacks healthy children, and resembles very closely acute spinal paralysis, anterior poliomyetitis. There is an initial stage of fever, with vomiting, diarrhœa and convulsions. After this stage has passed away complete hemiplegia is discovered.

It is questionable whether the affection is ever fatal, but he suggests that this may be the cause of some of the fatal cases of convulsions and severe cerebral symptoms in children. The hemiplegia seldom remains complete; the child finally becomes able to walk, although it may go with a limp, but the arm remains more paretic and loses its power for finer movements. The paralysis is not as complete as in some cases of spinal paralysis. Paralysis of the lower muscles of the face and strabismus have been observed in rare cases. There may be menoplegia, or merely ataxia. The growth may be arrested, but there is never degenerative atrophy or reaction of degeneration. There are distinct muscular tension, contractures, and increased patella reflex, the latter being also seen on the sound side. Some children remain epileptic. Athetosis and associated movements are quite common. Sensibility is but little affected. Some children have disturbances in speech, and a few show distinct mental impairment. He considers that the gray matter of the cortex is attacked, and says that in some cases parencephalic defects have been found in the brain, with traces of former inflammation. He suggests that the disease may have an infectious origin.

Ranke[2] has recently reported nine cases in his own experience, in some of which he had made careful electrical examinations, finding a quantitative diminution of excitability, but never reaction of degeneration. In regard to other symptoms his observations agree precisely with Strümpell's.

Bernhardt[3] also reports eighteen cases, some of which were connected with a previous infectious disease. The symptoms agree for the most part with those described by Strümpell. He notes, however, that the hemiplegia follows on the convulsed side, or the most convulsed side if the convulsions are bilateral. Some children became absolutely dumb, or said only yes and no, although the hearing was perfect. All forms of aphasia in children, whatever their cause, pass off completely as a rule. In not a few cases of spastic hemiplegia the intelligence suffers; there are vertigo, epileptic attacks, a change in the emotional state, moral perversity, etc. In his cases the patellar reflex was not much increased on the paralyzed side. Associated movements are commoner because the basal ganglia are unaffected, and the impulse from the sound side can pass through the corpus callosum to them, reaching the still healthy tract below, while the disease checks the inhibitory action of the cortex on the affected side.

Other causes, however, may produce hemiplegia in a child, and are to be diagnosticated as in the adult. If, in a healthy child, we see unilateral and persistent convulsions, followed by hemiplegia, contractures, hemichorea, hemiathetosis, associated movements, etc., we may speak of a definite clinical type of disease, cerebral infantile paralysis. The process may be bilateral, with depression of the cortex, and it may be the cause of some cases of idiocy. It is not a poliencephalitis, as the cortex is not alone affected; furthermore, that is a name which Wernicke has previously given to degeneration of the nuclei of the oculo-motor nerves in the pons, leading to external ophthalmoplegia. It may be distinguished from acute anterior poliomyelitis by the presence of convulsions, fever, hemiplegia, facial paralysis, a normal or exaggerated patellar reflex, contractures, associated movements, aphasia, anasthria, dementia, and a change in character. There is also less atrophy and less defect in the development, and merely a quantitative diminution in the electrical excitability without reaction of degeneration.

In this connection, it may be of interest to refer to a case reported by Brinswanger.[4] The patient was imbecile and epileptic, and had attacks of maniacal epilepsy. The right arm was paralyzed and atrophic. The examination of the brain, which was very thorough, showed a parencephalic defect in the left side of the brain, involving the third (inferior) frontal, the lower and middle thirds of both central convolutions, the lower parietal (the supra-marginal and angular gyri), the first temporal, and the insula. The patient could talk a little, and this power, it was thought, might be due to the action of the right hemisphere.

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[1] A. Strümpell. Ueber die acute Encephalitis bei Kinder. (Poliencephalitis acuta, cerebrale Kinderlähmung.) Deutsch. Med. Wochenschrift. Nr. 44, 1884.

[2] H. Ranke. Ueber cerebrale Kinderlähmung. Jahrbuch für Kinderheilkunde. xxiv, 1, 2. 1886.

[2] M. Bernhardt. Ueber die spastische Cerebralparalyse im Kindesalter (Hemiplegia spastica infantilis), nebst einen Excurse über "Aphasie bei Kindern." Virchow's Archiv., CII. p. 26, 1885.

[4] O. Brinswanger. Uebereinen Fall von Parencephalie, Virchow's Archiv., CII, p. 13, 1885.

FAITH HEALING AND KINDRED PHENOMENA.

Under this head, Rev. J. M. Buckley, D.D., a clergyman of the Methodist Episcopal Church, writes for the *Century Magazine.* These are his "inductions" from an exhaustive survey of the facts:

(1) That subjective mental states, as concentration of the attention upon a part, with or without belief, can produce effects either of the nature of disease or cure.

(2) Active incredulity in persons not acquainted with these laws, but willing to be experimented upon, is often more favorable to sudden effects than mere stupid acquiescent incredulity. The first thing the incredulous, hard-hearted man who believes that "there is nothing in it," sees that he cannot fathom, may lead him to succumb instantly and entirely to the dominant idea.

(3) That concentrated attention, with faith, can produce very great effects; may operate powerfully in acute diseases, with instantaneous rapidity upon nervous diseases, or upon any disease capable of being modified by direct action through the nervous or circulatory system.

(4) That cures may be wrought upon "diseases of accumulation," [sic] such as dropsies and tumors of various kinds, with great rapidity, where the increased action of the various excretory functions can eliminate the accumulations from the system.

(5) That rheumatism, sciatica, gout, neuralgia, contraction of the joints, *and certain inflammatory conditions* (?) may disappear under similar mental states suddenly, so as to admit of healthful exercise, which exercise, by its help upon the circulation, and through it upon the nutrition of diseased parts, may produce a permanent cure.

(6) That the "mind cure," apart from the absurd philosophy of the different sects into which it is already divided, and its repudiation of all medicine, has a basis in the laws of nature. The pretence of mystery, however, is either honest ignorance or consummate quackery.

(7) That all are unable to dispense with surgery, where the case is in the slightest degree complex, and mechanical adjustments are necessary; also that they cannot restore a limb, or eye, or finger, or even a tooth which has been lost. But in certain displacements of internal organs, the consequence of nervous debility, which are sometimes aided by surgery, they all sometimes succeed by developing latent energy, through mental stimulus.

Rev. Dr. Buckley concludes his article with the following words:

"That faith healers represent God as interfering constantly, not by cause and effect in the order of nature, but effecting the result directly. Their want of superiority to those who are not Christians, but use either false pretences or natural laws, condemns their pretentions. . . .

"Faith cures, technically so called, as now held by many Protestants, is a pitiable superstition, dangerous in its final effects. It may be asked, what harm can result from allowing persons to believe in 'faith healing?' Very great indeed. Its tendency is to produce an effeminate type of character, which shrinks from any pain, and to concentrate attention upon self and its sensations. It sets up false grounds for determining whether a person is, or is not, in the favor of God. It opens the door to every superstition, such as attaching importance to dreams, signs, opening the Bible at random, expecting the Lord to make it open so that one can gather his will from the first passage one sees, 'impressions,' 'assurances,' etc.

"Practically, it gives great support to other delusions which claim a supernatural element. It greatly injures Christianity by subjecting it to a test which it cannot endure. It directs attention from the moral and spiritual transformation which Christianity professes to work — a transformation which, wherever made, manifests its divinity, so that none who behold it need any other proof that it is of God. It destroys the ascendency of reason in the soul, and thus, like similar delusions, it is self-perpetuating, and its natural, and in some minds, its irresistible tendency is to mental derangement.

"Little hope exists of freeing those already entangled, but it is highly important to prevent others from falling into so plausible and luxurious a snare, and to show that Christianity is not to be held responsible for aberrations of the imagination, which belong exclusively to no party, creed, race, clime, or age."

Having given at some length the Rev. Dr. Buckley's view of mind curing, faith healing, etc., we are glad to quote from the most recent book by a prominent apostle of "mind curing," Mr. W. F. Evans, author of "Divine Law of Cure" and "Primitive Mind Cure," who treats his subject this time under the title of "Esoteric Christianity and Mental Therapeutics."[1] From this treatise we learn that,

"The fundamental principle in the practice of the phrenopathic method of cure is the recognition of the true idea of man as already in his true being an immortal spirit, and as such, exempt from sin and disease. In our conception of the patient we divest him of the material and astral envelope, and think of him not as about to be saved in some future time, but as *already saved*, so far as his true being is concerned. We, as it were, dematerialize him in our idea of him. Through the influence of mind upon mind, and in accordance with the law of thought-transference, this serves to dispossess him of the idea and belief of disease, and free him from his engrossment by the illusions of sense. It may be objected to such a method of mental cure, that it is too transcendental, and but a few are sufficiently unfolded spiritually to practice it with any degree of success. In reply we would only say that the intelligent force which creates and governs the world is transcendental; that is, it is purely mental and is beyond the grasp of the senses, but is none the less real and potential for all that. It is quite true that only a small number of persons are at present qualified to practise the system with marked success. But it has been our aim to educate men and women up to that degree of spiritual development that will greatly increase the number of successful practitioners. It may, in truth, be said of surgery, that only a small fraction of the twelve hundred millions of the human race are qualified to be eminently skilful surgeons. Yet that is no weighty objection to the modern science of surgery which is accomplishing such marvels in saving life. The good surgeon, like the poet, is born, not made. The same is true of the phrenopathic healer.

"In order to a successful practice of the mental-cure system, it is not necessary to deny the personality of God as some have done, and reduce him to an inconceivable sea of being, an ocean of spirit without bottom or shore. . . . Neither is it necessary to deny the personality and persistent individuality of the human spirit. Personality is not predicable of the body, for, as we have shown, the corporeal organism is not man. The mind or thinking principle is the man. . . . It is not necessary to deny the existence of matter, but only to affirm the sovereignty of mind over it. Matter exists as a mode of consciousness in us, and is as real as that mode of thought. So disease exists as a wrong way of thinking, and to change that way of thinking for the belief of the truth, is to cure disease of whatever nature it is. It is not necessary to tell a man, dying of consumption, that he is not sick, for that is not true. If he is not sick, why try to cure him? We would only affirm, and if possible, cause him to perceive, that the deepest reality of the disease is not physical but mental. By a fall on an icy sidewalk a man may break his arm or his leg. We would not cure him by denying the fact of his existence, or of the sidewalk, for there is no saving virtue in what is false. But recognizing both the fall and the fracture, we would affirm that the immortal man is not injured, and that no sooner was the wound made than an everywhere-present Divine Life goes to work to heal the hurt." [Sometimes with shortening and deformity.] "We would steadfastly believe this, and form in our mind the idea of the change to be effected in order to a cure, and aid nature by accelerating the curative process.

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[1] H. H. Carter & Karrick, Boston, 1886.

"To modify a patient's thinking in regard to himself and his disease, we employ the principle of suggestion or positive *affirmation* — not mental argument, as it is sometimes called, for argument creates doubt and reaction. No sick man was ever cured by reasoning with him, mentally or verbally. It is the business of the man who *knows* the truth, not to argue, but to affirm. . . . But the effect of suggestion is the result of the *faith* of the subject, for it is always proportioned to the degree in which the patient *believes* what you say. If the patient is disposed to believe you, the magnetic state is not necessary to the influence of your affirmations upon him. If he is not thus disposed, we employ silent or mental suggestion, and oftentimes with marvellous effect. In accordance with the law of thought-transference, and acting on the principle that ideas operate as causes, we form in our minds the idea of the change to be effected in the patient in order to the cure of disease. . . . In dropsy there is a suspended or defective action of the kidneys and sometimes of the skin. A cure cannot be effected by any therapeutic agent without a restoration of the kidneys to their normal functional action. In rheumatism there is also a defective action of the renal functions. Certain acids, as the lactic, the uric, and lithic acids are retained in the blood instead of being eliminated from it by the kidneys.

"In some cases of disease an increased or diminished action of the perspiratory glands of the skin is indicated as necessary, or an increased activity of some one or all of the excreting organs. Whatever the physiological change is which is demanded, the universal life-principle, which we call nature, is making an effort to effect it, and we may augment her curative endeavor by forming in our minds the idea of the change. Here knowledge is power, and we find medical science an auxiliary to the mental system of cure. And we would take occasion to remark, that no *intelligent* practitioner of the mind-cure will ignore wholly [*sic*] all medical science. Mind is the only active principle in the universe. The mind of a skilful surgeon performs marvels in saving the lives of people."

On still another page we are told that

> "He who carefully studies that development of Christianity which we have in the writings of Swedenborg will find all the truth there is in the various schools of mental cure. . . . In the revolving wheel of life the early Christian method of cure by faith, and which through the prevalence of materialism and sensualism has descended to the bottom of the circle, is now coming uppermost again under the name of phrenopathy or mind-cure.'"

Thinking that some of our readers might still be curious about the mind-cure, which has, during the last year or two found its devotees, especially here in New England; thinking moreover that their conception of the system might possibly still be a vague one, and realizing that we ourselves were under a certain degree of bondage to the "dominant scientific materialism of the day," that we had not come to the perfect "knowledge of the real self, the immortal and undying Ego, the unchanging *I Am*," we have endeavored to draw enlightenment from passages found on the latest pages of a writer of a series of works on "Mental Therapeutics;" a practitioner who has used the principles he expounds for nearly a quarter of a century, principles which, he assures us, "may be viewed as established rules in the phrenopathic method of cure."

Should any of our readers suspect that the "thread of his verbosity is drawn out finer than the staple of his argument," we fear we can be of little further use to them.

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THE POISONING OF A FAMILY BY "ROUGH ON RATS."

The dangers incident to the at present unrestricted sale by grocers and others of white arsenic, in the form of "Rough on Rats," and the common use of this powder, thus placing it ready at hand for use by any evil-disposed person, was well illustrated in the case of the Blanchard family of Wilmington, an account of whose experiences has lately been published in the daily journals.

As it appears from the testimony given at the hearing before the court, the colored maid, of about fourteen years of age, who set the table for tea that evening, had been reproved by the mistress during the day for some neglect of duty. Of the seven persons who partook of the meal, all but two — and these children of some of the others, and not accustomed to take tea — were seized with nausea, vomiting, and the other symptoms of irritant poisoning, within five minutes after leaving the table. As these two had partaken of every other article, except the tea, suspicion was directed to that. When it was noted that the servant had not taken tea, as was her habit, and did not show any symptoms of sickness like the rest, suspicion rested upon her. While clearing off the table, she asked several questions as to whether if any poison had been put into the teapot, any of it would probably still remain there. During this discussion the interior of the pot was examined, and some white powder found upon the sides, so that it was set aside for further examination, she being ordered upon no account to touch it. Yet she did, when unobserved, remove it, rinsed and wiped out the interior of the pot, so that when again examined, nearly all the white powder had disappeared from where it was before seen.

The physician, when summoned, suspected the presence of arsenic poisoning, and gave proper treatment therefor. He made inquiries about the possible source of the arsenic; although none at first was thought of, the fact that a box of "Rough on Rats" had some weeks before been put away in the store-room, was at last remembered, and the box sought for, but found missing, although known to have been there but the day before. The next day it was found in another place. These and other facts led to the arrest of the maid upon suspicion of having added the arsenic to the tea.

Subsequent examination by a chemist disclosed the fact that the fluid decoction of the tea, as well as the tea-grounds and the interior of the teapot, especially of the spout, which could not be wiped out, all contained a large amount of arsenic, as did also the vomit of those who had partaken of the tea. Neither the water from the well nor the unused tea contained any arsenic, but the dirty water found in a dipper upon the wash-stand in the maid's own room was found to contain some arsenic. The chemist testified that, from comparing the size of the whole crystals of arsenic composing the powder in the box of "Rough on Rats" with those found in the undissolved lump of white powder found in the spout of the pot, and the relative amounts of small, broken fragments found with each of them, that he was of the opinion that what was found in the teapot might have come from the box; that the difference between them, so far as there was any, was exactly what he would expect would result to powder from the box if it should be subjected to the action of boiling water such as the powder which was found in the pot must have been subjected to. These and some other facts presented to the court seemed to be sufficient cause for suspicion against the girl to cause her to be held for trial.

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MEDICAL NOTES.

— The police authorities in Berlin have published an order requiring physicians to give written notice to the sanitary board within twenty-four hours after the diagnosis of the disease, in every case of puerperal fever, whether followed by death or not. The name of the midwife in attendance is also to be given.

BOSTON.

— The City Government in both branches has voted to accept the report of the joint committee on Public Health, appointed to give hearings on the existing regulations of the local Board of Health for the disinfection of foreign rags by a patent steam process. The report, which is a very sensible and judicious one, was accepted in the Common Council, notwithstanding the opposition of certain Democratic machine politicians, whose support can hardly be regarded as a *moral* endorsement of the action of the local Board of Health. We referred to this report, which should be read in full by all interested in the subject of rags as contagion carriers, in an editorial, September 2d.

NEW YORK.

— The King's County Insane Asylum, at Flatbush, is said to be in an extremely bad condition. In buildings which can accommodate fairly only eight hundred patients, there are now packed fifteen hundred; and on account of this disgraceful over-crowding, it is impossible for them to receive proper care, while they are in constant danger of the outbreak of an epidemic of infectious disease.

— Dr. Lewis H. White, for many years one of the leading physicians of Dutchess County, died of typhoid fever at his residence in Fishkill Village, September 24th, in the eightieth year of his age. His father was Dr. Ebenezer White, of Westchester County, whose two brothers, Barton and Harry, were also physicians, and he was graduated from the Medical Department of Yale College. He also received an honorary degree of M.D. from the University of the City of New York in 1835. He practised with great success for fifty-one years in Fishkill, where he was highly esteemed and beloved by the entire community, and where his son, Dr. Howell White, has for some time been associated with him. For eleven years he was President of the Dutchess County Medical Society.

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Miscellany.

CONFERENCE IN WASHINGTON WITH REGARD TO THE FORMATION OF A CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

In accordance with a proposal emanating from the American Surgical Association, looking to the organization of a Congress of American Physicians and Surgeons to be composed from the principal specialist societies of the country, committees from the several societies appointed for the purpose met at Washington.

Among the gentlemen who appeared at the conference were the following:

From the American Surgical Association, Drs. C. H. Mastin, Mobile; J. Ewing Mears, Philadelphia. From the American Climatological Association, Drs. Frank Donaldson, Baltimore; W. W. Johnston, Washington. From the American Laryngological Association, Drs. F. I. Knight, Boston; E. L. Shurley, Detroit. From the Association of American Physicians and Pathologists, Dr. Wm. Pepper, Philadelphia. From the American Neurological Association, Drs. L. C. Gray, Brooklyn; J. Van Bibber, Baltimore. From the American Otological Association, Drs. C. R. Agnew, New York; W. H. Carmalt, New Haven, Conn. From the American Ophthalmological Association, Dr. O. F. Wadsworth, Boston. From the American Dermatological Association, Drs. H. G. Piffard, New York; G. H. Tilden, Boston. From the American Gynecological Association, Drs. S. C. Busey, Washington; J. R. Chadwick, Boston; Jos. Taber Johnson, Washington.

Dr. J. Ewing Mears was made Secretary, and Dr. S. C. Busey, of Washington, Chairman. A series of resolutions was adopted of which the purport was:

(1) That it was advisable to hold a conjoint meeting of the special societies in Washington during the month of September, 1889, and subsequently at intervals of three years.

(2) That the Societies be invited to elect each a representative to the Executive Committee of the conjoint assemblage, who are to have power to complete organizations by electing a President, Secretary and framing By-Laws, etc.

(3) That the conjoint meetings shall take place on two successive evenings, on the former there shall be an address, on the latter a topic for discussion.

(4) That in every respect the Societies shall retain their autonomy and carry out their own programmes.

(5) That any Society can withdraw at any time.

There was unanimity except that there was some discrepancy of opinion with regard to the frequency of the conjoint meetings. The majority favored *three* years, one or two favored intervals of five years.

The secretary was authorized to send copies of these resolutions to the several medical journals of the country.

Correspondence.

THE MEDICAL COLLEGE AND THE ROPER HOSPITAL AT CHARLESTON, S. C.

The following letters, concerning the misfortunes in Charleston attendant upon the earthquake, and especially concerning the injuries suffered by the Medical College and the Roper Hospital, and which have been sent to the Journal for publication, speak for themselves. It is only necessary to add that the letter from Dr. Kinloch was written in response to an earnest request from Dr. Bowditch, who is a member of the Boston Relief Committee, for a statement of the facts in the case.

Asheville, N. C., September 18, 1886.

My Dear Dr. Bowditch, — The accounts given in the daily press regarding the destruction at Charleston, and the consequent suffering and prospective distress, have not in any way exaggerated the situation. The sympathy and generosity of the people of our broad country have touched the hearts of our people, and if, as it has been said, good often comes out of apparent evil, we all must recognize the great and lasting benefits coming now of a united brotherhood that knows no North, no East, no West, no South.

In calling your attention to the general condition of our afflicted city, I feel that I can add nothing to the picture as already drawn by so many of the witnesses upon the scene of trouble. In consequence of feeble health I have had to absent myself from home and to profit by a temporary sojourn in a mountain climate, but the daily communication had with my people enables me to speak as correctly as though I was upon the spot. As a medical man I am naturally much interested in the condition of the profession at home, and the destruction connected with our Medical College and our Hospital. I can give you some account of this, and leave you to consider our necessities. There are a few medical men who have suffered, and who can but poorly afford to lose anything. We are nearly all poor and dependent solely upon our daily work. The impoverishment of our city and State, incident to the unfortunate war between the States, has only in part been recovered from, and the consequence has been that even the medical men doing a good business have been but poorly remunerated. Medical fees cannot be large, and much charity practice has been done.

Our Medical College, as you know, is one of the oldest and most honored institutions of the country. Many of her Alumni are conspicuous and distinguished throughout the country. Since the war, with the multiplication of colleges at the South and West, we have had to depend almost solely upon the students of our own State. As one of the faculty of the college, I can say, without fear of contradiction, that we have been doing good work. We have upheld the good name of the school, have year by year been advancing the standard of education, and yet none of us have received remuneration worth mentioning. I have held on to my chair for many years simply because I felt a pride in keeping up the school which had been honored by a Dickson, a Moultrie, a Giddings, and a Gailliard. The college has no endowment, but had to be self-supporting. Now it has been practically destroyed by the earthquake, and will have to be rebuilt or suspended. We are told that it will be difficult to raise money by a loan and mortgage of the building, for such security would be poor. It will probably cost from four to five thousand dollars to enable us to go to work again.

Again the time-honored and noble institution, the Roper Hospital, upon which we depended for our clinical facilities, has been totally destroyed. This hospital was originally built through the charity of Mr. Thomas Roper. The Medical Society of our city were, under Mr. Roper's will, the trustees of the fund. The hospital was open to persons of all color and creed. With the bad fortunes of the war, this fund was so reduced that it was not sufficient to carry on the charity, and, as the next best thing to do, we, by permission of the courts, rented the building to the city, to be used as a hospital until our funds should reaccumulate, and allow us to open the building upon the former plan.

You will perceive, therefore, what an additional blow the Roper Fund has sustained. This charity is sadly in need of help. By the way, let me remind you that our old friend, Dr. T. Gailliard, together with myself, were the first medical officers appointed to this hospital. Dr. Gailliard had charge of the medical, and I of the surgical wards. We served long and pleasantly together. I am doubly interested in this charity, for it was through this that I acquired most of my surgical experience. Would that I had the means to richly endow it, and, in the evening of my life, to see the noble institution once more dispensing its rich blessings to all men who might stand in need of relief. I can say no more, my dear Doctor, after thus putting you in possession of the more important facts connected with our calamity, and which, no doubt, will interest you more particularly, as a medical man and a humanitarian. I say, in conclusion, God bless you for the interest you take in our affairs, and God bless the people of your noble city who have so generously responded to the wants of a suffering, but brave community. Inasmuch as you have done it unto the least of these, so sure will be your reward.

Sincerely yours, R. A. Kinloch.

Charleston, S. C., Sept. 15, 1886.

Prof. J. Collins Warren.

My Dear Doctor,— Our Medical College, a self-supporting individual organization, dependent entirely upon its pupils, connected in no way with any city or State organization, is ruined, almost razed to the ground; our poor and helpless Faculty has determined to address prominent men in the profession throughout the States, to beg them to use their influence directly in aiding us to rebuild the old and venerable institution that has sent out such men as J. Laurence Smith, Marion Sims, Gaillard Thomas, and whose professional chairs have been filled by a Holbrook, a Dickson, a Shepard, an Agassiz, and others.

My dear Doctor, we are not ashamed to beg, and whatever you may do for us will be gratefully received and acknowledged by the Faculty and profession at large.

Yours most truly, M. Michel, M.D.

P. S. Make use of this letter among your colleagues, and ask them to help the old school.

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INTRACAPSULAR FRACTURE.

Everett, Mass., September 20, 1886.

Mr. Editor,— In your issue of August 26th, in page 191, I notice some remarks upon intracapsular fracture in the aged. Allow me to make a few suggestions in regard to this particular fracture.

Some years since, when examining a longitudinal section of the upper portion of a femur from the peculiar construction of the bone, I came to the conclusion, that, in a fracture of the neck from the usual accident, falling upon the trochanter with an impetus forward, the separation would commence at the upper surface, extending across until it reached the buttress of solid bone, when it would split down the entire length of this buttress and under the capsular ligament. This attachment of the fractured part to the capsular ligament by this fragment of the buttress accounts for the fact that there is but a slight shortening of the limb, rendering the result of the injury somewhat doubtful.

The surgeon in his manipulations to ascertain the character of the injury breaks up this connection; the limb being now released, is drawn up as far as the soft parts will permit.

If the limb is now drawn down the fractured surface of the femur comes in contact with that of the head and turns it down so that the femur only touches the upper edge of the fractured neck. The difficulty of a union in this situation amounts almost to an impossibility, whereas if extension had been made before the parts had been separated by the surgeon the fractured surfaces would have been brought in apposition, union would have commenced at the point under the ligament and progressed upward until a perfect recovery had taken place. In my work entitled "Conservative Surgery," this fracture is fully illustrated.

In the reduction of fractures and dislocations, I think, as a rule, too much force is used in the attempt to overcome the muscles. If the patient's mind is occupied by engaging him in conversation, and a very moderate amount of extension made, it will be found that the muscles will relax and the limb come down a short distance where it can be held by the surgeon and the moderate extension continued with the same result as before.

I will relate a case which fully corroborates this view. Some fifty years ago when assistant physician at Bellevue Hospital, New York, Dr. Wilson being resident physician, a patient in the Small-pox Hospital dislocated his shoulder. Dr. Wilson attempted its reduction, but did not succeed, and sent to the Middle House for assistance; Commodore McDonnough's son and I went to his aid. We all three made extension under Dr. Wilson's direction without affecting a reduction. Dr. Wilson then sent for the pulleys; while he was arranging these, I said to him that if he had no objection, I would try its reduction. He readily assented.

After removing my boots I placed one foot in the axilla, the great toe of the other foot against the process of the scapula, at the same time saying to the patient that he need not be alarmed as I was not designing to pull upon his arm, engaged him in conversation, and in two or three minutes the arm came down part way; in two or three minutes more it came down so that I felt the head of the humerus against the side of my foot, then with a push with both feet and bringing the arm into the side of the body the head was restored to its place.

I would call attention to the small amount of force used in this case to overcome the muscles. I will here remark that this case has long precedence of the one that Dr. Neil Macleod describes as a new method of reduction. I will relate a case in which reduction of a fracture was accomplished by a new process.

About forty-five years since I was called to see a young man who had fractured his femur at the upper third; there was a contraction of the lower portion of full two inches. He appeared to have a perfect horror of the suffering connected with setting a bone, and inquired very frequently if it would not "almost kill him when it was set." This suggested the idea of doing it without his knowledge; at the same time I recalled the fact that at the moment we drop upon the bed we relax all the muscles. Accordingly, when preparations were all made, I directed the assistants to hold him over the bed, taking charge of the fractured limb myself.

I put one hand under the place of fracture, the other clasping the knee, flexing the femur at the point of fracture for the purpose of opening the upper surface of the two ends. When all was ready I directed the assistants to lay him down. While he was being lowered I made extension from the knee and flexed still more at the fracture, bringing the ends of the bone in apposition, so that it was actually accomplished without his knowledge.

In this case but very slight traction was required, although the bones lapped over ten inches.

Henry G. Davis, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 18, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	661	316	30.90	13 20	18.90	2.25	6.25
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	293	161	22.44	13.60	15.30	1.02	5.10
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	189	81	24.38	20.67	18.55	1.59	3.18
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	123	57	22.68	15.39	11.34	—	6.48
Cincinnati	325,000	99	41	26.26	15.15	9.09	3.03	11.11
New Orleans	238,000	108	33	18.40	13.80	5.52	.92	.92
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	91	34	15.26	14.17	7.63	3.27	2.18
Pittsburgh	190,000	81	49	15.99	4.92	—	4.92	1.23
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	49	13	10.20	16.32	2.04	4.08	—
Worcester	68,383	16	5	25.00	18.75	12.00	6.25	—
Lowell	64,051	32	20	53.21	9.39	40.69	—	6.26
Cambridge	59,660	15	6	26.66	6.66	13.33	6.66	6.66
Fall River	56,863	23	13	43.47	8.70	26.10	—	8.70
Lynn	45,861	15	6	13.33	26.66	6.66	—	—
Lawrence	38,825	12	4	8 33	—	—	8.33	—
Springfield	37,577	15	5	39.99	19.99	26.16	6.66	6.66
New Bedford	33,393	17	7	17.86	17.86	5.88	5.88	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	—	7.14	—	7.14	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	7	3	57.12	14.28	42.84	—	—
Taunton	23,674	10	—	10.00	10.00	10.00	—	—
Haverhill	21,795	9	—	33.33	33.33	11.11	22.22	—
Gloucester	21,713	6	1	16.66	16.66	16.66	—	—
Brockton	20,783	10	4	40.00	30.00	10.00	20.00	—
Newton	19,759	4	2	25.00	—	25.00	—	—
Malden	16,407	10	3	40.00	10.00	30.00	—	10.00
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	4	1	—	—	—	—	—
Newburyport	13,716	3	1	33.33	—	33.33	—	—
Northampton	12,896	4	1	50.00	—	25.00	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,920: under five years of age 869: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 504, consumption 269, lung diseases 110, diarrhœal diseases 287, diphtheria and croup 86, typhoid fever 42, whooping-cough 30, malarial fever 29, measles nine, scarlet fever eight, cerebro-spinal meningitis five, erysipelas four, typhus fever one. From whooping-cough, New York 10, Brooklyn six, Baltimore and Pittsburgh four each, Washington three, Cincinnati, Charleston, Lowell, Lynn, Springfield and Chelsea one each. From malarial fevers, New Orleans 12, New York eight, Brooklyn three, Baltimore two, Boston, Charleston, Lowell and Northampton, one each. From measles, New York seven, Brooklyn two. From scarlet fever, Pittsburgh four, Cincinnati two, Brooklyn and Boston one each. From cerebro-spinal meningitis, Fall River, two, New York, Worcester and Brockton one each. From erysipelas, New York four. From typhus fever, Brooklyn one.

In the 21 cities and greater towns of Massachusetts, with a population of 990,728 (population of the State 1,941,465), the total death-rate for the week was 21.47 against 23.61 and 20.51 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending September 4th the death-rate was 20.8. Deaths reported 3,631: infants under one year of age 1,425; acute diseases of the respiratory organs (London) 128, diarrhœa 710, fever 58, scarlet fever 53, measles 46, whooping-cough 45, diphtheria 19.

The death-rates ranged from 14.2 in Bristol to 38.1 in Preston; Birmingham 23.5; Bradford 20.5; Brighton 20.6; Hull 16.6; Leeds 23.1; Liverpool 26.4; London 16.7; Manchester 28.8; Nottingham 18.2; Sheffield 28.2.

In Edinburgh 20.1; Glasgow 20.9; Dublin 26.2.

For the week ending September 4th, in the Swiss towns, there were 35 deaths from diarrhœal diseases, consumption 28, lung diseases five, whooping-cough and typhoid fever each three, diphtheria and croup two, erysipelas and puerperal fever each one.

The death-rates were: at Zurich 11.5; Geneva 14.1; Basle 14.1; Berne 13.9.

The meteorological record for week ending September 18, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Sept. 18, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...12	29.788	66.0	81.0	57.0	60.0	56.0	85.0	67.0	S.W.	S.W.	S.	6	20	15	F.	O.	R.	—	—
Monday,.. 13	29.898	61.0	70.0	56.0	78.0	34.0	50.0	54.0	W.	W.	W.	10	18	13	C.	C.	C.	—	—
Tuesday,..14	30.041	65.0	74.0	52.0	63.0	44.0	75.0	61.0	S.	S.W.	S.	11	18	12	C.	F.	O.	—	—
Wednes... 15	30.284	63.0	71.0	61.0	84.0	71.0	84.0	80.0	N.W.	E.	E.	3	15	11	C.	F.	C.	—	—
Thursday, 16	29.259	63.0	66.0	61.0	84.0	97.0	95.0	92.0	E.	E.	S.	14	15	10	O.	R.	O.	—	—
Friday, ...17	30.044	73.0	80.0	66.0	93.0	79.0	91.0	88.0	S.W.	S.W.	W.	8	14	12	O.	O.	O.	—	—
Saturday, .18	30.282	65.0	73.0	61.0	56.0	29.0	57.0	47.0	N.W.	0.	O.	21	16	0	C.	C.	C.	15.00	0.60
Mean, the Week.	30.085	65.0	73.6	59.1				70.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 18, 1886, TO SEPTEMBER 24, 1886.

Fisher, W. W. R., first lieutenant and assistant surgeon. Granted leave of absence for one month, to take effect September 10th, with permission to apply for one month's extension. F. O. 88, Department of Arizona, September 1, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING SEPTEMBER 18, 1886.

Austin, H. W., surgeon. Granted leave of absence for thirty days, September 16, 1886.

Goldsborough, C. B., surgeon. Promoted and appointed surgeon from October 1, 1886, to September 9, 1886.

Yemans, H. W., passed assistant surgeon. Granted leave of absence for ten days, September 16, 1886.

Bevan, A. D., passed assistant surgeon. Promoted and appointed passed assistant surgeon from September 1, 1886. September 7, 1886. Granted leave of absence for thirty days, September 7, 1886.

Glennan, A. H., passed assistant surgeon. Promoted and appointed passed assistant surgeon from September 1, 1886. September 7, 1886.

Norman, Seaton, assistant surgeon. To proceed to Vineyard Haven, for temporary duty. September 9, 1886.

SOCIETY NOTICES.

Boston Society for Medical Observation. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, October 4th, 1886, at eight o'clock. Reader: Dr. M. F. Gavin, "A Case of Suprapubic Lithotomy." Also a paper by Dr. S. W. Langmaid.

37 Charles St. Charles P. Strong, M.D., *Secretary.*

American Academy of Medicine. — The American Academy of Medicine will hold its next annual session at Pittsburgh, Pa., October 12th and 13th.

Richard J. Dunglison, M.D., *Secretary.*

Lock Box 1274, Philadelphia.

DEATH.

Died in Lynn, Mass., September 23, 1886, John Sherman Emerson, M.D., M.M.S.S., aged fifty-four years.

BOOKS AND PAMPHLETS RECEIVED.

New Orleans Board of Health. Report on the Biloxi Fever. (Reprint.)

Report on Surgery. By G. L. Simmons, M.D., Sacramento, Chairman of Committee.

Zur Medicinischen Statistik. Von J. Apella. C. J. A., Dr. n. m. g. G. Mtgld. Berlin, 1886.

The Etiology and Treatment of the Summer Diarrhœa of Infants. By H. C. Haven, M.D., Boston, Mass. Philadelphia: John E. Potter & Co. 1886. (Reprint.)

Fifteenth Annual Report of the Managers of the Buffalo State Asylum for the Insane for the Year 1885. Transmitted to the Legislature January 15, 1886. Albany, 1886.

Report for the Year 1885–86, Presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

Surgical Notes from the Case Book of a General Practitioner. By William C. Wile, M.D., of Newtown, Conn., Fourth Vice-President of the American Medical Association. (Reprint.)

Ueber Bromismus nebst einem Falle desselben mit letalem Ausgange. Von Dr. Anton Eigner, em. Sekundararzt erster Klasse des k. k. allgem. Krankenhauses in Wien. 1886.

Rheumatism, its Nature, its Pathology and its Successful Treatment. By T. J. Maclagan, M.D. New York: Wm. Wood & Co. 1886.

Transactions of the Medical Association of the State of Alabama. The State Board of Health. Organized 1847. Session of 1886. Anniston. April 13–16, 1886. Montgomery, Ala.

Operations on the Drum-head for Impaired Hearing; with Fourteen Cases. By Seth S. Bishop, M.D., of Chicago, Attending Surgeon to the Illinois Charitable Eye and Ear Infirmary, and to the South Side Free Dispensary. Chicago. 1886. (Reprint.)

Cocaine in Hay Fever. A Lecture Delivered at the Chicago Medical College. By Seth S. Bishop, M.D., Surgeon to the South Side Free Dispensary, and to the Illinois Charitable Eye and Ear Infirmary; Member of the American Medical Association. Chicago. 1886. (Reprint.)

Original Articles.

NOTES ON SYPHILIS OF THE NERVOUS SYSTEM.[1]

BY JAMES J. PUTNAM, M.D.

THE DIFFERENTIAL DIAGNOSIS OF SYPHILIS AND TRUE EPILEPSY, IN PERSONS OVER THIRTY YEARS OF AGE.

The French syphilographer, Fournier, declares[2] that he has never seen a case of so-called idiopathic epilepsy beginning after thirty years of age, and that nine out of ten cases with this history are cases of syphilis.

This statement has often been quoted with approval, and is endorsed by H. C. Wood in his recent article.[3] It is supposed that in these cases the epileptic (properly epileptiform) attacks are only symptomatic of actual organic changes in the brain, but in another place Fournier offers the further opinion[4] that even in the early stages of syphilis functional derangements of the nervous system may show themselves, under the form of epilepsy, without organic lesion of the brain, and this view is likewise shared by other writers.

Other excellent and experienced observers, such as Strümpell[5] and Gowers,[6] consider it far from proved that syphilis is a cause, much less a frequent cause, of true epilepsy, although, in common with other organic brain diseases, it is a frequent cause of epileptiform convulsions.

According to the printed tables, including that of Gowers, it would seem that true epilepsy beginning after the age of thirty, although uncommon, is not so rare but that either Fournier's statement is in great exaggeration of the truth, or else cases are classed in them as epilepsy, which should come under the heading of symptomatic epileptiform convulsion; or else, finally, syphilis is a cause of true epilepsy oftener than is usually supposed.

Out of about 320 cases of epilepsy (or epileptiform convulsions of more or less chronic recurrence) which I find on my private and hospital records, there are forty-seven in which the first attack occurred when the patient was thirty years or more of age.

Of these, fifteen had to be counted out for want of sufficient record. Of the remaining thirty-two, sixteen had a pretty distinct syphilitic history, or offered present signs of syphilis; another patient was the wife of a syphilitic husband; two others had had gonorrhœa; and two admitted promiscuous sexual intercourse, though not syphilis.

One case was apparently of alcoholic origin; two were due to lead; and one to chronic gross disease of the brain. Excluding these last four cases, there were but six in which the history afforded no grounds for suspicion that syphilis might be present, and several of these were women, who are often infected by their husbands without their own knowledge.

Several of these six cases, on the other hand, seemed fairly to be called idiopathic epilepsy. One was that of a woman of excellent health, and over thirty years old, who was working in the Pemberton Mills at Lawrence at the time it fell in ruins, and was somewhat bruised and very severely frightened. An epileptic attack occurred that night, and they had recurred regularly during the twelve years preceding her examination. In two other cases the patients were under observation for a considerable length of time and no suspicion of syphilis was aroused. The other three cases were seen but once or twice, but gave a non-syphilitic history.

It is now worth while to see how far the other means of making the differential diagnosis would help us in deciding as to the doubtful cases in these three groups.

It is well known that inasmuch as syphilis usually causes epileptiform attacks by direct irritation of the cerebral substance, as any other organic intracranial disease might do, the fits ordinarily differ, in one or another respect, from those of the typical epilepsy.

Thus, consciousness is less apt to be fully lost, and the localized sensory or motor symptoms, such as are apt to usher in true epileptic attacks, may constitute the whole of the seizure.

Furthermore, the syphilitic patient is usually suffering from the constitutional effects of his disease, which may show itself in impaired nutrition, or in headache, vertigo, sleeplessness, and the mental deterioration and irritability so often met with in cerebral syphilis and especially significant if occurring at a period too soon after the appearance of the epileptic symptoms, to be considered as parallel to the mental deterioration of true epilepsy.

Again, there are often physical signs, such as enlarged post-cervical or epitrochlear glands, ulceration of mucous surfaces, alopecia, etc., which contribute to make the diagnosis presumptively certain. Finally, the crowning evidence is often furnished by the test of treatment. The question is, however, whether cases do not arise, and not so very infrequently, in which all of these signs fail, and yet where, on the evidence furnished by the age of the patient alone, we ought to use an anti-syphilitic treatment, and to persist in it in spite of the non-appearance of any great improvement, for the sake of avoiding possible future complications.

This last point is especially worthy of consideration. It is so common to hear the influence of anti-syphilitic treatment, often truly marvelous, spoken of as furnishing the touchstone of the diagnosis, that it is worth remembering that in the first place the eventual prognosis of nervous syphilis, under the best of treatment, is apt to be painted as too favorable; and in the second place, that, as Gowers has pointed out, while many of the symptoms such as headache, paralysis, etc., usually imply progressive advance of the disease, the mere presence of old or stationary disease, or of organic changes held in check by treatment, may furnish the irritation or instability necessary to keep up the epileptiform seizures.

Several of the cases which I believe to have been of syphilitic origin continued to have epileptiform attacks for a number of years, that is, as long as they were under observation, without showing any evidence of advancing disease.

A lack of susceptibility to large doses of iodide of potash is usually considered as an almost conclusive test of the presence of a syphilitic taint,[7] but I think the value of this sign is overrated.

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[1] Read at the meeting of the Boston Society for Medical Improvement, May 24, 1886.

[2] Syphilis du cerveau, 1879.

[3] Pepper's System of Medicine, Vol. v, p. 1010.

[4] Annales de Dermat. et Syph. 1880. pp. 160-169.

[5] Spec. Pathol. and Therap. V. II, p. 376.

[6] Epilepsy, 1881.

[7] Compare. H. C. Wood. loc. cit. Pepper's Syst. of Med. Vol. V

I have recently been treating a patient with a sarcomatous tumor of the brain who took without difficulty 90 to 100 grains daily, and on the other hand I have seen a syphilitic patient who afterwards took enormous doses perfectly well, made uncomfortable at first by a small dose.

The truth in the matter is probably expressed in the following quotation from Brunton:[8]

"These symptoms (irritation of the mucous membranes, etc.), are most readily produced by small doses of two to five grains, and they may usually be arrested either by discontinuing the medicine or increasing the dose. When the dose is raised to ten grains the symptoms usually disappear, and I have only seen one case in which they persisted after the dose had been raised to thirty grains."

In other words, large doses, except perhaps at the very first, are better borne than small, and this observation I have heard confirmed by other physicians, though it has not found it way into the text books.

(*To be continued.*)

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NOTES ON THE LAWTON MURDER.[1]

BY WILLIAM H. TAYLOR, M.D., OF NEW BEDFORD, MEDICAL EXAMINER.

On December 23d, 1885, at 9.30 o'clock, A.M., I was notified that the body of a man was lying in a wagon at Plainville, about three and a half miles from New Bedford, and that the surroundings indicated a violent death. As soon as possible I went to the place, arriving about ten minutes after ten, and found an express wagon, furnished with sideboards, drawn up to the wall at the north side of the road. This road, followed west, leads to Fall River, and in its easterly course passes through the towns of Acushnet, Rochester, Marion and Wareham. The wagon was a brown one with yellow trimmings and red wheels. The dashboard, footboard, thill, axletree, whiffletree and wheel on the right side were plentifully covered with recently dried blood. On the tailboard were two bloody smooches as though produced by bloody hands in closing the board. The board which ordinarily served to increase the height of the tailboard was missing, and was afterward picked up on a road in Rochester. The hind axle was badly sprung. Attached to the wagon was a dark chestnut horse with sweat dried on him, and evidently weary and hungry. The wagon contained a dozen or so of wood-colored boxes of the capacity of half a bushel each, and having the name "Lawton" on them in stencil. Seven of these boxes were closely stowed in the forward part of the wagon and contained eggs, one of the eggs being broken. The balance of the boxes were empty, and were piled helter skelter on the body of a man which was lying diagonally across the floor of the wagon, the head to the right near the tailboard, and the feet projecting five or six inches over the left sideboard, well forward. Before the removal of the boxes, it was noted that the wagon contained a small Japanese wolf-robe (lined with brown cloth and smooched with blood which had evidently undergone attempts at removal) and a horse-blanket, red and white checked, old and worn. A number of the boxes having been removed, the body came into view. It was that of a man thirty-five to forty years of age, rather below the medium height. The left side of the face was covered with dried blood into which dirt, and a few small, dry, brown leaves were matted, the leaves resembling those of the box-shrub. Numerous wounds were seen on the left side of the face, five being of special prominence.

At the back part of the head a wound was found from which blood was oozing on the bottom of the wagon. The body was not quite cold. Rigor mortis was observed in the legs only. About the neck was an old tarred hemp line as large as an ordinary clothes-line, which was tied in a "granny" knot on the right side, and had the appearance of being doubled. This rope had a long free end, and exercised no constriction on the neck. The clothing consisted of a brown mixed overcoat, blue undercoat, red cardigan jacket, dark vest, white shirt and paper collar, gray mixed trousers, underwear and stockings and black cloth boots, quilted. On the hands were brown leather gloves, well worn and bloody. All the clothing was blood-stained except the cardigan jacket, underclothes, stockings and boots. The boots were not muddy, nor was there any mud on the clothing except a spot on the back of the overcoat where it had laid on the floor of the wagon. (The day was warm for December, and the roads very muddy.) In the pockets were found a cigar, a few matches, a white handkerchief and a few worthless coins, but not a cent of current money. The inspection having been completed the body was arranged in the wagon and the whole affair was sent to the morgue in New Bedford under charge of a policeman. The body was identified on the spot, by a gentleman who well knew deceased and his habits, as that of Richard N. Lawton, of Westport, Mass., by occupation a collector of eggs in the towns of Wareham, Rochester and Dartmouth. He gave valuable information as to Lawton's probable whereabouts at the time of the murder, judging from the quantity of eggs which the wagon contained, and also stated that money in some quantity should have been found in the pockets. Inquiry along the road developed the fact that several persons had seen the wagon go by at daybreak, and almost all stated that the driver was a shortish man, with a black or dark mustache. This information, collected on the spot, probably assisted greatly in the speedy arrest of the criminal. A case of murder and robbery with subsequent transportation was readily made out.

An autopsy was held at 4.05 P.M., December 23d, at Wilson's morgue. After calling attention of witnesses to the position and appearance of the body as required by law, the examination proceeded. The body was that of a well-nourished and muscular man, five feet six inches tall, and would weigh about one hundred and thirty pounds. Very little rigor mortis, if any, was present. An evacuation of the bowels of ordinary appearance had occurred. Clothing was as before described. Subject had a brown mustache, and brown curly hair with a tendency to baldness at the forehead. A piece of tarred hemp line was removed from the neck. It was eighteen feet long, and had a standing bowline tied in the end giving the appearance of a double rope around the neck. The knot was situated just to the right of the median line of the chin, and, upon testing it, the rope did not slip. Three fingers could be easily passed between the rope and the neck, and no furrow could be found on the skin indicating constriction. No marks of violence could be found externally, except upon the head. Post mortem ecchymoses were slight. Blood was dried in the ears, nose and mouth. The left side of the face was covered with dried blood containing dirt and a few small leaves. There were ecchymoses under both eyes. At the back part of the head on the right side near the median line, three and a half inches from the margin and just below the level of the top of the right ear, was a wound one inch by three quarters of an inch with ragged margins, from which blood oozed. On washing the face, no powder brand, burnt powder, or traces of wadding could be found. No wadding was found about the body or wagon. Five large wounds were situated in the space bounded by the left ear, angle of the mouth, lower jaw, malar bone, and zygomatic arch. The largest of these wounds was half an inch in long diameter, the smallest, a quarter of an inch; the remainder were between these sizes. The edges of these wounds were slightly blackened and were sharp cut. Beside these wounds there were forty or fifty small shot wounds scattered over the left side of the face. Only one shot wound was found to the right of the median line, and that was on the forehead. Several small shot wounds were seen under the chin on the left side. No wounds were found back of the left ear on the left side of the head. The small shot cut from these wounds were number seven or number eight bird-shot.

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[1] Read at a meeting of the Massachusetts Medico-Legal Society, June 8, 1886.

[8] Pharmacology, Therapeutics, etc. 1885. Lea Bros. p. 519.

Section of the body showed that the heart was empty and contracted; the valves and walls were normal. The lungs were non-adherent, slightly emphysematous at apices, and generally anæmic. Ordinary post-mortem staining radiated outward from the bronchi to the surface. There were no sub-pleural ecchymoses. The bronchi of both lungs contained coagulated blood without froth. The larynx and trachea were normal. No ecchymoses were visible, and no evidences of pressure. The tongue was brown from dried blood. The hyoid bone was uninjured. There were no marks of pressure in the structures surrounding the larynx and trachea. Two buck-shot were found lying loosely in the pharynx; they had produced no injury at the site in which they were found. The liver, spleen, pancreas, kidneys, bladder and alimentary canal were normal. The stomach contained half a pint of partly digested food, in which could be distinguished beef, fowl, bread, potato, and other matters. The small intestine was the receptacle of matters which had undergone stomach digestion. The colon contained normal fæces.

The skull was extensively fractured. The charge of shot had torn through parts of the left temporal and sphenoid bones, breaking them into fragments, and carrying them into the brain. The ascending ramus of the jaw was fractured. The body of the sphenoid was fractured. Fractures radiated in all directions from the foramen magnum. A large, transverse fracture passed through both parietals at their back part, both temporals in the petrous portion, and the basilar process of the occipital. Around the wound of exit, the occipital bone was shattered to bits. Two buckshot were found at the wound of exit. One lay just inside the skull, and one, much flattened, was between the scalp and the skull. These buck-shot, and those found in the pharynx, were weighed, with the following result: The flattened shot weighed forty-seven grains, Troy; the others, thirty-eight and a half, forty-one, and forty-one and a half, respectively; total, one hundred and sixty-seven grains. The left internal and external carotid and basilar arteries were torn across, and the veins at the side of the neck, and the sinuses of the skull were freely opened. The large wounds of the face communicated directly with the interior of the skull through the sphenoid and temporal bones. Three fingers could be passed from the interior of the skull through this opening into the wounded region of the face. The right posterior lobe of the cerebrum was lacerated. The cerebellum was badly torn, the left hemisphere being nearly detached, and the right much lacerated. The medulla oblongata was cut through just below the olivary bodies. The spinal cord was normal. A blood-clot extended between the dura mater and the cord, from the foramen magnum to the second lumbar vertebra. The body was generally very anæmic.

Before discussing the points arising from the view and autopsy, it may be well to give an outline of the story of the murder, as brought out by the evidence accumulated by the police, and offered at the trial of Samuel F. Besse, for the killing of the man who furnishes us with the material for this paper.

Richard N. Lawton, a quiet, inoffensive man of unexceptionable habits and character, left his home in Westport, on Monday, December 21st, 1885, to take his usual route to Wareham and back, collecting eggs. He had with him probably between two and three hundred dollars. He arrived at Wareham that evening, and was seen by various persons. He passed the night at the house of Mrs. Long, who gave him his breakfast at about 8 o'clock A. M., Tuesday, and he then started to collect eggs. He called at a number of houses, as was his custom, and, about half-past ten, left the house of Mr. Handy to go to South Wareham by a wood-road which was uninhabited for some distance, and led past Blackmore's Pond. No one, except his murderer, ever saw him alive afterward, and the next that was known of him was the discovery of his body in Plainville, on Wednesday morning, fifteen or sixteen miles from Mr. Handy's house. Samuel F. Besse, the convicted murderer, was a desperate character, living with his father in a miserable hovel and a wretched neighborhood, in South Wareham. The locality bears the fitting name of "Hogtown." He had spent a long term in State Prison for burglary, and was a terror to the neighborhood. He knew Lawton's habits and the fact that he carried money with him, and it was known that he had contemplated robbery of this man for some time. On Tuesday morning, December 22d, he left his home about eight o'clock, taking his gun and buck and bird-shot of precisely the same character as those found in Lawton's head.

He waylaid Lawton as he came down the road from Handy's, and, secreting himself in the thick bushes at the side of the road, shot him. The location was determined by finding a cushion and whip belonging to Lawton near by, and upon assuming a position which it was reasonable to suppose was Besse's at the time of firing, the direction of the charge could be traced by the cut twigs of trees and bushes, and blood scattered about. Immediately after the shooting, the horse started, but, in sheering out, brought up on a tree-stump or log, which sprung the hind-axle. Besse caught him and turned him into the short scrub-oaks at the side of the road, and, making evidence for his conviction by scrubbing the shrubs and small trees in his haste, and leaving the marks of uneven wheels on the ground, he found a good-sized tree some distance in from the road, in an unfrequented place, and tied the animal to it. This was shown by the tree being gnawed, the ground stamped and pawed, horse-droppings lying about, and a box, completing, with those found in the wagon, the original number which Lawton had on leaving home.

A most important witness for the prosecution was one Westgate, a companion of Besse's (as far as he thought prudent to be), who, at the time of the murder, was looking after some traps on the Weweantit River, an outlet of Blackmore's Pond. He was about a quarter of a mile away through the woods. He says he heard a team coming down the road, and voices. Then he heard two shots and some shouting. He looked after a few more traps, and then made his way to the road, where he met Besse. He inquired of Besse whose team it was that passed down the road, and what he fired at. Besse replied that he had seen no team, and that he had just shot a rabbit. After a little conversation on general topics, Westgate went home, leaving Besse in the road. Besse arrived home shortly after noon, and, having made some purchases, proceeded to devote his time to drinking.

He spent the first part of the night at a neighbor's, sleeping in a chair. About 3 o'clock A. M., Wednesday, he left the house, and, going to the place where the horse was secreted, he arranged his load, and, mounting the vehicle, urged the horse at as rapid a pace as possible through the various towns to Acushnet. As he entered Acushnet, still intoxicated, day was breaking. Several people saw him, marked his intoxication and his strange load, and one or two spoke to him. As he gained the country beyond Acushnet he met more people, and, concluding probably that the region was rather populous, he deserted the horse and wagon, and made his way through the woods and fields to New Bedford, where he was seen between eight and nine o'clock. A trifle of cunning seemed to remain in his intoxicated brain, for he went over to Fairhaven (across the river from New Bedford) to await the arrival of the morning train from the Wareham region, before showing himself publicly in New Bedford. While waiting for the street-car coming from the depot, he sat in an opening of a broken fence in a drunken sleep, and was seen by a number of passers-by. About noon he returned to New Bedford, and spent money freely for clothing, liquors, and other articles, and at four o'clock took the train to Wareham, his drunken state attracting the attention of the conductor.

On Thursday night, December 24th, he was arrested at a neighbor's house on suspicion, and in a short time evidence of the most convincing character fastened the crime upon him. He was tried at a special session of the Supreme Judicial Court at Plymouth, in May, 1886, and convicted of murder in the first degree. In this brief and condensed statement of fact, no special reference is made to the large amount of testimony necessary to establish the main facts as well as those of secondary importance; nor does the evidence concern us particularly as medical men except in so far as it has a bearing on the points having medico-legal interest.

At the preliminary hearing at Wareham, shortly after the murder, and at the hearing before the grand jury at Plymouth, the medical evidence was quite fully given. At the trial, however, very little work was given to the medical examiner. The defence admitted the cause and manner of the death without question, and the conversational powers of the witness received very little encouragement. But a very few questions involving statement of opinion were asked.

In preparation for the trial, quite a number of questions worth looking at presented themselves to my mind, and may be of interest to others.

I. How long had this body been dead when found at ten minutes past ten on the morning of December 23d? The body was not quite cold, and the only rigor mortis observed was a slight amount in the legs. According to our best authorities, the body cools in fifteen to twenty hours, the process being governed by the temperature of the surrounding medium. Under favorable circumstances it may be delayed to forty-eight hours or more. Warm weather, thick clothing or coverings, and a large quantity of subcutaneous fat favor slow cooling. Cooling is hastened by slight coverings, cold weather, leanness and death by hæmorrhage. Lawton's body was lightly covered, the clothing being open to the shirt. The temperature of the air was a little above freezing. He was not fat, and he had died with extensive hæmorrhage. And yet his body was not cold, though he must have been dead twenty-three hours when I saw him. Rigor mortis usually begins at the third or fourth hour, and is complete at the fifth or sixth. Exceptionally it may be complete as early as the second hour or as late as the thirteenth. No case has been reported in which its appearance has been delayed beyond twenty-four hours. It passes off in twenty-four to thirty-six hours in summer, thirty-six to forty-eight in winter. Exceptionally it lasts only two or three hours, and may possibly continue as long as three weeks. It appears first in the muscles of the face and neck, then in those of the trunk, and finally in the arms and legs. It passes off in the same order, the legs being the last to yield. In sudden death with no fatigue and with hæmorrhage, rigor mortis is apt to come on slowly and last a long time. This was the case with Lawton, and yet we find him lacking rigor mortis except in the lower extremities. It was reasonable to believe that rigor had come on and had been broken up by handling the body and jolting it about in the wagon. To be sure of this, I had the body carefully watched by the undertaker after it had passed from my hands. No rigor appeared. From the state of the body I did not feel warranted in approximating closely to the time of death, and gave as my opinion the statement that the body had been dead not more than thirty hours.

II. What was the cause of death? Three causes, either capable of producing death were evident. Shock, hæmorrhage, and section of the medulla oblongata. As the death was instantaneous, the last cause must have been the most important. How do we know that his death was instantaneous? This promised to be a point of some importance, but did not come up at the trial. As far as we know of instantaneous death, section of the medulla oblongata gives us the typical example. Again, the absence of froth in the bronchi, and the undisturbed coagula therein, showed plainly the method of death. Lawton's respiration ceased instantly. The heart continued to beat and pump the blood from the body as long as any came to its cavities, and finally stopped in systole. Had he breathed after being shot, we should certainly have found frothy, bloody liquid in the air-passages.

III. Could he have died from any other cause than gunshot wound of the head? What had the rope about the neck to do with his death? Fortunately, the answer is an easy one. Not one single symptom of death by asphyxia was present. The trachea and larynx, as before stated, showed no trace of injury, unusual redness or ecchymoses. The structures of the neck were normal. No furrow was found in the skin of the neck; no froth or frothy liquid in the air-passages; no congestion of the internal organs. It might be of importance to say that he was not hung first and shot afterward. Had this improbable state of things happened, we should still have had congestion of the abdominal organs, as the wounds of the head, at most, would have emptied only the vessels of the head and upper extremities. The generative organs showed no evidences of anything unusual, and the tongue was not swollen or indented. What the rope was used or intended for, must remain a sealed book, unless the convicted man sees fit to tell his story.

IV. From what direction and at what distance was the fatal shot fired? How can we connect the murderer with the missiles found in the body? The small shot wounds formed an ellipse, in the centre of which were the large wounds. These wounds were all on the left side of the face, some under the chin, but none back of the ear. The charge passed through the left temporal and sphenoid bones, along the base of the skull, and emerged a little to the right of the median line at the back of the head. It necessarily follows that the charge must have come from in front, somewhat to the left, and a little below the plane of the base of the skull. It is probable that Lawton was riding slowly along with the head slightly bent downward.

Authorities, surgical and medico-legal, are by no means agreed as to the appearances of wounds of entrance and exit. In most surgical works the dogma is maintained that the wound of entrance is always smaller than that of exit. As the other extreme we find Casper, who is equally dogmatic in the assertion that the wound of exit is always the smaller. Ogston, Taylor and Tidy recognize that many circumstances influence the appearance of these wounds, and that each case may present features peculiar to itself regarding the relative size of the two wounds, and the degree of inversion or eversion, laceration, and so on. Had any question arisen in this case, the fact that fragments of the temporal bone were found in the brain near the wound of exit would have settled the matter.

Westgate says he heard two shots. If two were fired, one only could have struck the murdered man. I conceive it to be next to impossible for a gunner to put two charges into a moving object in exactly the same relation. Again, had the first barrel missed, the victim would certainly have been disturbed and would have changed the position of his head. With regard to the distance at which the shot was fired, I have made some experiments with an old-fashioned muzzle-loading fowling-piece with very long barrels, which I knew to be capable of carrying shot very closely. In trying to obtain a powder-brand I used two and three-quarters drachms of rifle powder, at various distances. Briand and Chaudé, quoted in Medical Examiner Fish's admirable paper on pistol shot wounds,[2] state that powder-brand can be obtained at a distance equalling the length of the gun-barrel. Casper puts it at three or four feet, and Ogston, quoting Lachése, gives about the same figures. I was unable to get a powder-brand in the open air at a greater distance than two and a half feet; I certainly could not obtain one at the length of my gun-barrels, nearly three feet.

Partly burned powder would stick in bibulous paper in the open air at about eight feet; whether it would adhere to the human skin at that distance, I do not know. Wadding of good tough paper, well rammed, will be thrown twelve to fifteen feet against a slight breeze, and eighteen to twenty feet with the breeze. With my gun, loaded with two and three-quarters drachms of powder, one ounce number seven bird-shot, and twelve buck-shot, I could make a target closely resembling that on Lawton's head at twenty-five feet. Besse's gun was an old-fashioned double Manton with shorter barrels than mine and would probably not carry as closely. I put his distance from Lawton, at the time of firing the fatal shot, at eighteen to twenty feet.

In Besse's game-bag were found No. 7 bird-shot and 41 buck-shot, which, it was shown, he had purchased within a few days. The buck-shot were divided into groups of four, taken at random, and weighed by Professor Babcock, of Boston, who found that the fours averaged about a hundred and seventy grains. Some fours went as low as one hundred and sixty-three grains, and one, at least, over one hundred and eighty. As before stated, the four which I removed from the head and throat weighed one hundred and sixty-seven grains. An ounce of No. 7 bird-shot I found to contain from three hundred and fifty to four hundred, which would give a plenty to make the wounds on Lawton's face, as well as to cut the twigs of the trees and bushes in the line of fire. The method of loading is characteristic of an ignorant gunner, many men of this class having a belief that buck-shot will carry closer when backed by a charge of small shot.

Certain stains were found on the front of the legs of Besse's trousers. These had been subjected to attempts at removal, but not efficiently enough to ruin them for examination. The police sent these trousers, as well as a pair of boots worn on the night of transportation of the body, to Professor Babcock, of Boston; consequently, I did not see them until the day of the trial. Professor Babcock was fortunate enough to obtain the articles early enough to find blood-corpuscles in the stained places, and gave the very just and scientific statement that the blood was that of a mammal, that there was nothing inconsistent in the view that it was human blood, or that it was the blood of a rabbit. Certainly, where stains are sufficiently recent, the finding of corpuscles is the most conclusive test possible. I am inclined to think, however, that the time in which corpuscles can be distinguished in a blood-stain is shorter than is generally supposed, and I should place little reliance on observations made beyond a week or ten days. Some difference of opinion exists between authorities as to the value of the spectroscope in examination of blood-stains. Tidy is very enthusiastic in its favor, considers it infallible, and claims to have produced a characteristic spectrum from a stain known to be over one hundred years old. Others are more conservative, and still others assert that it is inapplicable in very many cases, requiring a good deal of technical skill, and, even in the best hands, proving unsatisfactory. I am not prepared to accept this last view. What little work I have had opportunity to do with blood has prepossessed me in favor of spectrum analysis, and, as it seems the only certain test, where it *is* clear and unmistakable, I think that hard work is well repaid which renders a man familiar enough with blood-spectra to be certain of their recognition.

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[2] Transactions Mass. Medico-Legal Society. Vol. I, p. 285.

Perhaps the best method to pursue with a blood-stain on cloth is that proposed by Ogston, which I will quote, with slight modification:

"The stained portion of the cloth is to be cut out and suspended by a fine thread in a test-tube containing distilled water. If the stain is from blood, the coloring matter will detach itself from the cloth in the form of reddish striæ, and collect at the bottom of the tube, while the water will there assume a red color, more or less pronounced.

"(1) A portion of the contents of the tube may now be used for the spectroscope.

"(2) Two or three drops of the fluid from the bottom of the tube may be cautiously withdrawn by a pipette, and examined under the microscope for blood-disks, epithelial-scales, or fragments of capillary-tubes.

"(3) Two or three more drops similarly withdrawn from the bottom of the tube may be placed on a slide, glacial acetic acid and a very minute crystal of common salt added, left to spontaneous evaporation, or gently heated, and when dried, examined by the microscope for crystals of hæmatin.

"(4) A little of the fluid may be dropped on bibulous paper and submitted to the guaiacum test.

"(5) A little more of the fluid, after the addition of ammonia, may be watched for any change other than a heightening of its color. If the red color comes from vegetable matters, it will be changed to blue, green, and so on.

"(6) The remainder of the fluid in the tube may be now heated, without or with nitric acid, for albumen, which, if present, will render it milky, or throw down a coagulum from it of a dirty gray color, leaving the water without a trace of red.

"(7) The turbidity or coagulum, if from albumen, will disappear or be re-dissolved on the addition of caustic potassa, and assume a brownish-red by reflected, and a green color by transmitted light.

"(8) When the stain has arisen from a layer of blood of perceptible thickness, the cloth, after the maceration, may exhibit a soft, white, grayish or rosy adherent matter, which, when removed and placed under the microscope, will prove to be the fibrin of the blood."

— The *Medical Record* speaks of a curious attempt at deception in a Russian peasant woman, who desired to pass off an infant as her own. In order to make it appear that she had just been delivered, she procured the lung of a sheep to answer as a placenta, and the seminal duct of a goat to represent the umbilical cord. The deception was discovered by Dr. Solovjeff, who related the case in the *Volkhski Vestnik*.

A FEW ADDITIONAL NOTES ON PSORIASIS.[1]

BY F. B. GREENOUGH, M.D., OF BOSTON.

The few notes that I have made on the cases of psoriasis that have come under my observation during the past dermatological year, hardly merit the title of a communication to the Association. I had hoped that some paper on this subject would be read, which would permit me to say the few words I wish to during its discussion. As, however, none such has been presented, I am forced to give you the results of my year's investigation on this subject, brief as they are, which briefness may perhaps be their greatest merit. My notes are supplementary to the paper I read last year,[2] containing the statistics as to sex, age of patients when seen, and, as far as seemingly reliable testimony could be obtained, the age when the disease manifested itself for the first time; also the evidence, either affirmative or negative, of a hereditary tendency.

In addition to these points, there is one in which I have been especially interested, which I referred to incidentally last year, but which was much more elaborately treated of by Dr. Sherwell in a later communication; namely, the fact that patients subject to psoriasis, as a rule, are remarkably healthy and strong. This, during the discussion, was doubted, and I thought I would test the matter as far as the number of cases that I should see would allow me to do.

I find on my case-books for the year from July 1, 1885, to June 30, 1886, twenty-five cases in dispensary practice, and seven in my private work. Of this number, that is, thirty-two, I have statistics of twenty-nine, the other three being cases that were seen when I was absent, and the records on these points were not noted by my colleagues. With the object of trying to reduce to numbers the condition of patients with psoriasis, as far as general health goes, I started to mark each case on a scale of five, that is to say, I assumed that five represented a patient in perfect health, and marked each of the twenty-nine cases on that scale. This is, of course, rough work, as I have not subjected the patients to a thorough examination, but when they seemed in blooming health, and reported themselves as being perfectly well, I have marked them five, and when they seemed below par, have marked them on that scale to the best of my ability. I must say, however, that I have been so anxious not to force the point that I hoped and expected to prove, that I really think I have been inclined rather to under, than over-mark. The points that my figures showed last year which seemed to me most interesting and important were not noticed, namely, the fact that while out of the whole number of cases seen, that is, three hundred and ninety-four, twenty-one were under ten years old, there were five cases who insisted that they were first affected by the disease after the age of fifty, and that in ninety-seven cases where the patients felt able to testify as to the fact of a hereditary tendency or not, thirty-one gave an affirmative answer.

The twenty-nine cases observed are tabulated below.

From this table, it appears that sixteen of the patients were of the male sex, and thirteen female. That the youngest case seen was nine years old. That in nineteen cases, what appeared to be reliable information as to the age at which the disease first manifested itself was obtained, according to which it was under ten in nine cases, the earliest definitely reported being at three years of age, and four being stated as having first shown symptoms of psoriasis during early childhood. That one case seen at the age of fifty-seven insisted that she never had had any similar trouble before. That these twenty-nine cases showed a percentage of psoriasis to total number of cases of skin diseases seen, that is, twelve hundred and twenty, of a little over two and one-third per cent. Twelve cases gave decided evidence as to the existence or not of psoriasis in their parents or other members of their family. Of these, four were affirmative and eight negative.

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[1] Read at the meeting of the American Dermatological Association, August 26, 1886.

[2] See Vol. CXIII, p. 24.

Cases of Psoriasis seen from July 1, 1885, to June 30, 1886.

No. of Case.	Health on a Scale of 5.	Sex.	Age.	Hereditary influence.	Age at the first manifestations.	Remarks.
1	5	Female.	50	....	....	
2	4	Male.	42	....	....	
3	4	Female.	50	....	....	
4	4	Male.	25	....	....	
5	3	"	12	....	....	
6	5	Female.	36	....	....	
7	4	Male.	34	....	....	
8	4	Female.	23	No.	7	
9	5	Male.	30	....	25	
10	4	"	40	....	15	
11	4	Female.	49	....	42	
12	5	"	12	....	11⅓	
13	2	"	26	....	14	Phthisis.
14	5	"	10	....	7	
15	5	"	15	....	....	
16	4	"	21	....	3	
17	5	Male.	31	No.	21	
18	5	"	22	....	21	
19	5	"	9	No.	9	
20	4	Female.	25	No.	Childhood.	
21	5	"	57	No.	57	Is sure this is first attack.
22	5	Male.	24	....	....	
23	4	Female.	45	Yes.	35	Father has it.
24	4	Male.	13	No.	10	Had syphilis 10 yrs., symptoms now present.
25	3	"	27	No.	Childhood.	
26	3	"	35	Yes.	12	
27	4	"	34	Yes.	Childhood.	
28	5	"	30	No.	...	
29	5	"	28	Yes.	Childhood.	

With regard to what I have been especially interested in during the past year, the condition of these patients as to general condition and health, while from my previous observations I felt sure that an attempt to make statistics bearing on this point would show that, as a rule, it was decidedly above the average, I did not expect to have my supposition confirmed as strikingly as it has been. I marked each case on a scale of five, and the average mark of the twenty-nine cases is a little over four and one-third! As I have previously said, this is loose work, but I have tried to be fair in my estimate, and have not given any case a five unless they looked and reported themselves as perfectly well. The careful examination of some of these cases might very possibly show that they were not as robust and hearty as they appeared, but in thirteen of the twenty-nine cases I felt justified in marking them five, twelve of them are scored as four, three as three, and one as two. The latter was a phthisical subject. One of the cases marked three reported having acquired syphilis ten years ago, and when seen, had well-marked specific cutaneous manifestations, concomitant with the efflorescences due to psoriasis, he himself appreciating the difference between the two lesions. It seems to me that this case where syphilis and psoriasis were seen on the same subject is a pretty strong proof against the theory of any connection between the two diseases. The fact, also, which I have been trying to prove, that the subjects of psoriasis are generally strong and healthy, would certainly tend to make the claim that psoriasis was in any way connected with a syphilitic taint untenable. The typical subject with psoriasis, as I believe, is perhaps rather too fleshy to be in perfect health. He is very well described by the German's expression of what he considers the best physical condition, "dick und fett."

I have not seen, and from what was said at our meeting last year, I have looked very carefully for it, any case where psoriasis showed itself on the palmar region. I do not mean that I have not seen an eruption on the palms that resembled psoriasis, because I have seen several, but they were all syphilitic, or, at least I thought so, and if I should see any such without symptoms of psoriasis elsewhere, I should much consider it *ipse facto* specific, and be very astonished if it did not yield to specific treatment.

Since the above was written, through the kindness of Dr. Tilden, I have seen a case which compels me to modify my statement. It was one of a boy, aged sixteen, strong, and with decidedly more than the average amount of muscular and adipose tissue, who showed lesions on both palms and on the upper, outside, and posterior aspect of the calf of one leg, a typical, almost circular patch of psoriasis about the size of a silver dollar, the vertical axis of which had been a little elongated. The left hand, which showed decidedly the most development of the disease, had been subjected to local treatment, so that beyond the fact that we had to do with a serpiginous-shaped efflorescence, covering pretty much the whole of the palm, of a non-ulcerative character, from which the horny layer was being separated, not much could be seen. The right palm, however, showed several lesions, such as I had never seen before, and I think that had I seen them, even in a case where there was no characteristic patch of psoriasis elsewhere, I should have hesitated before pronouncing them syphilitic. They were circular, from about one-eighth to three-eighths of an inch in diameter, scattered over the palm in such a way that their coalescing would produce a serpiginous lesion. The largest of them showed a raised margin of thickened epidermis with an almost cup-shaped depression in the centre, as though something had been picked out. There was no appearance of the characteristic silvery scales, nor was there any areola of congestion. The boy had not been working at any trade that would by the use of tools cause any irritation of his palms. He reported that he had been troubled with these symptoms for two years, and gave a pretty reliable account of one of his brothers having had a scaly eruption on his arms. The patient's elbows and knees were perfectly free from any lesions. His two outer lower incisors did show a faint tendency towards notching, but it was very slight, and otherwise he was a decidedly stocky, well-developed boy.

There was one case in which the result of treatment was very interesting to me. It was that of a very stout, strong young man, that I especially noticed, from the fact that one of my colleagues who saw it, was inclined to consider it as specific. The eruption was of short standing, generally developed, and had shown no signs of improvement during four or five weeks' treatment. One weeks' use of chrysorobin cleared his skin up entirely, and although afterwards there were some fresh manifestations they were easily kept under control.

I am perfectly aware of the fact that the mere statistical tabulation of cases of skin disease may be perfectly useless and uninteresting, nevertheless, from the observation of a large number of cases some facts of importance and interest may be deduced, and facts which cannot be got at in any other way. From the records which I have, of four hundred and twenty-three cases seen, the fact is shown that psoriasis appears, sometimes in early childhood, and sometimes not until the half century is past, and that the male sex is slightly more subject to it than the female. Also, it is proved that an hereditary influence exists in a certain number of cases. From the notes recorded on the twenty-nine cases seen during the past year it would certainly seem that the average physical development and general health was far above the average.

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REPORT ON GENITO-URINARY SURGERY.

BY ABNER POST, M.D.

SUPRA-PUBIC CYSTOTOMY.

The modern ideas in regard to the supra-pubic operation are comparatively well known to readers of the Journal. The operation was treated in the editorial columns of July 16, 1885, and the effect of an inflated rubber bag in the rectum was described in a Report on Anatomy in Vol. CXIV, p. 225. The exact field of the high operation is not yet determined, but experience is doing much to show both the advantages of the operation, and the mishaps to which it is liable. No attempt will be made here to do more than give a few extracts and references to illustrate the differences in opinion as to the value of the operation, different operative procedures, and possible accidents.

In a recent volume,[1] Sir Henry Thompson announces his preference for the high operation, as improved by the method of Garson and Petersen. He believes that the distension of the rectum is valuable not only from the fact that the supra-pubic interval is increased, but from the circumstance that it places the bladder immobile in the surgeon's hands in the abdomen, and out of the pelvis.

At a meeting of the Royal Medical and Chirurgical Society of London, three cases on supra-pubic lithotomy were read, and a discussion[2] followed which brought out some important facts. Mr. Richard Barwell was surprised to find how little a safe degree of rectal distension raised the peritoneal fold. Dr. Garson said that Mr. Barwell's experiments had been made with the abdomen opened for four inches. His own had been made with the abdomen unopened as well. If the abdomen were opened first, but little, if any, raising of the prævesical fold of peritoneum took place.

Mr. Cadge said that in the cases so far reported there had been three of decided hæmorrhage. In one case, eighteen ounces of fluid were injected into the rectal bag, on the removal of which a drachm of blood followed; in a day or two suppression of urine set in, and the patient died. The necropsy showed advanced disease of the kidneys, and a wound of the rectum between it and the bladder, going through to the circular fibres of the muscular coat. Mr. Rivington said that it was dangerous to distend the rectum by anything more than twelve or fourteen ounces of fluid. In his own case, some bloody mucus was passed from the rectum for a day or two after the operation, though the distension had not been excessive.

Van Iterson,[3] of Holland, believes that the value of the operation depends upon the success of the suture of the bladder. If this does not prove feasible, he will return to the lateral operation. He has, so far, performed the supra-pubic operation eight times, with suture of the bladder. Only once has first intention failed. The mucous membrane was not included in the suture, and a soft rubber catheter was retained.

Janiszcwski[4] reports two cases; the first case was a very unfavorable one for operation; the stone seemed to fill the whole bladder. The colpeurynter had little effect upon the position of the bladder, and the injection of the bladder was of little effect, because of the hypertrophy of its walls.

Dr. Arnold Schmitz,[5] of St. Petersburg, keeps his patients, who are children, on their face, the position recommended by Trendelenburg in 1877. His little patients are tied until the effects of the anæsthetic passes off, when they become quiet. They are not put upon two pillows with a free space between, as recommended by Trendelenburg, but upon an ordinary mattress. Next the wound comes a carbolic sponge wrapped in antiseptic gauze, over that a thick boracic-acid compress, then some impermeable stuff and the common gauze bandage. The sponge, which maintains a slight compression, is removed on the second day.

An unfortunate accident has occurred to the Parisian surgeon, Saint-Germain. After passing through the linea alba, the inflated rubber bag in the rectum was regarded as the bladder, and opened through the rectal wall, when the rush of air from the incision, and the collapse of the supposed bladder warned him of his error.[6]

Pousson[7] reports a case of rupture of the bladder from the injection of only 200 g. of a boracic acid solution, in the practice of Guyon. At least three similar cases have been previously reported.

At the fifteenth congress of the German Society of Surgery, König endeavored to establish the relative indications for perineal and supra-pubic lithotomy.[8]

Perineal cystotomy, Professor König concludes, is the less dangerous but the more difficult operation. It is suitable in ordinary cases of foreign body in the bladder and for the removal of stones of small and medium size. The high operation with regard to ease of performance is better suited for the removal of large stones; and the risks attending this operation, the principal of which is plegmon of the anterior abdominal wall, are much less than those likely to result from injury to the wound and bladder during perineal cystotomy performed under similar conditions.

THE RETRO-PERITONEAL AND THE COMBINED RETRO- AND INTRA-PERITONEAL INCISION, AS A MEANS FOR EXPOSING THE KIDNEY.

Any one who has attempted a series of operations on the kidney, in inflammatory changes of that organ, has realized how difficult it is with the customary incision in the loin, to make the kidney fairly approachable.

After researches on the cadaver and operations on the living, Professor König, of Gottengen, has reached the following results :[9]

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[1] The Supra-Pubic Operation of Opening the Bladder, by Sir Henry Thompson, F.R.C.S.

[2] Lancet, April 3, 1886.

[3] Nederl. tijdsch. v. Geneeskunde, 1885, 21, et seq. Centralbl f. Chir., 1886, No. 9.

[4] Medycyna, 1885, Nos. 51 and 52. Centralb. f. Chir., No. 12, 1886.

[5] Archiv. für Klinische Chirurgie, Bd 33, H. 2.

[6] Quoted by Schmitz, l. c.

[7] Jahresbericht über die Leist und Fort schr. in der Gesammt. Med. 1886. B. ii. Ab. 1.

[8] Centralblatt für Chirurgie No. 24, 1886. The London Medical Record, August 16, 1886. Archiv für Klinische Chirurgie, Bd. 34. H. 1.

It is possible to make the kidney easily accessible by a retro-peritoneal incision, if the cut is made from the last rib downwards on the outer edge of the erector spinæ to a few centimetres above the ilium, and then curving forwards continuing the line towards the umbilicus and ending on the outer border of the rectus, or, under certain circumstances, continuing into this muscle. Sometimes it may be advisable not to make the incision in the loin vertical, but to carry it immediately somewhat obliquely, so that it passes over in a long curve into the cross cut toward the navel.

In the direction of the proposed cut, several muscles are incised or divided. The transverse cut divides the latissimus as well as the oblique and the transverse abdominal muscles and sometimes also the rectus, dividing all these muscles down to the peritoneum where they lie upon it. If it seems doubtful about recognizing the separate muscles after their retraction in order to unite them, one may run a thread through them as they are cut and designate the corresponding parts by knots as belonging together.

This cut, made in this manner, gives an astonishing accessibility, which can be decidedly increased if from the posterior vertical part of the incision, the peritoneum is separated with the hand and pushed forward, which is easily accomplished to a considerable extent.

This incision König would designate as retro-peritoneal lumbo-abdominal (Leudenbauchschnitt) incision, (with displacement of the peritoneum forwards.)

If the proposed cut does not give sufficient room, or if for adequate reasons it appears desirable for diagnostic or operative purposes to make the tumor approachable from the abdominal cavity the peritoneal covering may be cut in the transverse incision. This part of the incision must evidently, as it opens the abdominal cavity, be carefully conducted in case infectious material is to be evacuated from the kidney or its pelvis. Usually it would be possible to close at least the peritoneal incision, before removing or opening a suppurating kidney.

This incision Professor König would distinguish as retro-intra-peritoneal lumbo-abdominal incision.

A NEW PROCEDURE FOR THE REMOVAL OF SMALL CALCULI FROM THE BLADDER IN MALE CHILDREN.

Mr. Thomas Annandale reports the following operation upon a boy of four and one-half years, the subject of a small stone. Under chloroform the urethra was dilated, the bladder injected with antiseptic fluid, a small lithotrite passed and the stone seized. The handle of the instrument was then depressed causing its vesical extremity together with the stone to be felt through the abdominal wall immediately above the pubes. A small incision was then made which allowed the lithotrite to be pushed through the wound, the stone was extracted and a No. 9 india-rubber catheter was seized and drawn into the bladder as the lithotrite was withdrawn. A tube was inserted through the abdominal wound. After forty-eight hours both tube and catheter were removed, and the patient was well on the tenth day.

Mr. Annandale believes this to be a much less serious proceeding than the ordinary supra-pubic operation, as the bladder is scarcely disturbed and the wound made in it is very limited.[10]

COMBINED INTERNAL AND EXTERNAL URETHROTOMY.[11]

Mr. Reginald Harrison has combined the two operations in twelve cases with good results. In considering the subject he first enumerates the objections to internal urethrotomy, and the advantages of Symes's operations. Internal urethrotomy is extremely liable to be followed by a form of fever which is exceptional, unexplainable, and occasionally fatal. In the second place it does not furnish better permanent results than other methods of treatment. The conditions which generally attend the operation of internal urethrotomy are unfavorable to the best kinds of repair. The section which is requisite for the division of the contraction necessarily paralyses the urethra for rather more than the extent of the wound inflicted, and the process of repair has to be carried on with the wound soaked in the urine that is left behind to stagnate and to undergo change after each act of micturition. This is a very different thing from the flow of urine over the open wound of a lithotomy or a perineal section. In internal urethrotomy there is retention within a confined space, in external urethrotomy there is merely contact of urine with open surfaces. The latter operation unfortunately cannot include the whole of many strictures by reason of their position and relation to the perineum ; for instance, those within the limits of the scrotum or in the penile urethra. In combining the two operations, Mr. Harrison's object was to secure that the healing process following the division of the stricture should proceed without being subjected to those influences, immediate and remote, which he ascribed to the presence of stagnant urine in the wound. He desired that the "cicatricial splice" should be formed under circumstances most favorable to repair.

Mr. Harrison's plan consists in doing first, thoroughly and completely, the internal urethrotomy. A grooved staff is then introduced into the bladder, and the membranous urethra opened for the passage of a drainage-tube into the bladder.

Mr. Harrison makes the perineal incision or perineal puncture, as he prefers to call it, as follows : The patient being placed in the lithotomy-position and a grooved staff introduced, he punctures the membranous urethra with a long straight finger-knife one inch in front of the anus, the back of the knife being towards the rectum ; the incision is slightly enlarged forwards, so as to permit the introduction of the index-finger ; if the staff is found exposed at the bottom of the wound, as it generally is, all well and good. If not, a somewhat blunt knife is introduced on the finger and the remaining fibres divided. (The plan of the incision is first to make it fit the finger, and subsequently the drainage-tube ; if this is done accurately, there is practically no bleeding.) Wheelhouse's small, probe-pointed gorget is slid along the staff which is then withdrawn and the drainage-tube passed along the concavity of the gorget into its position. The drainage-tubes are somewhat less in size than the index-finger. They are secured by an eye at each side through which a tape can be passed. The end should be just within the bladder and no more. When the internal urethrotomy has been freer than usual, a drainage-tube is introduced from the meatus and brought out at the perineal wound by the side of the bladder drainage-tube. In other cases it is sufficient to wash out the anterior portion of the canal with some antiseptic fluid. The cases operated upon included the worst and most unpromising, but so far there have been no rigors nor urinary fever.

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[9] Centralblatt für Chirurgie, No. 35, 1886.

[10] British Medical Journal, Jan. 2, 1886.

[11] British Medical Journal, July 18, 1885.

SECTION OF THE HYPERTROPHIED PROSTATE.

Mr. Reginald Harrison proposes to treat certain cases of prostatic obstruction by division of the gland, access to the field of operation being gained by means of the bontonniere as in the manner of treating sessile growths proposed by Thompson. The most formidable form of obstruction which the prostate affords, is that most amenable to division when the gland grows not in lobulated masses but by an upheaving of its floor. Although the obstruction both to the escape of urine or the introduction of an instrument into the bladder may be very complete, the amount of tissue requiring division is not necessarily large. The operation consists in opening the membranous urethra from the perineum on a guide and introducing the finger within the prostatic urethra. The obstructing portion of the gland is then divided in the median line partly by incision with a straight probe-pointed knife and partly by divulsion with the finger or large-sized bougie until the access to the bladder is felt to be free. In doing this operation it is not desirable to make an opening larger than will admit the index-finger from the perineum into the bladder; such an opening is completely filled up by the drainage-tube that is subsequently used, and consequently but little risk of hæmorrhage need be entertained. Considerable importance is attached to the prolonged use of the drainage-apparatus as the object is to render the section of the prostate not a temporary one but permanent. The tubes are retained from six to twelve weeks.

It will be observed that section of the bar is preceded in all instances by a careful digital exploration of the prostatic urethra, with a view of directly determining the nature of the obstruction and the direction of the incision to remove it. Mr. Harrison records the following case. D. E., came under his care in 1883, with an atonied bladder and retention of urine from enlarged prostate. There had been great difficulty in passing the catheter and much blood had been lost. The patient was childish and would not retain a catheter. After three weeks' trial of various forms of treatment the operation described was done and a bar of considerable thickness divided. Hæmorrhage and cystitis disappeared. The patient was able to go about in ten days, his urine being discharged at will by turning a tap connected with the drainage-apparatus. The tube was retained for eight weeks when a considerable quantity of urine began to escape by the urethra. The tube was withdrawn and the wound rapidly closed. This patient has never had any further impediment to the natural escape of urine along the urethra. He could retain his urine for four hours, and there was no residual urine, nor was there any difficulty in passing a large-sized instrument into the bladder. Six months after the operation the patient had a paralytic seizure from which he has not recovered, but resort to catheterism has never been necessary. The introduction into the prostate of no inconsiderable quantity of cicatricial tissue has probably something to do with the result.

The author advocates the free incision of the enlarged prostate during the lateral operation for stone and the retention of a tube for six, eight, or ten weeks so as to bring about a permanently improved condition of the outlet.

THE TREATMENT OF CHRONIC URETHRAL DISCHARGE BY EXTERNAL URETHROTOMY.

Mr. Reginald Harrison [12] relates a case of urethral discharge of four years' duration, which had resisted all the usual methods of treatment, including internal urethrotomy, which was cured by this means. An india-rubber tube was passed through the perineal opening into the bladder and retained there for twenty-five days.

Therapeutical Memorandum.

ACUTE RHEUMATIC CARDITIS TREATED WITH SALICYLATE OF SODIUM.[1]

BY SAMUEL L. ABBOT, M.D.,
Visiting Physician, Massachusetts General Hospital.

I was called, on the evening of February 8th, to Madame ——, a Frenchwoman, who had been suffering for a week from an attack of acute rheumatism. She had had no medical advice, as the symptoms were not very urgent, and she "hated doctors." Domestic remedies had been employed, such as sinapisms, enveloping the affected joints with cotton, etc. For the first four nights sleep had been much interrupted by pain, but the patient had slept pretty well on the fifth and sixth nights. She had had an attack of acute rheumatism three years before, which lasted seven weeks. At the time of my visit, she was in a comfortable condition so far as pain was concerned. The feet and ankles, knees, shoulders, and right hand had been inflamed, but were now free from pain; the feet, however, were puffy with œdema. The left arm and hand were enveloped in cotton and not painful, except on motion or firm pressure; the hand was œdematous.

The patient was very drowsy, finding it difficult to keep awake, and had dozed most of the day; it was this condition which had excited alarm in her friends, and led them to call in medical advice. It was not difficult to arouse the patient, so that she answered questions intelligently, but languidly, as if overwhelmed with stupor. She had taken no medicine, and said she had no pain. She was taking sufficient nourishing food, and had committed the indiscretion of eating meat for dinner the day before. Her breathing was very quick, apparently without any sense of dyspnœa, the respirations being forty-six in a minute. Pulse 112, regular; of moderate force; temperature 105.4° in the axilla.

On examining the chest, nothing abnormal was detected in the lungs in front, and I did not deem it expedient to raise her to examine the back. The cardiac dulness was not increased. The sounds of the heart were clear and distinct, of moderate force, and a loud, systolic souffle was heard throughout the cardiac region, loudest over the aortic valves, and heard faintly beneath the left clavicle. Considerable tenderness was found on pressure in the intercostal spaces over the heart, which the patient had not been conscious of before. The tongue was nearly clean, and moist; salicylate of sodium was prescribed, to be taken in ten-grain doses every two hours.

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[1] Read at the Boston Society for Medical Improvement, May 24, 1886.

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[12] Lancet, September 5, 1885.

The patient slept well during the following night, and was free from pain and tenderness over the heart the next morning; the systolic souffle, however, continued. She was very bright and smiling, entirely relieved of the stupor of the previous evening, and said she had very little recollection of what had occurred during my visit at that time. She had taken five doses of salicylate of sodium during the night, and had perspired very freely; the œdema continued. The temperature had fallen to 98.6° — nearly seven degrees. Pulse 100, respirations 20. The urine was high-colored, strongly acid, contained an excess of urates, and was of specific gravity of 1016; there was no trace of albumen. Treatment continued.

February 10th. The patient had slept well, and had no pain. There was some deafness, with tinnitus. The left hand was still somewhat puffy, but could be used freely without discomfort. There was still slight œdema of the feet. A faint systolic souffle could be detected over the base of the ventricles, but could scarcely be heard over the aortic valves. The patient stated that she had not been conscious of any cardiac disability following the first attack of acute rheumatism three years before. Temperature 97.6°, pulse 84, respirations 18. The salicylate had been given during the night, and was ordered to be continued every two hours, in alternate doses of ten and five grains, the dose to be increased *pro re natâ.*

February 11th. The patient is free from pain, having slept well. Tongue nearly clean. At the second left intercostal space, over an area extending to the left, about an inch and a half square, the systolic souffle can be distinctly heard, with a slight reduplication of the sound of the pulmonary valves, the souffle being scarcely audible over the aortic valves, and very faint at the apex. No friction-sound has been heard from the first. Urine still turbid with urates. Temperature 98°, pulse 80, respirations 16.

The patient was allowed to sit up and eat a little chicken with her broth, having taken milk and broth freely from the first. Tr. Ferri Chlorid. mx, Glycerin. mxv, aquæ ad fzi was prescribed, to be taken after each meal. The salicylate of sodium was omitted, to be resumed *pro re natâ.*

February 12th. The patient felt well, and was sitting up in bed at time of visit, having been up out of bed half of the previous day. Bowels regular without medicine. Has had no pain or dyspnœa. The souffle can hardly be heard over the aortic valves, and is very faint over the region where it was so distinct the day before. Decided accentuation of the pulmonary valves; no souffle heard at apex. Temperature not taken; pulse 84. The patient has not required the salicylate of sodium. The iron was ordered to be continued, and full diet was allowed.

February 17th. Since the 13th the patient has been up and about the house the whole of each day, feeling quite well, except that she is not very strong. Nothing abnormal can be detected about the heart. A pill of quinine, iron, and nux vomica was prescribed, to be taken before each meal, instead of the tincture of the chloride of iron.

The leading features of the case may be summarized as follows:

The patient, when first seen, had been ill six days with acute rheumatism, for which she had had no medical treatment. On the seventh day, symptoms of stupor and her general condition excited alarm among her friends, who called in the writer, who found the patient with a temperature of 105.4°, rapid respiration and heart action, with tenderness over the cardiac region, and a cerebral condition looking like impending coma, suggesting very forcibly the closing scene of fatal pericarditis. On examination of the heart, a loud, general systolic souffle was heard, but no friction-sound.

Treatment with salicylate of sodium, without any local applications, was followed by a very rapid disappearance of the cardiac and cerebral symptoms, and speedy recovery, the patient being able to sit up half of the third day after the treatment was commenced, and all day after the fourth. Scarcely a trace of the morbid physical signs was detected on the fifth day, and nothing abnormal on the ninth.

At the time of the first visit, with the history of a previous attack of acute rheumatism, it was impossible to form an opinion whether the souffle detected was due to that attack or to the present one. The rapid disappearance of this symptom settled this point, and raised an interesting question as to its origin. Taken in connection with the cardiac tenderness, the œdema of the affected joints, the accompanying rapid respiration, and the high temperature, and the fact that the morbid sound lingered last over the base of the ventricles, I cannot resist the conviction that the case was one of rheumatic myocarditis, and the abnormal sound was muscular, rather than valvular; for it seems hardly possible that an inflammatory valvular change, sufficient to produce so loud a murmur, could have disappeared so quickly. My impression is strengthened by reading the interesting paper of Dr. West on "Parenchymatous Myocarditis," published in the *London Lancet* of January 20th and 27th of the present year, in which the first case reported was characterized by a similar souffle, but in which, after death, the autopsy showed nothing abnormal about the valves, but marked evidence of myocarditis; and Bramwell, in a paper published in the *American Journal of Medical Science* for April, 1886, speaks of "cases of mitral and tricuspid regurgitation due to simple dilatation, and to structural changes in the cardiac muscle" ("relative and muscular incompetence," as he terms them) — "conditions which are very common during life, and which may be unattended with any naked-eye lesion of the valvular apparatus after death."

If my view of the case now reported be correct, it strengthens my impression of the value of the salicylic remedies in the cardiac complications of acute rheumatism claimed for them in my paper on "Rheumatic Pericarditis," read before this Society at the meeting of January 11th, and published in the *Boston Medical and Surgical Journal* of January 21st of the current year. I am glad to find my position sustained by Professor Latham, of Cambridge, England, who, in his third Croonian Lecture on "Some Points in the Pathology of Rheumatism," delivered at the Royal College of Physicians of London, in April, 1886, and published in the *Lancet* of May 1st, says, in speaking of the power of salicylic acid over acute rheumatism: "In no case of rheumatism that has come under my care during the last six years, either in hospital or private practice, has there been, where the heart was previously sound, any cardiac complication, such as endocarditis or pericarditis, developed." And again: "Cardiac complications constitute the chief danger of acute rheumatism, and the danger, if the disease is taken in hand soon enough, may, with our new remedy, be averted." He insists, however, upon pure salicylic acid alone being employed, and says that he "has given it in rheumatism complicated with pericarditis, and as yet has seen no bad result from it." So far as my experience goes, I can say the same of salicylate of soda, with the addition that recovery from this cardiac complication in the few cases in which I have had an opportunity of trying it, has been the result, and this without resort to the favorite, and, I must think, the doubtful alkaloid treatment.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MAY 24, 1886, the President, DR. F. W. DRAPER, in the Chair.

DR. G. H. MONKS showed, by invitation, colored models from original dissertations of the

DISTRIBUTION OF THE CUTANEOUS NERVES.

DR. J. J. PUTNAM read a paper on

SYPHILIS OF THE NERVOUS SYSTEM.[1]

DR. R. T. EDES was glad that these cases had been analyzed. The curability of syphilitic lesions of the nervous system has at times been somewhat exaggerated, although they do sometimes improve rapidly.

DR. C. F. FOLSOM said that the relation of syphilis to these diseases is something of which we as yet know little. How much is directly due to syphilis, and how much to the body being long debilitated by syphilis? in how many of them is syphilis latent? how often do we have these diseases when syphilis is properly treated from the beginning? how often when it is not so treated? He thinks that in a large proportion of cases general paralysis is a late lesion of syphilis. In seventeen cases he has found fifteen histories of syphilis. In Ireland it is a much more rare disease than in England or Scotland, and so is syphilis. It is possible, however, that it depends merely on the debility caused by syphilis. The effect of iodide of potassium in its treatment has been over-rated. When paralysis is distinctly local, we do get benefit from the iodide, but we have to use large doses. He had given a drachm without effect, and had seen marked benefit from half an ounce to six drachms.

DR. PUTNAM said that he had tried to learn what has been the treatment in the early stages. He asked if, notwithstanding the modern theory as to the need of prolonged treatment of syphilis, it is not a fact that most patients are allowed to pass from under observation with the cessation of the first symptoms. He thought that it was so.

DR. J. C. WHITE said that ten years ago, prolonged treatment of early syphilis was not insisted upon. To-day it is almost entirely confined to specialists in syphilis and dermatology. Nine cases out of ten of advanced syphilis were treated at first only two or three months — long enough to remove the symptoms. He was sorry to say, however, that he had himself treated cases persistently for twelve to twenty-four months, and that among these there had been some late and severe forms of nervous syphilis. It is impossible to state how far nervous symptoms may be warded off by proper treatment. The paper, in his opinion, labored under the difficulty that many cases were considered that we do not know to be syphilis, except in so far as we can judge by the cerebral symptoms.

DR. PUTNAM stated that he had tried to tabulate cases in which there were cutaneous and other distinctly syphilitic symptoms, and that all that we can do with others is to repeat observations constantly, watching the effect of syphilitic treatment.

DR. S. L. ABBOT read a paper on

ACUTE PNEUMATIC CARDITIS TREATED WITH SALICYLATE OF SODIUM.[2]

DR. F. C. SHATTUCK said that Dr. Abbot's very interesting case brought out several questions. The diagnosis of myocarditis is one of the most difficult to make during life; and, while it cannot be denied that the souffle and the tenderness in the region of the heart noted in this case were very likely due to this process; another explanation seems very possible. As to the causation of some heart-murmurs, our knowledge is very precise; as to others, it is very vague. In high fever of whatever nature, a murmur is frequently heard over the heart, entirely apart from any inflammatory process in any portion of the cardiac structure, as far as we know. Such murmurs are called dynamic by some, and are attributed to relaxation of the heart-muscle, and consequent imperfect closure of the mitral valve. In the case under discussion, the fever was very high — proportionally higher than the pulse-rate — but not so high as the respiratory-rate, and the murmur became much less marked as the pyrexia fell under the influence of the salicylate. A purely dynamic murmur often behaves in the same way. As regards the tenderness over the region of the heart, this symptom might be attributed to a rheumatic affection of the fibrous structure about the ribs and their cartilages, especially in a case of rheumatic polyarthritis.

Moreover it seems to be very doubtful whether the salicyl compounds really exert any direct protective influence on the heart and pericardium. That they control the fever and the articular symptoms of acute rheumatism in a very remarkable degree there can be no question. Dr. Howard, of Montreal, who contributes the article on rheumatism to "Pepper's System of Medicine," goes carefully into the question of the development of cardiac inflammation during the salicyl treatment, and brings together a series of large number of cases reported by different observers which tend strongly to show that the prophylactic influence of these remedies over the heart is certainly very small. Dr. Howard, himself, in common with many other skilful physicians, believe that the best treatment of acute rheumatism consists in a combination of the salicylic and the alkaline treatment. The fever and the articular symptoms are relieved by the first, the danger of cardiac complications is greatly diminished by the second. The question involved demands and deserves further study; and can only be settled by a careful analysis of a very large number of cases, occurring in different years and localities, and under different but trustworthy observers. But the drift of opinion at present seems to be against the power of salicylic acid directly to influence rheumatic cardiac inflammation, an additional argument that perhaps myocarditis was not present in the case reported by Dr. Abbot.

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[1] See page 317 of this Journal.

[2] See page 326 of this number of the Journal.

Dr. Abbot in reply to Dr. Shattuck admitted the general difficulty of a confident diagnosis of carditis, but he thought the case reported presented all the features of a genuine metastases to the heart. The rheumatic inflammation had attacked joint after joint, with the usual local symptoms. These had subsided and the cerebral and respiratory symptoms came on as a sequence. The patient was seen during the first day of these symptoms and was found in a very alarming condition. The local pain was developed by pressure in the intercostal spaces over the heart, but not over the ribs or cartilages, nor in the intercostal spaces elsewhere. The pulse is confessedly variable in rheumatic carditis, and is not necessarily very quick. Dr. Shattuck was in error in his impression that the murmur became at once much less marked as the pyrexia fell, under the influence of the salicylate. On the morning after it was first administered the temperature had fallen to 98.6°, with entire relief to the tenderness and stupor, but the souffle was just as strong as before the administration of the remedy, and diminished gradually during the following days, the temperature remaining at a low point; as if the inflammatory change in the heart structure were subsiding by degrees just as occurs in a rheumatic joint, after the acute pain has disappeared.

The cause of the murmur in these cases is confessedly difficult to determine; but Dr. Abbot thought that the theory of inflammation suggests a reasonable explanation, in the embarrassment it would be likely to cause to the free contraction of the heart muscle, by which the normal action of the columnæ carneæ would be seriously interfered with.

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THE AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

A CASE OF ABDOMINAL SECTION FOR CHRONIC SUPPURATIVE PERITONITIS.

By Dr. John C. Reeve, M.D., of Dayton, Ohio.

A., aged nineteen, living as if married, was healthy until November last. She had never been pregnant. She was attended by a physician who found abdominal inflammation. On January 18th, she was seen in consultation by the speaker, at which time she presented the evidences of chronic peritonitis, but no history of a gonorrhœal origin could be obtained. One month later she began to pass pus by the rectum. After other measures of relief had failed, laparotomy was offered in April, but declined. The patient was not seen again until June 20th, when she desired the operation. She had suffered with hectic, the menstruation had ceased since January, and examination of the urine showed no albumen. There was great tenderness and hardness all over the abdomen, pus being still passed with the stools. By vaginal examination, no definite hardness could be detected. By the rectum there was ill-defined resonance high up on the left side. No opening into the rectum could be detected, although frequent examinations for this purpose were made. The patient was greatly emaciated, the weight having fallen from one hundred and twenty-five pounds to seventy pounds.

The operation was performed June 23d; there was great difficulty in the administration of the ether. On opening the peritoneum all the parts were matted together. The abdomen was washed out by allowing water to run into it from a pipe, and then syringing out what remained. Finally a cavity was reached in the left lumbar region. It was impossible to attach the walls of this cavity to the abdominal wound, and as the condition of the patient was by this time alarming, a drainage-tube was introduced and the abdominal incision closed with sutures. In the course of several hours the patient gradually rallied from the operation. The temperature did not go above 100°. The cavity was washed out with a solution of iodine in tincture in water. The upper two-thirds of the abdominal wound failed to unite. On the fourteenth day a large quantity of fæcal matter came through the wound. This has continued to recur. In July, evidences of Bright's disease were detected; since then there has been some improvement in the general health. I think that if the patient had consented to the operation when first proposed, the result might have been different. One of the principal objects of the paper has been to ascertain if, as has been stated, fæcal fistula is an invariable consequence of laparotomy for abdominal inflammation in cases where pus has already escaped by the rectum.

DISCUSSION.

Dr. J. Scott, of San Francisco. I would mention the following case. A patient was admitted to the hospital with prolapse, inflammation of the ovaries and cellulitis. After three months' treatment without improvement, removal of the ovaries was recommended but declined, by the patient. The patient was kept under treatment for six months longer, when enlargement of the right ovary began. Later, pus discharged by the rectum, and subsequently, the abscess opened into the bladder. The patient then consented to operation. The abdomen was opened, an opening made into the vagina and a drainage-tube introduced. The improvement was not marked, and in the course of two months the patient was as bad as ever. The removal of both ovaries and tubes was then performed. Four or five days after the operation fæces appeared in the wound. During the five months succeeding the operation the fæcal fistula has closed, the patient has gained ten pounds, and is able to walk about.

Dr. William Goodell, of Philadelphia. The only case which I have had at all similar to the one reported was one of pelvic abscess, opening into the rectum and bladder. I performed laparotomy with the intention of opening the abscess and stitching its walls to the abdominal wound. The abscess had been so constantly drained, that it was not larger than a pear. By compressing the abscess sac, I was able to make it prominent in the vagina and forced into it a closed pair of scissors, which were then opened and the opening gradually enlarged and a drainage-tube inserted. This case gradually recovered, both the rectal and vesical openings closing in the course of time.

Dr. C. C. Lee, of New York. I think that the rule will come to be established that in chronic suppurative peritonitis, laparotomy is not only justified but the procedure to be adopted.

Dr. R. S. Sutton, of Pittsburg. In a case of pelvic abscess as large as a cocoanut, I performed laparotomy and then stitched the peritoneum at the edge of the incision to the peritoneum covering the abscess, which was then opened and a drainage-tube introduced. The patient recovered.

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[1] Continued from page 309.

Dr. Joseph T. Johnson, of Washington. I would suggest that in such cases as the one described by the author where time is a matter of importance, much can be gained by adopting the procedure employed by Drs. Bantock and Tait. In washing out the abdominal cavity they pour the water into the cavity with a pitcher, using gallons at a time. In this way the cleansing is rapidly accomplished.

Adjourned.

WEDNESDAY.— SECOND DAY.— MORNING SESSION.

ERGOT AFTER LABOR.

By Dr. John Goodman, of Louisville, Ky.

In the absence of the author, the paper was read by the secretary. The administration of a full dose of ergot immediately after the completion of labor has become a general practice. It is claimed that it promotes involution, prevents after-pains and tends to prevent post-partum hæmorrhage. Some years ago, the author administered a full dose of ergot after a perfectly normal labor. In fifteen minutes, severe pain appeared and increased. The tenderness in the uterus continued for a week. There was no milk, and the patient, previously prolific, never again conceived. The trouble was attributed to inflammation of the muscular coat of the uterus produced by the action of the ergot.

In a second case, treated in May, 1886, ergot was given after a forceps delivery. On the seventh day the patient had a chill, followed by a temperature of 104°. The next day a clot was washed out of the uterus, and the temperature fell to 99°. Well-marked septicæmia developed, and the patient died one week later. In this case, the retention of the clot was attributed to the spasmodic contraction of the uterus, preventing its escape. The author has seen other cases in which injurious effects were produced by the administration of ergot.

He claimed that ergot did not assist involution, which was a natural process, and required a certain length of time for its completion. That we have in ergot a remedy capable of arresting after-pains cannot be doubted, but it does so by exciting a mode of muscular action at variance with all physiological laws. After-pains are conservative, and it is better to wait until they become of abnormal severity before resorting to treatment. Ergot is capable of preventing hæmorrhage, but its use is attended with such dangers that it should not be employed, except under exceptional circumstances. It should be an inviolable rule not to give ergot at the close of the third stage of labor, unless hæmorrhage is imminent. It should then be used by hypodermic injection.

DISCUSSION.

The President, Dr. Thaddeus A. Reamy, of Cincinnati. I have in process of preparation a paper in which is entered my protest against routine practice of the administration of ergot after the third stage of labor. This conclusion is based upon my experience, and upon a study of the action which is claimed for the drug. The contractions produced by ergot are unlike those of nature. The contraction of ergot is persistent, while the normal contraction is intermittent. If the contraction is persistent, the circulation of the uterine wall cannot reach a healthy state, and thus it not only retains what is in the uterine cavity, but it interferes with the process of involution, and lays the foundation for sepsis and inflammation. I think that in the course of the next five or ten years, the practice of obstetricians in this matter will be revolutionized.

Dr. William Goodell, of Philadelphia. The author of the paper states that it is only since last May that he has given up the use of ergot. I think that he has not had sufficient time to form such positive opinions. In the first case, I think that there must have been a fibroid tumor; the second case was a clear instance of septicæmia. I do not think that after-pains are conservative. As a rule, we do not see them in primipara. These pains are in great measure the result of weaknesses induced by civilization. I do not believe that every woman who has given birth to a child needs ergot, but we do not know the cases which do require it. In twenty-five hundred cases of labor, I have always given ergot after the completion of labor, and I have never seen any harm from its use. I do not believe that one dose of ergot has much effect in favoring involution. Involution is the result of fatty degeneration, and the greater the contraction, the greater the interference with circulation, and the more rapidly should this change take place. I have used ergot for two purposes: one to prevent hæmorrhage, and the other to prevent the absorption of septic matter. Since the introduction of antiseptics, which, I think, should be used in every case of labor, whether public or private, the use of ergot to prevent septic infection is not so important. I think that it does not do the harm which has been mentioned.

Dr. George J. Englemann, of St. Louis. I hold, in the main, the views which the President has expressed. I use ergot much less than I did a few years ago. I believe that we have equally effective measures in the hot antiseptic douche and in the Faradic current. After the contents of the uterus have been expelled, ergot will, in certain cases, always be a useful and effective remedy. I would not venture to say that after labor ergot is out of place, but I think that I may say that before the contents of the uterus are expelled, it should not be used at all.

Dr. Theophilus Parvin, of Philadelphia. The effect of ergot varies with the dose. A small dose acts simply to increase the normal uterine contractions. I must object to the assertion that ergot should never be given before the completion of labor. Statistics show that those who are most successful in the treatment of placenta prævia are the men who use ergot. Again, in a multipara, with the os dilated, where a sudden rupture of the membrane has taken place with a cessation of labor, fifteen or twenty grains of ergot causes a rapid completion of the labor. After a protracted labor, there is a weariness of the uterus, and a failure to enter upon the normal retraction, which is a preventive of hæmorrhage, and tends to promote involution. As long as in the third stage of labor we assist Nature in the expulsion of the placenta, why should we not assist Nature in securing normal retraction of the uterus after the completion of the third stage? In some experiments which I made at the Philadelphia Hospital, to determine the rapidity of involution of the uterus in women who had received ergot, and in those who had not, it was found that in those who received ergot after delivery, uterine involution seemed to take place more rapidly.

Dr. Skene, of Brooklyn. I have never seen such effects from ergot as have been described in this paper. I do not think that in the cases reported the ergot had anything to do with the production of the effects. All rational men use ergot as any other remedy, when it is necessary, or may possibly become necessary. If there is any doubt whether or not it is needed, it is better to give the patient the benefit of the doubt.

Dr. P. C. Williams, of Baltimore. I believe that ergot has its place in obstetrical medicine. I have never yet regretted its use in any case, but I have regretted not using it. The great danger under the use of anæsthetics is hæmorrhage. To avoid this, the use of ergot seems to be the proper thing. I admit that ergot is abused, but the abuse of ergot is no argument against its proper use.

Dr. Thaddeus A. Reamy, of Cincinnati. The profession is not taught that ergot should be given in diseased conditions, but that it shall be given in all cases after labor, as a routine practice, and it is only against this use of it that I raise my voice.

The next business was the reading of the

PRESIDENT'S ADDRESS,

by Thaddeus A. Reamy, M.D., of Cincinnati.

The speaker first referred to the prosperity of the Society during the past ten years, and spoke of the great advance of abdominal surgery and ovariotomy during the same time. The speaker thought that the less satisfactory results obtained in America, as compared with other countries, might be due to climatic and constitutional conditions, and to the fact that the operation was performed by too many operators. The operation of removal of the ovaries for beginning cystic troubles and for other conditions is performed in many cases which could be relieved by other and less serious measures. The practice of Schroeder in leaving the undiseased ovary was recommended. The success of ovariotomy has led to the performance of laparotomy on other conditions, as suppurative peritonitis, with satisfactory results.

The use of electricity as a therapeutic agent is attracting much attention. It is the safest and most effective remedy in extra-uterine pregnancy, and it is coming into use in many other uterine conditions.

The treatment of extensive fibroid disease was next taken up. Medical treatment is in the main unsatisfactory, although, in some cases, good result has followed the use of ergot and electricity, especially the latter, which is perhaps the most effective therapeutic agent in these cases. The operation of hysterectomy should not, as a rule, be performed in these cases. Spaying has met with more favor and success than any other surgical procedure. There are a few cases where, on account of the large size of the tumor, or its fibro-cystic character, hysterectomy probably affords the best hope.

Pelvic deformities were next considered. In the lesser degrees, premature labor, with the use of appropriate forceps applied with proper skill, were recommended. With reference to operative procedures, the mortality in the United States has been very great. An important reason for this is the failure to recognize the importance of early interference. It has also been shown that, other things being equal, the danger is increased by doing the operation after the death of the child.

The total extirpation of the uterus for cancer has been steadily growing in favor. So far as the speaker had examined, the clinical proof of the evidence as to its utility had not been convincing. While patients had recovered from the operation, it is not yet proven that the operation is justifiable, except where the disease is confined to the body of the uterus or the cervix, and the vagina is free. While the view that epithelioma of the cervix is due to traumatism is not generally accepted, he believed that traumatism of the cervix was conducive to the development of epithelioma. If for no other reason, Emmet's operation is warranted on the sole ground of a preventive.

The speaker, in referring to the uterine curette, stated that he had recently had alarming symptoms following its use, and in one case where the instrument was used immediately after dilatation with sponge-tents, death resulted. Peritonitis had not been developed in a single case where the dilatation had not immediately preceded the operation. Rapid dilatation is alleged to be comparatively free from the dangers attendant upon the use of tents, but he had recently had a high degree of peritonitis following dilatation by this method, where the curette was not used.

The following rare case was then described: A married woman, aged thirty-two, the mother of two children, had suffered with severe menorrhagia during the past year. There was an old laceration of the perineum, but no laceration of the cervix. The uterus measured three and one-fourth inches, and was not tender. No pelvic tenderness could be detected. Treatment directed to the general condition was ordered, and under it the anæmia improved and menorrhagia decreased. Some months later the blunt curette was used, with the woman in the lithotomy position. No dilatation was required. A large amount of the fungus tissue was removed from the posterior wall, and the curette was then passed over the anterior wall. During the manipulation, no roughness being employed, the instrument passed through the uterine wall. It was at once withdrawn, and a sound being introduced, it readily passed its whole length, and its extremity could be felt externally above the umbilicus. Forty drops of laudanum was administered by the rectum, and an ice-bag placed over the abdomen. The ice-bag was kept on continuously for five days. The accident caused no symptoms whatever. The perineum was subsequently restored, and the woman's health is much improved. The menorrhagia has disappeared.

In concluding, the President referred to the proposition looking to the organization of a Congress of American Physicians and Surgeons, and hoped that the action of the Society would be favorable to such an alliance.

THE INFLUENCE OF MENTAL IMPRESSIONS ON THE FŒTUS,

by Dr. Fordyce Barker, M.D., of New York.

The belief that maternal impressions may affect the nutrition and development of the fœtus in utero has existed from the earliest periods of which there are any records. Medical writers with hardly an exception, down to the beginning of the eighteenth century, express the belief with more or less distinctness that fœtal marks and deformities are due to the emotions, desires or shocks of the pregnant mother. Reference was then made to numerous papers written within the past twenty years in which this theory was strongly controverted. Those who disbelieve in this doctrine base their scepticism on what they regard as physiological reasoning and chiefly on the assertion that there is no direct nerve connection between the maternal and fœtal system. Deformities they urge are due to arrest of development; but no one has brought forward sound physiological reasons why this arrest of development may not have been caused by mental impressions affecting the fœtal nutrition by their influence on the maternal blood. Extremely rare as is the occurrence of cases which prove the result of this influence, he considered the fact is so well proved by sufficient authentic evidence as to make it as certain as any other fact which cannot be explained by science. The term "mental impressions" should include those which have a physical as well as a psychical origin.

Five cases coming under the author's observation were described.

The first case was that of a young lady, who at the age of eighteen had for the first time been taken to the theatre and had seen Sothern, the actor, in the part of Lord Dundreary. From this time she spent her whole time in writing to Lord Dundreary, and she thought and talked of nothing else. This continued several months and under treatment and change of scene, gradually wore away. She subsequently married, and four years after her attack of insanity, her first child, a boy, was born. As the child became able to talk he exhibited peculiarities, resembling those of Lord Dundreary. He walked with a little skip, had a slight stammer in his speech, and his left brow was drawn down with the lids partially closed.

The second case was that of a lady, a typical brunette, who was first married to a gentleman, a typical blonde. She was never pregnant by him. Subsequent to his death she married a gentleman as marked a brunette as herself. Her first child was a decided blonde. Both her own and her husband's relatives are all brunettes. The lady has since had three children all brunettes.

The third case was that of a lady who during the first month of pregnancy had been much worried over her oldest daughter who had had her ears bored for rings. The ears became inflamed and caused much trouble. When the child was born both ears presented the appearance of having been pierced for rings, and through at least one of the lobes a thread could be passed.

Case fourth was that of a lady who at a very early period of pregnancy was much impressed by seeing three ladies, all of whom had hare-lips. When her child was born it had a double hare-lip.

Case fifth, Mrs. X:, married but a few weeks was at the theatre with her husband. Something vexing him he placed the point of his elbow on her hand and held it so firmly that she could not draw it away. Not wishing to make a scene, she bore it until she fainted. The fingers were much swollen and painful for several days. She never lived with her husband afterwards. Thirty-five weeks and three days after the theatre incident she gave birth to a son. On the left hand the first and second phalanges of all the fingers and thumb were absent. looking as if they had been amputated. During her pregnancy she had never thought that her child would be born with any deficiency.

Other reported cases were then referred to.

DISCUSSION.

Dr. William Goodell, of Philadelphia. I have been very sceptical on this subject, but I have seen one case which seems to bear out the theory. A physician was called upon to assist at the operation of circumcision. His wife, who was in the early months of pregnancy was much interested in the operation and insisted upon having all the detail. The operation and its cruelty occupied much of her thoughts. When her child was born, a boy, it was found that the gland was exposed, the prepuce well retracted with granulating edges, showing the appearance very similar to that of a recent circumcision.

I have recently seen an almost identical condition in a child, which could not be accounted for by any impression on the mind of the mother.

Dr. Samuel C. Busey, of Washington. While I have no positive convictions to present, I believe that there is some relation between mental impressions and fœtal deformities. Any prevalent and concurrent belief must be based upon an element of truth. This belief has prevailed since the time of Jacob. At the present time it is a fixed belief in the female mind. In the physical world there is no effect without a cause, and in the world of life the rule is the same. If we can demonstrate in any single instance one connection between the deformity and the mental impression, we must concede that such a thing can again occur. If there are any number of cases where we can show a precise correspondence between the impression and the deformity, the relation must be accepted as presumptively proven. Dr. Barker has cited some instances, and Dr. Goodell has given another case. In another case the mother while pregnant saw a man with an opening in his trachea, from which a tracheotomy tube had been removed. The child when born exhibited a depression in the same position. Another case is reported where the mother received two distinct impressions, and the child was born with two distinct deformities corresponding to the separate impressions received. In another case, the father had removed, in the presence of his mother, a metacarpal bone of one of the fingers. When the child was born it exhibited a corresponding deformity. A consideration of these cases can bring us to but one conclusion. The earlier in pregnancy the impression occurs the more frequently does the deformity follow, and the greater is the correspondence between cause and effect.

The discussion was then postponed until afternoon.

AFTERNOON SESSION.

Dr. John Billings, of Washington. There are many cases on record which cannot be explained by any knowledge which we now have. As to the influence of previous pregnancies on the characteristics of subsequent pregnancies, we have no scientific information. If we could obtain the statistics showing the characters of children born of different fathers we should have some scientific data on which to form an opinion.

Dr. Fordyce Barker, of New York. In all the cases I have reported there is no evidence that the period since conception had been more than six weeks. I have rejected all cases in which conception occurred three or four months before the mental impression was produced.

(To be continued.)

Medical and Surgical Journal.

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THE FORMATION OF NEW TISSUE FROM ASEPTIC BLOOD-CLOTS.

That blood-coagula will organize and form new tissue after a destructive operative procedure, is the new phase in wound treatment presented by Schede at the last Congress of German Surgeons. Accustomed as we have been to regard blood-clots as foreign bodies to be carefully removed from a wound, this statement is somewhat startling; but after reading Schede's carefully-observed results, and remembering that hæmatoma of large size not infrequently disappear, and that it has long been known that blood-clots in an aseptic wound are innocuous, we feel somewhat prepared to accept Schede's remarkable statement.

His reported results are almost marvellous; the blood fills the wound cavity completely, clots, and is gradually replaced by permanent tissue formation, without further wound secretion. By this method, resections of large joints have healed by primary union, large portions of the articular ends of bone, with the whole of the cartilage surface, have been removed without impairment of the articular function.

Two hundred and forty-one operations are recorded by Schede, and nearly all of these have healed under one dressing by primary union; among the operations performed are the removal of large sequestra from bone, the erasion of fungous granulations from the sheaths of tendons, the division of all the soft parts, including the astragalo-scaphoid ligament (Phelps's operation), and many excisions of joints and removals of tumors.

Especially adapted to this method of treatment are wounds of bones, joints, and cavities having stiff walls; it is not advisable in wounds of the soft parts. To secure these results, one must completely remove all diseased (tubercular) tissues and all foreign bodies (sequestra or fragments of bone) from the wound, which must be aseptic, accurately filled with blood from parenchymatous bleeding, and provision should be made for the escape of an excess of blood by overflow drainage openings, situated at the highest point of the wound surface; finally, one must, as far as possible, favor the evaporation and drying of the excess of blood by the dressing. Of course, to obtain such results, one must follow carefully the plan laid down by Schede for operative procedure. This we will give somewhat in detail; for example, a limb is exsanguinated by an Esmarch's bandage, the knee-joint is resected, visible arterial lumina are secured, the tourniquet is loosened and spurting points are ligated, and the cavity of the wound is allowed to fill with blood. Then all tissues from the periosteum to the skin are carefully approximated. No drainage-tube is used. The wound is covered with silk protective, which must lie perfectly smooth, and this is covered with a sublimate gauze dressing, interposed with layers of cotton batting, which is secured in place by rollers of antiseptic gauze; a splint is applied to the back of the leg, extending from a foot-piece to the waist, and this is finally secured in position by plaster-of-Paris bandages. Schede has resected forty large joints, with thirty-seven typical recoveries; and he has never been obliged to change this dressing from leaking of blood or wound secretion. Bone cavities, however, are treated in a little different manner, in that the skin and soft parts are caught together, with appropriate intervals for the escape of an excess of blood. Over the blood-filled cavity is accurately adjusted a piece of silk protective one or two centimetres larger than the wound; this serves a double purpose, in that it secures the accurate filling of the wound with blood and prevents evaporation and drying of the blood-clot, within the cavity of the wound. The silk protective is covered with the dressing as applied to the knee-joint. If any doubt exists regarding the asepticism of the wound Schede advises packing it with iodoform or sublimate gauze until it can be made so, then when good granulation tissue appears he scrapes out the wound and allows it to fill with blood which he covers in with silk protective as above and considers that he materially hastens the healing of the wound.

Schede considers the failures which have followed his treatment to be due: First, to the incomplete filling of the wound with blood; this can be avoided by loosening the Esmarch before applying the dressing. Second, to the recurrence of tuberculosis in wounds from incomplete removal of diseased tissues, for instance, in severe cases of general tuberculosis the coagula will not organize. Third, the failure to remove all foreign bodies from the wound, sequestra, etc., which may cause fistula in the cicatrix. Fourth, there is occasionally a fungous degeneration of the cicatrix as in wounds otherwise treated.

We are certainly indebted to Schede for boldly acting on his conviction that blood-clots will organize and form new tissue, and his eminently satisfactory results should attract the attention of all practical surgeons.

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A MEDICAL VIEW OF THE TEMPERANCE QUESTION.

Such was the title of the brief, but comprehensive and suggestive paper read by Dr. Francis Minot, of Boston, at the American Unitarian Conference at

Saratoga, September 22d. The care and accuracy which characterized the statements of this paper caused it to appear in striking contrast with much that has been paraded before the public on such occasions as fact and science.

Against the popular view that alcohol is, under all circumstances, and especially to the healthy human system, a poison, Dr. Minot contended that a moderate quantity of pure ethyl spirit, well diluted, may be taken daily by healthy individuals without harm. This is the view defended by the late Dr. Austin, and by a great majority of physicians, and it is in accordance with the experience of many natures.

This admission, however, did not appear in the mind of the essayist to make total abstinence, as a general principle, any the less a matter of expediency, and often of positive duty. The word *moderation* is a vague and indefinite term, which, in some individuals, may connote almost an infinitesimal quantity of alcohol ingested, the excess-margin being speedily reached.

The pathological effects of alcohol, when taken in excess, pertain especially to the digestive tube, the liver, the heart, and bloodvessels, and above all, the brain and nervous system. But while the drunkard's "petuitous dyspepsia" is common enough, Dr. Minot failed to find evidence that ulcer and cancer of the stomach (two quite frequent gastric affections) were ever caused by alcohol. In his opinion, too, cirrhosis of the liver is a comparatively rare affection, although, when occurring, it is generally of alcoholic origin. Bright's disease of the kidneys is less frequently due to abuse of ardent spirits than has been supposed.

Cardiac and vascular degenerations (atheromatous diseases) find their most frequent source in intemperance. But it is on the delicate nerve-cell and fibre that alcohol exerts its most pernicious influence. Not only are meningeal inflammations and insanity due to the irritation of alcohol, but there are minor cerebral alterations, which find expression in change of character, in inaptitude and disrelish for the higher exercises of mind, in action deriving its motive from the lower propensities.

Among the causes of alcoholism, Dr. Minot gave great emphasis to the predisposing, the principal of which is heredity. Multitudes (and the essayist thought the majority) of the victims of this deplorable vice derive from their parents or ancestors that instability of nervous organization which renders the appetite, when once formed, a controlling one; in such persons, drunkenness readily becomes a disease, comparable to other nervous diseases of a more or less periodical nature.

The therapeutical aspect of the question the lecturer did not touch upon, but hinted at its immense importance. As for treatment, the truth was recognized that vastly more can be done by prophylaxis than in any other way, and this especially in reference to the multitudes who are organically predisposed to alcoholism. Here a timely warning may save a life from ruin.

It would be well if Dr. Minot's address could be issued in the form of a tract for distribution in the public schools, and as an antidote to much of the trash that is now taught there in the name of science.

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MEDICAL NOTES.

— The new medical practice law in Iowa is, as might be expected, meeting vigorous opposition from the advocates of "liberty." In a recent examination of a candidate for a license, among many other interesting replies were the following on midwifery, according to the report of a Western contemporary: "He was asked if he had ever attended any case of labor; he replied that he never did a day's work. His wife said that he had always been lazy, but that during the summer he had pitched three loads of hay. He was then asked if he had had any cases of obstetrics in the past year, and replied that he had not. He was then asked if he knew of any case of obstetrics occurring in his neighborhood during the past fifteen years, and replied, after deep thought, that he did not."

— M. Paul Leroy-Beaulieu, in an interesting paper in the *Economiste Français*, quoted in the *British Medical Journal*, gives the following figures, showing the quantity of tobacco consumed in the different countries of Europe, and the rate per 1,000 inhabitants is, according to him, as follows: Spain, 110 lb.; Italy, 128 lb.; Great Britain, 138 lb.; Russia, 182 lb.; Hungary, 207 lb.; France, 210 lb.; Denmark, 224 lb.; Norway, 229 lb.; Austria, 273 lb.; Germany, 336 lb.; Holland, 448 lb.; and Belgium, 560 lb. In other words, while in Spain little more than 1 lb. per head is consumed, nearly double that quantity is consumed in France, three times as much in Germany, four times as much in Holland, and five times as much in Belgium.

— The desideratum of a process for the synthetical manufacture of quinine, has, according to the *Lancet*, apparently been secured. The synthetical manufacture of quinine was first suggested to Mr. Cresswell Hewett in 1869 by the late Dr. Mattheson, of St. Bartholomew's Hospital, whilst giving his assistance in a course of experiments in connection with apomorphia. Subsequently, Professor Parkes of Netley, aided with his advice, and to these gentlemen, rather than to himself, Mr. Cresswell Hewett modestly explains that the process is due. The importance of this discovery is rendered greater by the fact that, while hitherto we have been depending for our quinine on the cultivation of the cinchona tree, from whose bark only about two per cent. of good quinine can be extracted, 98 per cent. being valueless, the drug can now be manufactured without limit by a very simple process from an article which can always be got in abundance in any part of the world. Mr. Hewett, it is said, intends to put himself in communication with the British government, who annually spend in India alone about £60,000 in the cultivation of the cinchona tree. His process, it is claimed, will produce the drug for *3d.* per ounce.

— We learn by an account in a recent issue of the *New York World* that another rare and wonderful operation has been performed with brilliant results. This time it was a very painful cancer, situated in the dangerous locality of the breast. The skilful surgeon at the hospital was willing, however, to take all risks to save the life of the patient. The incisions were carefully and judiciously made "in the direction of the fibres of the great pectoral muscle," the slightest deviation of the blade inviting death. The knife was carried "around the diseased mass in such a manner as to include *every part of it*, the lower incision being made first." The pectoral muscle was "thoroughly exposed by the removal of its fibrous envelope." "Strict antiseptic precautions" were observed, and, *mirabile dictu*, the wound "healed by first intention," without any increase in the temperature. All this shows what advances are constantly being made in our noble art by bold and skilful surgeons. We hope, however, that success will not make some of our operators too bold. Who will be the first one to tackle "a wen?" — *N. Y. Med. Record.*

— A case of attempted suicide from acute mania, recently treated in one of the New York hospitals, has served to call renewed attention to the hardships of the life of stokers aboard ocean steamships. A rather intelligent English circus performer, finding himself getting too corpulent for the requirements of his calling and believing that much hard exercise in a very high temperature would rid him of flesh, decided to make the ocean passage as a fireman in a steamship, and obtained the opportunity he desired. The fire room on a steamer is away below the water line, where ventilation is impossible, or at least unattempted. The temperature ranges from 135° to 175°, and in that atmosphere the men are required to shovel coal eight hours in every day — two stretches of unceasing and heavy work of four hours each in the twenty-four. The man in question was advised that he could not stand the exhaustive labor, but he was not to be dissuaded. Several times he fell fainting on the hot floor of the fire room, but always insisted on resuming his duty. When within a day of port, in a fit of mania, he rushed from the heat, climbed to the deck and leaped over the rail into the sea. Sailors rescued him, but he had to be kept manacled during the remainder of the trip.

NEW YORK.

— While a certain evangelist from Michigan, who has been holding a series of revival and "faith cure" meetings at Peekskill on the Hudson, was recently treating Mrs. Julia Hart, of that place, for disease of the heart by anointing and the laying on of hands, the patient suddenly fell backward and almost instantly expired.

— The Charities Commissioners of Brooklyn, three in number, have now been indicted by the Grand Jury for their neglect of the insane under their care, while the Board of Supervisors have been warned that they must take immediate action for the relief of the over-crowded condition of the city asylum at Flatbush. The Commissioners are accused of wilfully neglecting to provide safe and suitable accommodations, care, and attendance for this class of patients. The indictment specifies that they have failed to provide proper means of escape from the buildings in case of fire. Also that some of the insane are compelled to sleep in the cellar, with a totally inadequate provision of competent nurses and attendants, and that the plumbing and the sanitary arrangements of the buildings in general are defective. The indictment was drawn up under the section of the Penal Code (No. 117), which provides that a public officer or person holding a public trust or employment upon whom any duty is enjoined by law, and who wilfully neglects to perform such duty, is guilty of a misdemeanor. A fine of $1,000, or not more than one year's imprisonment, or both, with a forfeiture of office, is the penalty in case the Charities Commissioners should be convicted.

In regard to the Board of Supervisors, the Grand Jury states, in its presentment, that it will be held to be a neglect of duty by the Board should it fail to do all in its power "to remedy the fearful state of the Flatbush institution resulting from over-crowding," and urges the Supervisors to push the completion as quickly as possible of two new buildings which are now in course of erection at St. Johnsland, Long Island. The action of the Grand Jury is largely the result of a night visit recently paid by that body to the asylum at Flatbush, when a thorough examination of the existing condition of affairs was made. The buildings were found to be over-crowded to an unprecedented extent, and some of the unfortunates were quartered in damp rooms and cellars. The sewerage of the institution was ascertained to be especially bad, and it was evident that through its sewerage connections the health of the city of Brooklyn and the neighboring towns was endangered. The Charities Commissioners throw the blame for this disgraceful state of things upon the Board of Supervisors, claiming that they have done all that they could under the circumstances, and that they had not the power, without the sanction of the Supervisors, to make the improvements which have for a long time past been necessary. Among these were included the transfer of a large number of the inmates to the county farm.

PHILADELPHIA.

— Dr. E. O. Shakespeare has returned from India, whither he had been sent by the Government on a special mission to study the etiology of cholera. A reception was tendered to him by his medical friends of Philadelphia and vicinity, on September 30th, at the Hotel Bellevue, which was attended by many of the principal members of the profession.

— With the first week of October, our medical schools close their preliminary course of lectures and settle down to the regular routine of work for the winter. The introductory lecture at the Jefferson College was given by Dr. William S. Forbes, Professor of Anatomy, on the 30th of September; at the University of Pennsylvania, Dr. E. T. Reichert, Professor of Physiology, delivered the introductory on the 1st of October, and the Medico Chirurgical College followed on the 4th inst., Dr. William H. Pancoast, Professor of Anatomy and Clinical Surgery, being the orator of the occasion. The introductory at the Women's Medical College was delivered on the 7th, by Dr. William W. Keen, Professor of Surgery. The prospects for large classes of students are said to be better than they were last year. The opening of the clinical lecture course at the Pennsylvania Hospital took place on Saturday, the 2d inst., demonstrations were made by Drs. Arthur V. Meigs and Thos. G. Morton, in medicine and surgery. The remarks of Dr. Morton were important, as he devoted the hour to a consideration of the modern treatment of wounds by aseptic dressings which had revolutionized practice in this hospital. He presented a patient who was well and ready to be discharged, who three weeks before had been brought into the Hospital suffering with a compound comminuted depressed fracture of the skull in the right parietal region. The corrosive sublimate (1-2000) douche was used to cleanse the wound, some fragments of bone lifted and removed, and the wound brought together, and covered with iodoform gauze. There was no rise of temperature, not a drop of pus, and the wound had completely united at the end of twenty-four hours. No symptoms were noticed subsequently. Amputations and compound fractures are dressed with due care to preserve perfect asepsis and left undisturbed for three weeks, when they are usually ready to be discharged. The economy in the matter of bandages over the old method with its daily dressings, is evident, but it is not to be mentioned when we consider the greater safety to the patient and shorter period of stay in the hospital, required by the new treatment. In deep wounds and amputations, carbolized cat-gut filaments are used to obtain drainage from the bottom of the incision of the stump. The results which Dr. Morton presented were strong evidence of the value of the treatment.

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Miscellany.

THE CENTENNIAL OF THE ROYAL MEDICAL SOCIETY OF ATHENS, GREECE.

A circular, in Greek, addressed to a corresponding member, from the Royal Medical Society of Athens, Greece, announces that the society proposes to celebrate the centennial of its present scientific existence on the 22d and 23d of March next, 1887.

The circular requests the assistance of kindly disposed medical men — by scientific papers, or contributions of interest to the profession; and asks an early communication of titles, etc., that such may appear in the programmes for the occasion.

It is an active and earnest society,— well worthy of high professional regard, and we trust that its request will not pass unheeded; surely some American physicians may be able to give some account of what the profession here has done in the last hundred years, and is still doing.

We shall be happy to be the medium of transmitting any contributions that may be offered.

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DIAPHRAGMATIC HERNIA.

The *Lancet* (Sept. 18) reproduces from *Il Bullettino della Reale Accademia Medica di Roma* (May, 1886, p. 245) a description by Dr. Farraresi, of a diaphragmatic hernia revealed in the necropsy of a young man who had died with symptoms of intestinal strangulation. On surface inspection of the well-nourished body, it was noted that the abdomen was only slightly swollen; the left half of the thorax was broader and more prominent than the right, and the left intercostal spaces dilated. Percussion revealed an area of absolute dullness over the whole left chest, excepting the subclavicular triangle, which yielded tympanic resonance. On opening the abdominal cavity, the coils of small intestine, slightly reddened, presented patches of fine basal injection. Carefully opening the thorax, the left pleural cavity was found filled with a bloody liquid, on giving exit to which the lung, compressed and driven upwards, became visible, the heart being displaced to the right. Besides the liquid already referred to, the pleuritic cavity contained numerous coils of intestine enormously distended, of dull red color; the serous membrane was opaque, rough, and studded with numerous hæmorrhagic spots. The stomach was displaced to the right, with the great curvature turned towards the abdominal wall. Holding aside the stomach and the small intestines, still retained in the abdomen, it was observed that the splenic angle of the colon, and a good part of the jejunum passed into the pleural cavity through a hole in the left inferior half of the diaphragm, at a point corresponding to the normal position of the heart's apex. The descending colon was much contracted. With great difficulty, and after repeated punctures, it became possible to reduce the coil of colon, a piece of omentum, and the displaced small intestine. The hole in the diaphragm was oval, rather more than an inch in diameter, surrounded by a strong, thick, fibrous ring. The gastro-colic omentum which followed the displaced coil was shortened, and adherent posteriorly to the margin of the fibrous ring.

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THE LAY PRESS AND QUESTIONS OF PUBLIC HEALTH.

The *Sanitary Engineer*, speaking of the relation of the daily papers to the accomplishment of sanitary improvements, points out that progress in the improvement of health, the diminution of sickness, and the lengthening of life depends in part on the increase of human knowledge of the laws of physics, chemistry, and biology, and in part on the diffusion among the people of the practical deductions from this knowledge. Sanitary legislation and improvements for any given community must be regulated very largely by the opinion of the majority of the taxpayers and voters in that community as to the necessity for them, and hence to obtain action for securing a purer water-supply or a better system of sewage disposal, it is not sufficient that a few skilled engineers and physicians are satisfied of the need of the improvement, and of its practicability at a reasonable expense, but the people, from whose hands the funds are to come, must also be "educated up" to the requirements of the situation. This is, of course, a legitimate and an important mission for the public press. That it is often most worthily discharged is thankfully admitted. But that this responsibility is also liable to abuse, is well pointed out by our contemporary.

"The chief defect of newspaper sanitary literature, taken as a whole," it says, "is its tendency to exaggeration and sensationalism, and its liability to be dictated or inspired by a desire for an advertisement. The man who is interested in a patent filter is ready to furnish a column or two on the impurities of the water-supply, with, it may be, a few choice engravings representing strange forms which he tells the shuddering public are entomostraca, desmids, etc. He is careful not to explain that these organisms live in pure water — in fact, that they cannot live in water that is very impure. The man with a patent trap wants to arouse the people to a sense of the dangers of sewer-gas; the dairyman wants to explain the poisonous properties of oleomargarine; the man who failed to get the appointment of health inspector wants to show up the negligence of the health department, and each and all of them do the best they can to get some newspaper to publish their philanthropic essays.

"To those who know how much of this sort of matter is floating round in manuscript form in our large cities the wonder is, not that our newspapers should publish so much rubbish in the way of sanitary letters, etc., but that they should publish so little as they do, and when alarming stories alleging a dangerous condition of the Croton water appear in our daily papers it is safe to assume that the editor has been deceived, or the business department have inserted the matter as 'a reading notice' at so much a line."

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CONDITIONS AFFECTING THE GROWTH OF MICROBES IN POTABLE WATER.

The *Polyclinic* for September, discussing this subject editorially, after referring to the increasing importance attached by sanitary chemists of late to the study of organic life in drinking waters over and above that of the mineral or even the decaying organic material, speaks of the method of Koch, which has been made known through the published labors of various workers; this consists essentially of adding to nutritive gelatine, under all necessary precautions, a known amount of water, and placing the mixture so that the existing organisms can multiply. By using a large amount of nutritive gelatine and spreading over considerable surface, each microbe becomes an independent centre of development, and after a time the number of "colonies" can be counted and the mode of growth also noted. Up to the present time the number of facts at our command is not sufficient to give great practical value to this method, since, among other points, it is clear that many species of microbes are harmless or even beneficial. It has generally been held that those which liquefy the gelatine are objectionable, and large numbers, even of the non-liquefying forms, suspicious.

While the practical results, as yet, are not fully attained, valuable information has been obtained as to the changes which various natural conditions, transportation, storage, filtration, etc., exercise on water. The experiments of Percy Frankland and others have shown conclusively that great benefit follows not only the filtering of water, but even the process of subsidence of the solid matter naturally or artificially suspended in it. From observations recently made by Dr. C. Leone in the laboratory of Pettenkofer, it appears that in a drinking water of the highest class, a rapid increase of microbes may take place for a few days. The water which Leone experimented on contained, as drawn from the hydrants, five microbes per cubic centimetre, which in five days increased to hundreds of thousands, and then began to decrease. He found, further, that the presence of free carbonic acid, especially under pressure, almost entirely prevented this increase. Various experiments which are detailed in Dr. Leone's paper (*Archiv. f. Hyg.*, No. 2, 1886, also *Gaz. Chem. Ital.*) indicated that restraining influence was not due to the absence of oxygen, and further showed that certain bottled mineral waters rich in carbonic acid were poor in organic life.

As observed above, continues our contemporary, the facts are not yet sufficient to justify us in founding dogmatic positions; but if observations, of which Frankland's and Leone's are the type, are confirmed and extended, they will be of great utility in sanitary engineering. At the present time, we may say that evidence is to the effect that the most important part of a water-supply system, outside of the all-important point of a pure source, is abundant storage and filtration appliances. There is, indeed, no reason why cities and towns should not be provided with facilities for thirty days' supply at least.

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THE MEDICO-LEGAL ASPECTS OF SUICIDE IN LIFE INSURANCE.

We notice an interesting article on life-insurance from a medico-legal point of view by John A. Clark, Esq., in the *Polyclinic* for September, from which we take the following extracts on suicide as related to life risks:

It is almost universally the practice to insert in policies of insurance a clause providing forfeiture in case of "suicide," or of the insured dying by his own hand. The question now arises, how far suicide produced by insanity falls within these exceptions. In England it has been decided that the expression, "died by his own hands," covers all cases of intentional suicide, whether or not the party so dying was conscious at the time of the wrongfulness of his act. This view has been repudiated by the Supreme Court of the United States, which said: "We hold the rule on the question before us to be this: If the assured, being in the possession of his ordinary reasoning faculties, from anger, pride, jealousy, or a desire to escape from the ills of life, intentionally takes his own life, there can be no recovery. If the death is caused by the voluntary act of the assured, he knowing and intending that his death shall be the result of his act, but when his reasoning powers are so far impaired that he is not able to understand the moral character, the general nature, consequences and effect of the act he is about to commit, or when he is impelled thereto by an insane impulse which he has not the power to resist, such death is not within the contemplation of the parties to the contract, and the insured is liable, nor," said the justice, "do we see any difference, for this purpose, in the meaning of the expressions, 'commit suicide,' 'take his own life,' or 'die by his own hand.'" In New York it has been held that to take a case, on the ground of insanity, out of the proviso, the insured must have been so mentally disordered as not to understand that the act he committed would cause his death, or he must have committed it under the influence of some insane impulse which he could not resist. Of late, insurance companies have endeavored to guard themselves against insane suicide by extending the proviso to read: "If the insured shall die by suicide, sane or insane," etc. It is unquestionable that the companies have a right to insert this proviso, and it has been held that the only construction to be given to these words, is the one that they bear on their face, namely, that the company, in case of a suicide, is to be exempt from all liability; but this does not apply to cases of unintentional self-destruction.

In a letter from Horace Walpole to Bentley, dated January, 1755, we have the following extraordinary story which was told to him in reference to a case of suicide. It appears that at this time there was an office in England for insuring lives even in cases of wilful suicide, but to an amount not exceeding three hundred pounds. A certain man insured his life, and then invited the insurers to dine at a tavern where they met several other persons. After dinner he said to the life and death brokers: "Gentlemen, it is fit you should be acquainted with the company; these honest men are tradesmen to whom I was in debt, without any means of paying but by your assistance, and here I am your humble servant." He then pulled out a pistol and shot himself, thus showing his honesty to his creditors. Similar agreements of insurance, however, have been held void, as against public policy.

Whether death has been produced by natural causes or as the result of suicide, is sometimes a question which has perplexed courts and juries. The burden of proof in all such cases is on the insurer, to show that the death was not natural, but was the result of suicide. The question here arising is one of fact, to be determined by the jury, under the direction of court. If the case is in equilibrium, the presumption is against suicide.

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IN MEMORY OF DR. F. H. HAMILTON.

The Society of Medical Jurisprudence and State Medicine held a meeting in memory of Dr. Frank H. Hamilton, its late president, at the Hall of the Academy of Medicine, September 30th. The opening address was made by the Hon. Amos G. Hull, vice-president of the Society; after which Dr. Charles A. Leale, president of the New York County Medical Association, delivered an extended eulogy of Dr. Hamilton, in the course of which he gave an exhaustive review of his career and his eminent services to surgery and to the profession and society at large. The secretary, Dr. G. W. Wells, then read a tribute to the deceased prepared by Gen. Calvin E. Pratt; which was followed by brief addresses by Drs. Austin Flint, John Shrady, C. S. Wood, Nathan Bozeman, Messrs. Kitchell and Russell, and by other members of the medical and legal professions.

The following resolutions were adopted which were offered by Dr. Leale, who was the chairman of the Committee of Arrangements for the memorial meeting.

Whereas, The medical and legal professions have sustained a sad bereavement in the death of Professor Frank Hastings Hamilton, A.M., M.D., LL.D., late President of the Society of Medical Jurisprudence and State Medicine, which occurred at his residence on the eleventh day of August, 1886; and

Whereas, It is eminently proper for us, in our associated as well as private relations to express our great admiration of the life and character of one who has done so much to elevate Medico-Legal Science, therefore;

Resolved, That as a Society composed of members representing two of the learned professions which he labored so hard to advance and harmonize, we add our tribute of loving esteem;

Resolved, That Dr. Hamilton from his pre-eminent talents, and his position as a teacher, writer and practitioner, covering a period of over half a century, has been the means of deciding many perplexing questions coming properly within the jurisdiction of our Society, and has thereby greatly relieved the professions from the malice of unwarrantable litigations;

Resolved, That the humanity, benevolence and fixedness of purpose exhibited during many years of constant professional toil under numerous trying circumstances, ever with the sincere desire to promote his art and benefit mankind, have ennobled his character, and left to us a name worthy of our highest emulation;

Resolved, That the example of his life, diligent study in early youth, manifest desire to acquire knowledge by carefully searching the Museums of America and Europe for anatomical specimens to settle disputes in surgical pathology, his translations of foreign medical works, his careful and accurate teachings united with a stern integrity ever to be truthful, and last, but not least, his monumental volumes on Fractures and Dislocations which have been the standard works recommended by colleges at home and abroad, and remain to-day unequalled in surgical literature, having been translated into many foreign languages, and are the acknowledged authorities wherever surgery or medical jurisprudence are taught — these with many other honourable characteristics have justly endeared his memory to every true and faithful member of our professions, and placed his name upon the scroll of the illustrious men of the first century of American history.

"Dr. Hamilton," said Mr. Hull, in his remarks, "was a great and good man. He was great because he was good. He was a public benefactor. He was not rich; but, thank God, we are not so degenerate that a man needs to be rich before he can become a public benefactor."

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Correspondence.

A HINT TO OCULISTS FROM THE ALMOND-EYED ASIATIC.

Mr. Editor, — As a hint to oculists and that, too, from our Western neighbors, the Chinese, the following may be of interest:

A Chinese cook in our employ had suffered repeatedly from attacks of conjunctivitis owing to his labors over a hot cook-stove. These were soon cured by the use of collyria of borax and camphor, and a caution as to the real cause. But only to return. To our surprise not long ago he appeared in large Chinese spectacles, tortoise-shell rims and plates of mica, transparent and non-magnifying. With these he goes happily to his work, and so far with no fear of a return of the conjunctivitis, and reasonably too, as mica is notably a protector against heat. Consulting standard works on ophthalmology I find no reference to their use in occupations exposing one to conjunctivitis from heat, and the idea is certainly worthy of our remembrance.

G. C. Simmons, M.D.

Sacramento, Cal., Sept. 26, 1886.

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THE REUNITING OF SEVERED DIGITS.

Worcester, Sept. 29th, 1886.

Mr. Editor,— The following case is unique in my practice and may interest your readers.

A young man in a neighboring factory had a finger cut off by a large paper-cutter. He brought the exsanguinated piece to me wrapped up in his handkerchief. It was three-fourths of an inch long, and included the nail and perhaps one-half inch of the last phalanx. With little expectation of success, I adjusted the amputated piece to the stump and now, after ten days, it is firmly adherent, the renewed circulation showing plainly at the finger tip.

Perhaps you can inform me whether such an experience is common. Sincerely,

William P. Souther, M.D., Harvard, '78.

[We, in common with others, have frequently heard of such instances, but have never had one occurring in the practice of our personal acquaintances and have never been able to verify such a result. We should be happy to publish any undoubted cases. In the meantime Dr. Souther will not take it amiss if we refer him to a paper on the subject published a year or two since by Dr. F. B. Stephenson, U. S. N.— Ed.]

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 25, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	615	295	27.84	12 16	17.12	2.88	4.32
Philadelphia	971,363	354	140	17.92	11.48	6.72	3.64	4.48
Brooklyn	690,000	269	141	28.49	15.54	15.91	.74	7.77
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	186	69	19.98	17.28	11.34	2.70	3.24
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	146	67	29.67	11.73	12.42	6.75	2.07
Cincinnati	325,000	135	58	22.94	14.06	8.88	1.48	10.63
New Orleans	238,000	93	26	30.52	4.36	15.12	—	2.16
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	115	41	15 66	3.68	6.09	5.22	.87
Pittsburgh	190,000	70	39	25.14	5.72	20.00	—	2.86
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	47	18	19.19	2.13	6.39	10.65	2.13
Worcester	68,383	26	9	23.10	15.40	15.40	—	—
Lowell	64,051	27	13	25.90	22.20	11 10	7.70	7.70
Cambridge	59,660	29	17	34.48	10.35	24.15	—	6.90
Fall River	56,863	39	24	43.52	—	33.28	2.56	—
Lynn	45,861	20	5	10.00	—	5.00	—	5.00
Lawrence	38,825	5	1	—	20.00	—	—	—
Springfield	37,577	11	4	18.18	9.09	9.09	—	9.09
New Bedford	33,393	18	9	33.33	11.11	22.22	5.55	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	—	36.36	—	18.18	9.09	9.09
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	2	—	11.11	—	—	—
Taunton	23,674	8	4	37.50	—	12.50	25.00	—
Haverhill	21,795	5	3	20.00	20 00	20.00	—	—
Gloucester	21,713	5	—	—	20.00	—	—	—
Brockton	20,783	3	1	66.66	—	66.66	—	—
Newton	19,759	5	4	—	—	—	—	—
Malden	16,407	2	1	—	—	—	—	—
Fitchburg	15,375	7	2	14.28	42.84	—	14.28	—
Waltham	14,609	5	0	—	20.00	—	—	—
Newburyport	13,716	4	2	—	25.00	—	—	—
Northampton	12,896	5	1	—	40.00	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,274: under five years of age 996: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 530, consumption 277, lung diseases 119, diarrhœal diseases 285, diphtheria and croup 87, typhoid fever 65, malarial fever 39, whooping-cough 21, cerebro-spinal meningitis 16, measles six, scarlet fever six, erysipelas three, puerperal fever two. From malarial fevers, New Orleans 10, Baltimore nine, New York, Philadelphia, Brooklyn and Charleston, five each. From whooping-cough, New York six, Brooklyn and District of Columbia four each, Boston and Baltimore two each, Philadelphia, Pittsburgh and Springfield one each. From cerebro-spinal meningitis, New York and Philadelphia, four each, Fall River three, Baltimore and Cincinnati, one each. From measles, New York three, Boston, Cincinnati and Pittsburgh one each. From scarlet fever, New York four, Philadelphia and Brooklyn one each. From erysipelas, Brooklyn, Boston and Cincinnati one each. From puerperal fever, Boston and Worcester one each.

In the 22 cities and greater towns of Massachusetts, with a population of 1,032,650 (population of the State 1,941,465), the total death-rate for the week was 21.50 against 21.47 and 23.61 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending September 11th the death-rate was 22.6. Deaths reported 3,939: infants under one year of age 1,679; acute diseases of the respiratory organs (London) 110, diarrhœa 995, whooping-cough 50, fever 40, scarlet fever 46, measles 38, diphtheria 20, small-pox (London) one.

The death-rates ranged from 13.9 in Bristol to 38.1 in Preston: Birkenhead 24.6; Birmingham 25.9; Hull 27.5; Leeds 26.2; Leicester 34.8; Liverpool 30.4; London 16.5; Manchester 31.0; Newcastle-on-Tyne 27.9; Nottingham 31.9; Sheffield 31.0.

In Edinburgh 16.4; Glasgow 22.7; Dublin 25.9.

For the week ending September 11th, in the Swiss towns, there were 29 deaths from consumption, diarrhœal diseases 26, lung diseases six, diphtheria and croup four, whooping-cough and scarlet fever each two, typhoid fever one.

The death-rates were: at Zurich 13.4; Geneva 12.1; Basle 13.3; Berne 18.2.

The meteorological record for week ending September 25, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Sept. 25, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...19	30.062	66.0	71.0	54.0	72.0	67.0	85.0	75.0	S.E.	S.	W.	8	14	20	C.	F.	O.	—	—
Monday,.. 20	29.950	55.0	72.0	47.0	64.0	43.0	58.0	55.0	N.W.	N.W.	W.	16	24	8	C.	F.	C.	—	—
Tuesday,..21	30.103	53.0	65.0	43.0	63.0	33.0	57.0	51.0	W.	W.	N.	10	18	10	C.	C.	C.	—	—
Wednes... 22	30.258	51.0	60.0	41.0	68.0	32.0	73.0	58.0	N.W.	N.W.	W.	10	6	5	F.	C.	F.	—	—
Thursday, 23	30.149	52.0	53.0	49.0	93.0	100.0	93.0	95.0	S.	N.E.	N.	4	16	9	R.	R.	O.	—	—
Friday, ...24	30.190	59.0	70.0	48.0	93.0	47.0	87.0	76.0	N.W.	W.	N.W.	5	8	5	O.	C.	C.	—	—
Saturday, .25	30.308	52.0	58.0	51.0	68.0	65.0	75.0	69.0	E.	S.E.	S.	16	9	10	F.	O.	O.	16.50	1.50
Mean, the Week.	30.860	55.4	64.0	47.1				68.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 25, 1886, TO OCTOBER 1, 1886.

Bache, Dallas, major and surgeon. Granted leave of absence for twenty-five days, to take effect on or about October 2, 1886. S. O. 143, Division of the Atlantic, September 24, 1886.

Appel, Daniel M., captain and assistant surgeon. Assigned to duty at Fort Davis, Texas. S. O. 133, Department of Texas, September 22, 1886.

Gandy, Charles M., first lieutenant and assistant surgeon. Assigned to duty at Fort Concho, Texas. S. O. 131 Department Texas, September 18, 1886.

Wales, Philip G., first lieutenant and assistant surgeon. Leave of absence extended to include November 5, 1886. S. O. 226, A. G. O., September 29, 1886.

Mason, Charles F., first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Verde, Ariz. Ter. S. O. 90 Department of Arizona, September 20, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 2, 1886.

Guiteras, D. M., passed assistant surgeon. To Receiving Ship "Franklin" for temporary duty, October 3.

Wentworth, A. R., assistant surgeon. Detached from Navy Yard, League Island, and to the United States Steamship "Galena," October 1.

Scott, H. B., assistant surgeon. Ordered to Navy Yard, New York, October 1.

Ashbridge, Richard, passed assistant surgeon. Detached from the United States Steamship "Swatara," October 1st, granted six months' leave.

Berryhill, T. A., assistant surgeon. Detached from the Museum of Hygiene and ordered to Receiving Ship "Minnesota."

Arthur, George, passed assistant surgeon. Detached from the New York Navy Yard and ordered to the Museum of Hygiene.

Percy, H. T., passed assistant surgeon. Detached from the United States Steamship "Galena," proceed home and wait orders.

Shafer, Joseph, assistant surgeon. Detached from the United States Steamship "Minnesota," and ordered to the United States Steamship "Swatara."

Steele, J. M., passed assistant surgeon. Detached from Naval Academy, and granted six months' leave.

Biddle, Clement, passed assistant surgeon. Ordered to Naval Academy, Annapolis, Md.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING SEPTEMBER 25, 1886.

Bailhache, P. H., surgeon. Granted leave of absence for thirty days. September 25, 1886.

Vansant, John, surgeon. Granted leave of absence for thirty days. September 24, 1886.

Bratton, W. D., assistant surgeon. Relieved from duty on Revenue Steamer "Corwin," ordered to duty at Marine-Hospital, San Francisco, Cal. September 20, 1886.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine Pathology and Hygiene will meet at the *Massachusetts Institute of Technology*, Wednesday, October 13, 1886, at 7.45 o'clock. Prof. W. T. Sedgwick of the Massachusetts Institute of Technology will speak upon "The Filtration of Potable Waters, with Reference to the Elimination of Organic Germs." An exhibition of the most approved forms of Filters will follow the discussion, among others the American Filter, the Cheevan Filter, the Vitrified Filter, the "Filter Rapide," used by Gen. Wolseley in Africa, etc., all of which will be in practical operation. The only Micro-membrane Asbestos Filter in the United States will be exhibited at this meeting. The public is cordially invited to be present.

Albert N. Blodgett, M.D., *Secretary*.
F. I. Knight, M.D., *Chairman*.

Gynæcological Society of Boston.— By invitation of Dr. H. O. Marcy and Dr. E. W. Cushing, the next meeting of the Society will be held at No. 714 Main Street, Cambridge, Mass., on October 14th, at four o'clock, P.M. Papers: Dr. W. Thornton Parker, "The Removal of a Large Vaginal Tumor," Dr. W. Symington Brown, "The Rôle of the Ovary."

H. J. Harriman, *Secretary*.

Middlesex South District Medical Society. — The Semi-Annual Meeting of the Middlesex South District Society will be held at Porter's Hotel, North Cambridge, Wednesday, October 13, at twelve o'clock. Papers will be presented by: Dr. E. Farnham, "Athletics and Physical Training." Dr. C. H. Cook, "The Physical Education of Girls." Dr. C. C. Foster, "Notes on Caries of the Spine." The Censors of the Society will meet at the same place at eleven o'clock, A.M., of the same day to consider applications for admission to the Massachusetts Medical Society. Dinner at two o'clock, P.M. The telephone number of the hotel is 7294. Walter Ela, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Galvano-Cautery in Diseases of the Prostate, Bladder and Urethra. By Robert Newman, M.D., of New York. Read in the Surgical Section, at the Thirty-Seventh Annual Meeting of the American Medical Association. Chicago. 1886. (Reprint.)

The Student's Guide to the Practice of Medicine. By M. Charteris, M.D., Professor of Therapeutics and Materia Medica. Glasgow University. Fourth Edition. London: J. & A. Churchill. 1885.

Von Ziemssen's Handbook of General Therapeutics. In Seven Volumes. Vol. V. General Orthopædics, Gymnastics and Massage, by Prof. Dr. Friedrich Busch. Hydrotherapeutics, by Dr. W. Winternitz. New York: Wm. Wood & Co. 1886.

The Healing of Arteries after Ligature in Man and Animals. By J. Collins Warren, M.D., Assistant Professor of Surgery, Harvard University; Surgeon to the Massachusetts General Hospital; Member American Surgical Association; Honorary Fellow Philadelphia Academy of Surgery. One Volume. 184 Pages. Illustrated with 12 full-page plates in black and colors. New York: Wm. Wood & Co.

Original Articles.

NOTES ON SYPHILIS OF THE NERVOUS SYSTEM.[1]

BY JAMES J. PUTNAM, M.D.

In looking over the cases of epileptiform seizures with pretty distinct history of syphilis, I find five of which it might at least be said that the symptoms were not incompatible with the diagnosis of true epilepsy without organic cerebral disease, though in most of them syphilis could be fairly suspected.

(1) Male patient; "venereal disease," twenty years ago, during the war; somewhat doubtful history of secondary symptoms; vertiginous attacks with loss of consciousness and followed by headache, about once a month for past year; more or less diffused headache at other times, but no other sign of cerebral disease. (Possibly with a more intimate knowledge of the patient's life other cerebral symptoms would have been noticed).

(2) Male patient; chancre,[2] nine years ago, followed by well-marked constitutional symptoms; typical epileptic attacks with loss of consciousness at intervals during past year, generally at night; frequent attacks of dizziness with buzzing in the ears, but otherwise no sign of cerebral disease.

(3) Male, forty-one years old; "chancre," twenty years ago; scars of apparently syphilitic ulcers over shins; typical epileptic attacks during past eighteen months, always at night; initial cry, loss of consciousness, biting of tongue, attacks sometimes ushered in with feeling of dizziness and "numbness" of hands: great improvement under specific treatment combined with bromide of potassium.

(4) Male patient, thirty-two years old; attacks of loss of consciousness, preceded by sense of dizziness, or indescribable sensation in the head; "chancre" two years ago followed by suppurating bubo.[3]

(5) Male patient, over thirty years old; cannot remember having had chancre, though exposed when a young man; small occipital glands, and one small epitrochlear gland. Two days ago felt tremor of the lip, and put his hand to his face, and then lost consciousness and fell.

Among the "doubtful" group of five cases, the following might be thought to be syphilitic on the grounds above mentioned:

(1) Male patient, thirty-five years old, single; epileptic attacks at intervals of one or more months, night or day, with no aura except slight sense of confusion; no neurotic antecedents. *Sometimes has pain or numbness in first and second fingers of left hand, without loss of consciousness; does not completely lose consciousness in the majority of his attacks; bears well potassic iodide in doses of thirty grains three times daily, and is benefited thereby (in combination with bromides), though he had taken much bromide previously without benefit.*

(2) Married woman of about thirty; personal and family history of perfect health; sudden attack of hemianopsia (permanent) six months before visit; occasional attacks of complete, *temporary blindness*,[4] *with incomplete loss of consciousness* and sometimes paraphasia; one attack of complete loss of consciousness almost without aura. Husband has ophthalmoplegia externa, and finally admits having had syphilis: general nutrition perfect.

(3) Male, thirty-six years old; married. Illicit connection fifteen years ago, but was never aware of having a chancre. Epileptiform attacks at intervals during past year and a half, lately every few days, *without complete loss of consciousness; insomnia of late*, and *attacks of confusion in head.*

On the other hand there seems no certain way of telling whether the following cases were of syphilitic origin or not:

(1) Male, thirty-seven years old, in perfect health (private patient); gonorrhœa twice but feels sure that never had chancre, and no present signs found; typical, nocturnal epileptic attacks, with sudden loss of consciousness, at intervals of several months for the past six years (under observation and thorough anti-syphilitic treatment for past three years); no present signs of syphilis; moderate improvement under treatment, and moderate tolerance of potassic iodide.[5]

(2) Male, thirty-two years old, of perfect health and good habits; gonorrhœa in his youth but is sure that never had chancre; no present sign of syphilis: two typical epileptic attacks within the past year and a half; recalls that when about twenty years old had some sort of sickness in the night which may have been an epileptic attack.

The six cases in which there was no history or signs of syphilis, nor any reason found to suspect its presence, were as follows:

(1) Female, thirty-five years old; married. Epileptic attacks every two months for past two years, only at night; stupidity and impaired memory for several days after each attack. No history of syphilis, but record of case insufficient to make it of value.

(2) Male, forty-six years old, married. Typical attacks about once a week for four years; no history or sign of syphilis. The record of the case is insufficient absolutely to exclude syphilis, but it is interesting to note that if syphilis was present, four years is a long time for the epileptiform attacks to have occurred without other signs appearing, supposing the disease to have remained untreated which may, I think, be assumed.

(3) Female, thirty-five years old, married. Five attacks of epilepsy within the past two years, always at night; loss of consciousness; convulsion. Has been married seven years, and has four children, all well. No miscarriages; no headache or alopecia: husband living and healthy; fundus oculi normal; no sign of nephritis. Father used to drink to excess, and once had an epileptic attack supposed to be due to that cause.

(4) Female, between thirty and forty years old, married. Typical, severe epileptic attacks with loss of consciousness. No sign of syphilis discovered, although patient remained under observation for several years and did not receive anti-syphilitic treatment.

The attacks were controlled to a considerable degree by the bromides.

(5) Male, between thirty and forty years old, married. Attacks of clouding of consciousness several

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[1] Concluded from page 318.

[2] This patient was only twenty-seven years old, and the case is not included in the statistical list.

[3] The diagnosis here is of course doubtful.

[4] H. C. Wood (loc. cit.) records other cases of temporary blindness of syphilitic origin.

[5] Tolerance of potassic iodide is a sign of syphilitic infection which is of only very moderate significance. It is often seen in the non-syphilitic, and with the syphilitic it is often the effect of habit.

times and one attack of complete loss of consciousness with falling. Patient's early history is opposed to the idea of exposure to possible causes of syphilis, and nothing whatever was discovered in his examination to justify that diagnosis.

(6) Male, (physician in large practice in the country), forty-one years old, married. Large numbers of typical epileptic attacks within the past year, usually occurring in groups, and always ushered in by a sense of numbness beginning in the left foot, then passing to left hand and then all over the body. No assignable cause unless it might be a hard, exposed life. Does not admit the possibility of syphilis, and no sign of it discovered.

To these six cases may be added the cases described above, of epilepsy brought on by fright.

Of these six cases of presumptively non-syphilitic origin, one (No. 4), may be thrown out as suspicious because consciousness was incompletely lost.

This leaves but five cases out of upwards of three hundred in which neither the history nor any special sign, except the advanced age of the patient at the time of the first attack, led me to the diagnosis of syphilis, and I have little doubt that more careful research would have reduced the number further, by discovering the presence if not of syphilis, at least of some other special cause, of epileptiform seizures.

While my own experience therefore, corroborates the current view, that true epilepsy does occasionally — perhaps in a few cases out of a hundred — begin in persons over thirty years of age, the rarity of such cases suggests the amount of care that is necessary in making the differential diagnosis, and in eliminating, first syphilis, then lead, next general paresis of the insane and other organic cerebral diseases, chronic nephritis, alcohol and other poisons. The presence of post-cervical or epitrochlear glands, though certainly not incompatible with health, is in my opinion very strong evidence in favor of syphilis, and among the less well-recognized signs, yellowish thickenings on the tympanic membrane, chronic choroiditis and retinitis,— not to speak of acute neuritis — may fairly excite suspicion.

My experience of the past few years has also led me to believe that chronic lead-poisoning may be a commoner cause of adult epilepsy — as it is of so many other nervous diseases — than is usually taught. I believe it to have been the sole cause in two out of the thirty-one recorded cases, beginning at thirty years of age and in another very interesting case of recurrent vertiginous attacks, with loss of consciousness and sensory paræsthesias and marked anæmia, lead was found in the urine, and the patient improved rapidly under potassic iodide. Here, syphilis had also been present, and the etiology was somewhat doubtful.

On the other hand, it seems to me equally clear that cases occasionally present themselves which are in all probability syphilitic, yet which, even after a course of years, present no certain tokens of their origin.

In doubtful cases it may be the physician's duty to use anti-syphilitic treatment, and to continue it, it may be indefinitely, under proper cautions, even though the epileptic attacks continue as before.

My observations throw no light upon the question whether epilepsy may be excited by syphilis without organic cerebral disease.

It is well known that *headache* is one of the most important signs in the diagnosis of cerebral syphilis in the early stages, and it is recognized, though I think not widely enough realized, that syphilitic headache may exist for years without other symptoms, and that these headaches, like those due to tumor of the brain, may simulate typical periodical headaches of other origin. My own experience is in favor of this view. I have also notes of two or three cases confirmatory of a statement made by W. C. Wood [6] that these headaches may cease suddenly on the outbreak of more serious symptoms.

One case was that of a woman, who, when I saw her, had been suffering for days with intense and uncontrollable pain, which suddenly gave place to hemiplegia and aphasia from which she never recovered. In another case of the kind I should certainly try the effect of bleeding, as Dr. Wood recommends.

In another case, the patient, a young man of otherwise excellent health, had long suffered from pain, which he had considered as neuralgic, in a circumscribed spot in the left occipital region, and this too disappeared with the onset of a persistent vertigo. This patient died soon afterward, but not under my care.

It is probable that the headache in these cases is not always of the same origin, and that its sudden disappearance is due to altered vascular conditions, for I have seen the same happen in a case of thrombosis of the left vertebral artery. The patient was an elderly man, and the pain, which had been present for a week or more in the occipital region, ceased on the occurrence of signs of softening of the medulla [7] from which the patient shortly afterwards died.

INHERITED SYPHILIS.

I have endeavored to trace the history of the children of these syphilitic parents for signs of actual syphilis or of impaired vigor, but the data were insufficient for publication. I have, however, notes of one case of what I believe to be inherited syphilis of late development which is worthy of being reported.

It is that of a boy of fifteen, very kindly sent to me by Dr. J. C. Blake, for electrical treatment, on account of deafness, not due to middle ear disease, of only a few months' duration and of rapid increase, and so severe that when I saw him it was difficult to make him understand the voice.

The possibility of inherited syphilis had, I believe, occurred to us both, but was without proof.

Shortly after I saw him, a keratitis developed rapidly in both eyes, without apparent cause. He was sent to Dr. O. F. Wadsworth, and his opinion strengthened the syphilitic theory. The boy was put at once on increasing doses of iodide of potash, which was well borne, and later on small doses of the biniodide of mercury, and he has improved steadily and greatly from that time to the present; an interval of more than a year.

PROGNOSIS.

The curability of syphilitic disease of the nervous system is, I think, usually over-rated. The brilliant results of the first attempts at treatment should not lead one to deceive himself as to the strong tendency to relapse, the necessity of eternal vigilance and of a persistence in the treatment perhaps throughout the patient's life.[8]

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[6] Loc. cit.

[7] Confirmed by the autopsy.

TREATMENT.

I must confess myself decidedly of the party of those who believe that large doses of iodide of potash and mercury are often necessary in the treatment of the late nervous lesions of syphilis, though I must confess that the reasons for my opinion are rather inferential than positive.

Many patients do perfectly well on moderate doses, it is true, and for them possibly enough is as good as a feast. On the other hand, I am convinced that from time to time I have seen patients improve on doses of a drachm or 100 grains of iodide of potash three or four time daily. who had not done as well on smaller doses, and I have seen patients at the hospital that I did not care to trust with large doses, fail to do as well as I thought they ought.

Again, what I think should count of practical importance, I have never seen large doses, properly watched, do any irreparable harm.

In the case of one patient with syphilitic myelitis whom I was seeing daily, and whose prospects of leading a life of invalidism would have made him willing to incur almost any risk, I gave by gradual increase, up to nearly ℥ij. of iodide daily, and then for the first time signs of poisoning on the part of the nervous system appeared, which were at first rather alarming, but quickly subsided. I believe that even larger doses than this have occasionally been used. The same patient has been taking now for several years ℥ss. or more, daily, for at least half the time, with constant improvent in his nutrition.

RELATIONS OF SYPHILIS TO LOCOMOTOR ATAXIA.

I have notes of fifty cases of locomotor ataxia in which mention is made of the presence or absence of a chancre *judged mainly* by the patient's admission or denial. Of these there was a history[9] of primary infection in twenty-nine cases (male 27, female 2), and secondary symptoms were present, without history of primary infection, in two, and somewhat doubtful symptoms in a third (a female); making in all about sixty per cent. of syphilitic or possibly syphilitic cases. In ten others gonorrhœa was admitted, but syphilis denied, a history which means, at the least, possible exposure to the causes of syphilis.

These figures corroborate the statements of other observers, that there is a close circumstantial bond between syphilis and locomotor ataxia. The nature of this bond no one has been able to discover, but if it proves true, as a few observations seem to indicate, that anti-syphilitic treatment is occasionally effective in bringing about a cure, it will show that the connection is at least occasionally a direct one.

My own experience in this direction, like that of the majority of observers, has hitherto been negative.

It may well be that some of the cases, though presenting the usual symptoms of locomotor ataxia, really belong in another category. Thus, three of the thirty-two patients had shown symptoms of cerebral syphilis, in addition to the spinal symptoms, and with one of these, a woman, the anti-syphilitic treatment seems to have affected the spinal symptoms favorably.

If any advantage is to be obtained by such treatment it probably needs to be thorough and prolonged, instead of incomplete and temporary, as the temptation is to make it.

Strangely enough, the other chronic scleroses of the spinal column do not seem to be, with anything like the same frequency, of syphilitic origin, and yet it does appear to act as one of their occasional causes.

Thus I have seen several cases of multiple sclerosis for which previous syphilis was a possible and the only discoverable cause.

A case of this kind has recently been carefully described by Schuster, in which anti-syphilitic treatment is said to have affected a cure.

Quite as common a cause as syphilis of some forms of spinal sclerosis is chronic lead-poisoning, as I have shown before this Society and elsewhere.

Post-mortem examinations have not as yet shown anything characteristic in the lesions of syphilitic locomotor ataxia.

In a case of my own where the presence of the early and secondary symptoms of syphilis were unquestionable, the spinal lesions did not differ from those ordinarily seen. The arteries in the substance of the cord were greatly thickened, but this may be found in simple tabes.

In conclusion, I beg to acknowledge the courtesy of my colleague, Dr. G. L. Walton, in permitting the use of his notes of cases treated at the Massachusetts General Hospital.

FATAL POISONING BY CHLORIDE OF ZINC APPLIED TO AN EPITHELIOMA OF THE LIP: WITH REMARKS.[1]

BY ARTHUR H. NICHOLS, M.D.

On the 7th of January, 1886, I received an urgent summons to visit J. R., residing in Dorchester. In the month of June previous, this man, whose family I had for many years attended, presented himself for advice regarding an incipient epithelioma situated on the margin of the lower lip. The imperfect development of the growth seemed to render immediate surgical interference unnecessary, and delay was accordingly recommended. This advice did not prove satisfactory, and during the summer he put himself under the care of an irregular practitioner from Worcester, whose treatment proved wholly ineffective. Subsequently, attracted by a mendacious advertisement, and the reputed cure of a neighbor by another irregular physician from Lynn, the latter was called upon, and readily agreed to effect a prompt cure. To quote from this advertisement, now before me, the writer states that he has "a practice peculiarly his own, having never divulged it to any one." He furthermore alleges that "the medicine used is a vegetable liquid, and is a complete and effectual antidote for cancers and tumors, affecting only cancerous tissue. . . . In killing an ordinary cancer, he requires only from two to six hours, and the pain is so slight, a child can easily bear it."

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[8] On the reading of this paper attention was directed by a member of the society to the importance of ascertaining, in cases of syphilis of the nervous system, whether the primary lesions had received thorough treatment or not. This inquiry has not been systematically made, but it may be assumed that in the case of the hospital patients there had almost never been a thorough primary treatment, and my knowledge of the history of the private patients enables me to assert the same with regard to the majority of them. The reader's attention is at the same time especially invited to the remark of Dr. J. C. White, (Boston Medical and Surgical Journal of Oct. 7, 1886), that he had seen serious nervous symptoms arise in patients who had been steadily under his own observation and under thorough treatment for upwards of two years following infection.

[9] It is of course probable that the original diagnosis was incorrect in some cases, but these would probably be counterbalanced and more by the cases of mistaken denial of infection.

[1] Read before the Boston Society for Medical Observation, June 7, 1886.

Upon reaching the patient, about 7, P. M., I found him unconscious, respiration slow and stertorous; pulse 110, small and weak; pupils dilated and irresponsive to light; face flushed, and whole body bathed in cold perspiration.

It transpired that at 1, P. M., of that day, a son and partner of this physician, a young man of extremely limited professional attainments, had come to the house and persuaded the family that he was in all respects competent to conduct the treatment, having received the required instructions and remedial agents from his father. The patient's apprehensions were quieted with the assurance, reiterated in the presence of the family, that the medicines employed were purely vegetable, and that the pain produced would be insignificant. The lip was then treated with two different applications, the latter being left bound upon the diseased surface when the young man took his departure at the expiration of about an hour and a half. Three pills (containing, as was afterwards ascertained, one grain each of svapnia) were left, with directions to take them all in case of severe pain.

From the very outset, the patient protested that the pain induced by these applications was unendurable, and it gradually increased in intensity, extending beneath the chin to the neck. These complaints were treated with ridicule by the attendant, who assured him that the drugs used might be even *swallowed* with impunity — a statement which may be important, as tending to throw light upon the real cause of the accident which followed. At about 3, P. M., he complained of the region of the stomach, and soon after rushed to a rear door, seemingly to get fresh air. A violent chill now set in, associated with a numbness of the lower extremities, and a sensation of dizziness. He was then assisted to a lounge, and the plaster removed from his lip. Convulsive movements of the upper extremities now supervened, and he soon sank into a state of stupor, followed by coma, from which he could never after be aroused.

Medical aid was now sent for, and Drs. C. E. Stedman and W. C. B. Fifield were soon procured. The prominent symptoms observed by these gentlemen upon their arrival were stupor, retarded breathing, and unevenly dilated pupils; and under the influence of heat and stimulants, there was for a time marked improvement in both pulse and respiration, while the pupils regained their normal calibre. When it was ascertained, however, that the opiate pills had not been taken, it was deemed expedient to telegraph to Lynn, with the view of eliciting precise information as to the nature of the poison which was producing so profound an effect upon the nervous system. This message was responded to by father and son, who appeared upon the scene about 8.30, P. M. The latter, upon his arrival, was rendered rather incoherent by the ghastly appearance of the patient, now rapidly sinking, and he was shortly after led from the room in a demoralized state. The father succeeded in maintaining a better equilibrium, and volunteered the following details as to the treatment adopted: The procedure consisted, as alleged by him, in the application of a strong potash lotion, made from lees formed of the ash of sweet-fern and bayberry tops, designed to remove the cuticle. The tumor proper was then attacked by a caustic paste bound upon its surface, prepared according to the formula:

℞	Zinci chloridi	ʒ j.
	Amyli	ʒ iij.
	Podophyllin	ʒ ss.

By 9, P. M., the pulse was 140, very weak and intermittent, and death ultimately ensued at 9.30, P. M., from asphyxia, the pulse and heart-beat being perceptible fully eight minutes after voluntary respiration had ceased.

The patient whose life was thus abruptly terminated was a robust, rugged farmer, aged fifty-two, of steady, temperate habits; he had been in perfect physical condition up to the very day of his decease, with the exception of an occasional slight attack of neuralgic rheumatism. These periodic illnesses had excited some suspicions on his part as to the existence of kidney or heart disease, on which account I had from time to time examined him, and retain the record of several analyses of urine. The result of these examinations had led to the conclusion that he was free from all organic disease — an opinion confirmed by a careful *post-mortem* made by Dr. H. Warren White.

"*Autopsy.* Sixteen hours after death. Well-developed man, past middle life; cadaveric rigidity well marked. Dark, circumscribed discoloration of lower lip on left side; surface nearest the teeth ulcerated; not much infiltration. Skin, fatty layer scant. Musculature firm developed; good color. Brain, veins prominent; no signs of hæmorrhage, tumor, softening, inflammation, nor anything abnormal. Heart, left side moderately hypertrophied, blood fluid, valves healthy. Lungs, some hypostatic congestion, but remarkably free from adhesions or any morbid process. Liver, fair size, slightly congested. Gall-bladder partly filled, normal. Spleen somewhat softened and congested. Stomach moderately distended with gas, lining membrane perfectly normal. Œsophagus normal, save a congested ring about one inch above the cardiac orifice, possessing no significance. Intestines distended, vermiform appendix of above average length, and containing a small concretion; color everywhere normal. Pancreas normal in size and appearance. Kidneys healthy; normal relation between cortex and pyramids; cyst of the size of a filbert at apex of right kidney. Bladder full of urine; opened and found healthy. Intestines free from constrictions and other lesions."

If we accept the statement of the attendant and family concerning the treatment and subsequent behavior of this man, it is highly probable that death was due to the absorption by the *primæ viæ* of a portion of the strong mineral caustic (chloride of zinc), which trickled into the mouth from the plaster applied to the margin of the lip, the ingested poison proving fatal by the profound shock exerted upon the nervous system.

Nor is this theory of the specific action of the irritant poison invalidated by the absence of marked erosion or irritation of the mucous membrane of either mouth, œsophagus or stomach, which effect would not be produced if the poison entered the mouth slowly, receiving thus a large admixture of saliva. It seems, indeed, unaccountable that any appreciable quantity of so metallic-tasting a substance could have entered the mouth during consciousness without being promptly rejected; or, at least, without exciting some complaint. Attention may, however, have been diverted from the internal, local effect, or disagreeable taste, by the false assurance that the drug could be safely swallowed: or, possibly, by the more painful action of the caustic upon the healthy tissue surrounding the diseased growth.

It was my privilege, as a medical student in Paris in 1864, to witness the experiments conducted by Maisonneuve in the treatment of carcinoma, scirrhus, and other recurrent and fibrous tumors by the so-called *cautérisation en flèches*, introduced by him in 1858. This treatment consisted in thrusting caustic arrows into deep incisions made with the bistoury in the periphery of the mass to be removed. In the course of twelve or fourteen days the diseased structure was destroyed and detached, leaving behind a clean, healthy surface, which became speedily cicatrized. These arrows were used not only in the case of morbid growths upon the surface of the body, but also in tumors of the neck of the uterus, the tongue, soft palate, tonsils, anus and rectum.

It was claimed by this surgeon, that while the styptic action of the caustic prevented all danger of hæmorrhage, its destructive action was confined to the diseased tissue in its immediate contact. The statistical results of this method, extending over a series of years, seemed to demonstrate its effectiveness; and that it lessened the danger of erysipelas and pyæmia at that time rife, owing to the insanitary condition of the Paris hospitals. I saw enough to convince me, however, that the pain produced by this process was immeasurably worse than that inflicted by the knife, and, of course, of much longer duration. The formula then employed by Maisonneuve was: — chloride of zinc, one part; wheaten flour, three parts; water, sufficient to make a paste. From this paste, rolled into a thin, round sheet, arrows of any dimensions could be cut. It will be observed, that the chloride of zinc used in the present case was identical in strength with that recommended by Maisonneuve.

As regards the medicinal use of this agent, it has been employed, largely diluted (m. x–xx to ℥iv), as an urethral and vaginal injection; also as a collyrium in gonorrhœal and diphtheritic ophthalmia. It was at one time exhibited internally, especially in France, in small doses (5 to 10 centigrams a day), on account of its alleged antispasmodic action in certain nervous derangements such as chorea, epilepsy, hysteria and neuralgia; but was discarded on account of its uncertain therapeutic effect, and because of the deleterious results observed (colic, nausea, vomiting, convulsive movements, etc.)

As an external application, it was first used by Pappengath, a St. Petersburg physician, in the obliteration of fistulous ulcers of a scrofulous nature. Subsequently it was recommended by Hancke for the destruction of maternal nævi, syphilitic ulcers of carcinomatous appearance, etc. By various German writers (Moore, Reichel, Heine), it has been praised as a caustic injection. Lutin advises an aqueous solution of five to even ten per cent. in order to establish sloughing. In Hebra's wards in Vienna, in 1867, *lupus* was occasionally treated by means of a modified Cauquoin paste, the active ingredients of which were chloride of zinc and chloride of antimony: and I find in my note-book a formula, recommended for cancerous tumors of the breast, composed of chloride of zinc combined with chloride of bromine and chloride of antimony.

I have found but a single clinical fact to support the statement of Orfila as to the possibility of the absorption of this substance by a denuded surface. In *Pyl's Memoirs* a case is recorded (referred to by Naunyn, also by Woodman and Tidy), where the outward application of chloride of zinc to an eruption is said to have caused death in five hours with vomiting, purging, and convulsions. I have sought in vain for the work here alluded to, and find it difficult to accept a statement so utterly at variance with universal experience.

In the light of existing knowledge we are not, therefore, in condition to condemn the remedial agents resorted to in the present instance; for the caustic was employed in justifiable strength, and substantially as has been recommended by surgeons of repute. The malpractice consisted in the failure to employ ordinary and reasonable care in the management of the case, and in the deceptive statements as to the innocuousness of the drugs. The doctor was unfortunately ignorant of the toxical effect of his remedy when taken internally; and the patient, lulled into false security, thus failed to take the necessary precautions as to allowing the poison to enter the mouth or stomach.

Poisoning by chloride of zinc, though formerly unknown, has been comparatively frequent in England, since the introduction of Sir William Burnett's disinfecting fluid, which contains about two hundred grains of the salt to the ounce. More recently, cases of poisoning have occurred, both in this country and abroad, from the use of canned vegetables and meats containing a small quantity of chloride of zinc dropped into the cans from the soldering material applied to secure the lid. If the dose of the poison administered be large, death ensues ordinarily within a few hours from its irritant or corrosive action: characterized by a burning sensation, colic, vomiting, diarrhœa, cramps and convulsions. If, on the other hand, the poison be taken in smaller doses, or less concentrated, so as to be absorbed; or, if the patient does not at once succumb to the primary corrosive action, then the secondary, specific effect if the drug upon the nervous system is manifested; indicated by venous congestion, stupor, dilated pupils, convulsive movements, paralysis, and coma, a group of symptoms resembling those of uræmic poisoning. This compound toxical effect is more frequently witnessed in certain poisons derived from the vegetable kingdom, such as *nux vomica*, hemlock, monkshood, veratrine, and poisonous mushrooms.

I am inclined to believe that the behavior of the pupils under the influence of this poison may not be constant nor characteristic, although dilatation is the condition commonly noticed; for it is not assumed that this change in the iris is essentially the result of a local action upon the muscular fibres or blood-vessels of this organ such as is produced, for instance, by belladonna: it is rather to be included in the category of the familiar phenomena liable to follow any sudden and severe disturbance of the central nervous system, the rationale of which phenomena is by no means clearly understood. Hence, it would not be strange, if, as in some instances of traumatic shock, the contracted pupils, or so-called pupils of erethism, were at times observed.[2]

The first reported instance of fatal poisoning by chloride of zinc is that related by Dr. Letheby, former lecturer on chemistry in the Medical School of the London Hospital, and to show that this dual action of

[2] Vide Grœningen, Ueber den Shock, p. 86.

the drug was fully recognized and accurately described by this distinguished writer. I may reproduce in synopsis his article.[3]

The patient, a girl aged fifteen months, "when first seen was in a semicomatose state, the vital powers being much prostrated, the countenance pale and anxious, the breathing thoracic and rapid, the pulse quick and fluttering, and the general surface of the body cold and bedewed with perspiration. The swelling of the lips and the thick, transparent mucus adhering to them, led to further examination, and the lining membrane of the mouth was found to have the appearance of having undergone the action of a corrosive substance. The child had been well in the morning, and only an hour and a half before had been seized with most violent sickness after swallowing some of Burnett's fluid. . . . No relief could be given; vomiting of a frothy liquid took place at intervals, but the coma became deeper, the respiration slower, the pulse more feeble, and ten hours after the symptoms had commenced the child died."

Experiments made by Dr. Letheby with this liquid in order to determine its leading chemical and physiological characters, showed: firstly, That chloride of zinc is distinguished from the other salts of this metal by its quick and firm coagulating action on liquid albumen and on the delicate tissues of the body. Secondly, That a solution of chloride of zinc exerts a twofold action on the living animal economy. Its first effect is that of an irritant and caustic; the liquid coagulates the tissues and gives pain in the part to which it is applied, and causes almost instantaneous vomiting. It appears moreover, from the investigations of Orfila, that the salts of zinc act upon the stomach not only when they are introduced into this organ, but also when they are injected into the blood-vessels of the body. The second effects are of a constitutional character, and it would appear that the poison exerts a distinct and specific action on the motor and organic system of nerves; for soon after the poison gains access to the circulation, the breathing and pulse become accelerated; paralysis of the voluntary muscles commences; the surface of the body grows cold, the pupil is dilated; the circulation and respiration become more and more affected, coma supervenes, and death takes place without a struggle.

Dr. Letheby proved, moreover, by experiments, that the poison is absorbed from the alimentary canal and carried into the general circulation. He has detected the metal in the blood removed from the heart, in the tissues of the body, and in the urine excreted during life. The appearances presented by the blood indicate that the poison exerts some peculiar action on this fluid, which is found black and uncoagulated; and the cavities of the heart are distended as if the organ had lost the power of contracting on its contents.

To Dr. John G. Johnson, of Brooklyn, belongs the credit of first directing public attention to the danger arising from the use of fruit and vegetables preserved in cans, the lids of which have been soldered with chloride of zinc instead of resin; and he has, furthermore, demonstrated that it is impossible for the most expert workman to employ this objectionable solder without dropping some portion of it into the can. In the *Sanitarian* for June, 1884, he gives a most instructive account of the poisoning of six persons in one family from this source. These cases having been made the subject of subsequent litigation have attracted extensive notice, and are of especial value in that they illustrate the compound action of the drug in a single subject.

In a more recent contribution to this same subject,[4] Dr. Johnson propounds the novel theory, that a still more subtle form of poisoning resulting from the continued use of these canned goods may consist in a chronic disturbance of the renal functions (nephritis) accompanied by albuminuria, and ultimately giving rise to a form of Bright's disease. This theory, though not yet demonstrated by clinical observations or physiological experiments is certainly in accord with the more recent hypothesis framed to explain some of the phenomena of lead poisoning (*amaurosis, retinitis, nephritis, etc.*) in which the retention of the constituents of the urine and the concomitant accumulation of the poison may give rise to symptoms resembling in their ultimate development those of uræmic poisoning.

As regards the legal responsibility in this case, where death was presumptively owing to the treatment received and caused by it, there cannot be much doubt as to the criminal liability of the delinquent practitioner for the injury thus caused. Indeed, two successful actions have recently been sustained in this State, in which the negligence or culpability was certainly no greater than in the present instance: that of Pierce, who caused the death of a woman by the application of kerosene, and that of the woman-practitioner Cummings, whose negligence and recklessness in the use of the fluid extract of the St. Ignatius bean led to a fatal result. The principle of law laid down by the court in these cases is, that if a person publicly practising as a physician, on being called to a sick person prescribes with foolhardy presumption a course of treatment which causes death, proper medical assistance being at the time procurable, he may be found guilty of manslaughter, although he acted with the patient's consent, and with no ill intent.[5]

In the case of Pierce, it was held by the Supreme Court that the defendant's knowledge or ignorance of the fatal tendency of the prescription did not have an important bearing upon his guilt or innocence; inasmuch as every physician is supposed to possess a familiarity with the remedies which he employs; and if any one assumes to prescribe without the exercise of ordinary prudence, and, not being in the possession of common experience, thereby seriously and unreasonably endangers life, he does so at his peril.

To quote the apt illustration of Judge Holmes: "When the jury are asked whether a stick of a certain size was a deadly weapon, they are not asked further whether the defendant knew that it was so. It is enough that he used it and saw it such as it was. . . . Indeed, if the defendant had known the fatal tendency of the prescription, he would have been perilously near the line of murder."

This is now the law in Massachusetts, and it is in harmony with the English law, as well as with a multitude of decisions in other States; and the rule, while working no harm to the competent physician exercising his calling with reasonable diligence and care, must conduce to the safety and welfare of the community, in so far as it assigns some limitations to the license of reckless pretenders. It is uncertain, whether it was the recognition of this liability, or a dread of exposure which led the principal in this fatal experiment to settle with the family of the victim without allowing the case to come to trial.

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[3] *Vide* Lancet, June 11, 1850, p. 23.

[4] New York Medical Journal, April 24, 1886.

[5] Mass. Reports, 138, 165.

There exists in every community a class of sufferers, who, in consequence of some previous fright or personal idiosyncrasy, entertain a morbid dread of any operation involving hæmorrhage, and who prefer therefore to submit to pain, rather than to the surgeon's knife. Such persons are surely not to be blamed if they elect treatment by caustic rather than by surgical operation, when it has been asserted by competent surgeons who are supported by official statistics, that not only does the caustic promise a result equally favorable to that obtained by excision, but, moreover, that the morbid growths are more thoroughly reached and their recurrence thereby rendered less probable.

It is, therefore, to be regretted, that so many patients are compelled, in order to obtain relief by this method of their choice, to resort to non-reputable practitioners, because the legitimate treatment by caustics formerly so highly commended has by reason of fashion, or from other insufficient causes, been substantially discarded by the regular profession.

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TENDERNESS OF THE SPINE IN HEALTH AND DISEASE, AND THE THERAPEUTIC EFFECTS OF BLISTERING OVER THE FOURTH AND FIFTH DORSAL VERTEBRÆ.

BY MORTON PRINCE, M.D.
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In an article published not long since in the *Lancet*,[1] Dr. Alexander Harkins, of Belfast, calls attention to a phenomenon which he claims, as a result of very extended observations, is normally to be observed in every individual; namely, tenderness on percussion over the fourth or fifth, or both, dorsal vertebræ. Dr. Harkins at first thought that this was peculiar to women suffering from various neuroses, but after examining the spines of a large number of people of both sexes, he concluded that tenderness of one or both of these vertebræ was the normal condition of every individual of every age and class. Of one hundred and thirty-one female children and girls, from six to sixteen years of age, every one complained of tenderness in this region when the spines were percussed. Of thirty-five women, of various ages, the phenomenon was present in the greater number, while "a number resented the examination, were sulky or gave indifferent answers." Of thirty-one boys, eleven to nineteen years of age, and of three hundred men, tenderness was observed in every case. The pain was said to be peculiar; "some compared it to an electric shock, diffused over the chest and arms; others liken it to the tingling sensation caused by a knock upon the ulnar nerve, at bend of elbow, and all declare it disagreeable."

Dr. Harkins further claims that he has constantly been enabled to cure a large number of neuroses by the simple method of placing a blister over the tender spot. The vomiting of pregnancy seems especially to have been amenable to this treatment. "I have not once failed," he writes, "for many years by a single vesication over these vertebræ, to put an end at once to the sickness of pregnancy, for the whole remaining period of gestation, no matter at what stage I was consulted. The neuralgic toothache, and the pruritus pudendi of the puerperal condition yield as readily to one application." Dr. Harkins's paper contains the notes of a number of cases in which a cure was speedily affected. They include, besides the neurosis of pregnancy, chorea, facial paralysis, facial spasm, neuralgia, ozœma, and dysmenorrhœa.

The great care with which Dr. Harkins's observations have been made and recorded entitle them to something more than passing attention, and it is evident at once, that if they should be confirmed, they must be of great practical value. Tenderness over some part of the spinal column is generally regarded as symptomatic of a number of nervous disorders. Every one, probably, has carefully percussed a multitude of spines and gravely recorded the tender spots in his note-book. But if it be true that we all are the possessors of a tender spot, such tenderness, when associated with disease, would lose much of its pathological significance, at least when located over the fourth or fifth dorsal vertebræ.

Even in so-called spinal irritation, local tenderness, which has played such a prominent part, must lose much of its diagnostic value, and even some of its power as a claimant for sympathy for the sufferer.

Furthermore, if such remarkable therapeutic effects can be obtained by such a simple procedure as blistering in the above described fashion, we have a powerful remedy at our disposal for many intractable diseases.

Accordingly the writer set about percussing the spines of a number of healthy and unhealthy individuals, and blistering such unhappy ones as promised to be good subjects for experiments. Though the results obtained have not completely confirmed those obtained by Dr. Harkins, they appear to be sufficiently striking to be worth recording, and to be not devoid of practical value. They seem to the writer to aid in giving the proper value to spinal tenderness as a symptom, as well as to a therapeutic procedure which in suitable cases must prove of unquestionable utility.

First, the spines of 57 healthy men were percussed. In 53 of these no tenderness whatever could be detected. Two, only, complained of tenderness over the fourth and fifth dorsal vertibræ, while one stated that the third dorsal, and one the tenth and twelfth dorsal were tender.

To avoid error more force was used when striking over the vertebræ in question than over the remainder, though all were struck with considerable force. As a percussor, the knuckles of the forefinger were used, the fist being firmly clinched; sometimes a percussion hammer was substituted, often both were tried. The subjects were stripped to the waist and put in a favorable position for the experiment.

The subjects of experiment were applicants for position on the Boston Fire Department, and it occurred to me at the outset that the results obtained might be affected by the men denying all tenderness, for fear of appearing unsound. To offset this, as a source of fallacy, I impressed upon their minds the object of the examination, and even insisted that every healthy man ought to have a tender spot in his spine. But it was all to no purpose. Even after making a liberal allowance for this possible source of error, the results, to be presently described, obtained on men sick with various diseases, show that there would still remain a large variation from Dr. Harkins's results.

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[1] 1885. v. ii., pp. 56 and 995.

Why his and mine should be so at variance, especially those obtained with the Irish constabulary. I am unable to understand, unless indeed, the strength of the official Irish backbone has been somewhat weakened of late by apparitions of coming home-rule. I have had no opportunity to test the spines of any large number of *healthy* women. It is very likely that tenderness is sometimes present, but that it occurs with anything like the frequency that has been asserted, may be strongly questioned, inasmuch as none whatever could be detected in a large proportion of women debilitated by various diseases.

Coming now to the condition of the spinal column in disease, I have notes of 75 cases, which were examined without selection and in their order of appearance at the out-patient nervous department and wards of the City Hospital. They embraced quite a variety of diseases.

Of the total 75 patients, 37 were males, affected with the following diseases: epilepsy, neuralgia tabes dorsalis, multiple sclerosis, neurasthenia, chorea, hysteria, hemiplegia, myelitis, neuritis, traumatic paralysis, articular rheumatism, heart disease, typhoid, pneumonia, nephritis, pleurisy, debility, gastritis, phthisis, cystitis.

In 20 of the 37, tenderness over either the fourth or fifth, or both dorsal vertebræ could be detected; in the remaining 17, these vertebræ exhibited nothing noticeable whatever.

The women included about the same class of cases, and were 38 in number; in 24 of them tenderness was complained of in the fourth and fifth dorsal vertebræ, a proportion slightly in excess of that obtained with males. The absence of tenderness in the region in question in fourteen cases shows that, at least in the writer's experience, this is not a constant phenomenon, even in disease. The nature of the disease does not seem to have any influence. It was found in organic as well as functional, in non-nervous as well as nervous diseases; nor is it always present in any one disease. It would seem that anything which tends to debilitate the system may give rise to the phenomenon, especially phthisis.

On the other hand, the character of the pain was not described as like that given by Dr. Harkins's subjects, but only as a local, ordinary pain. In only one case (of pregnancy not included in the above) it was referred to the stomach, and described as sickening or nauseating.

It should be said that the pain spoken of in many of the cases was slight, in some so slight that it would not ordinarily be recorded; but as there is no way of measuring the degree of pain, all such cases have been counted among those with tender spines. But it is not always in the region of the fourth and fifth dorsal vertebræ that tenderness, when present, is located. Of the 37 men examined, general tenderness of the spine was noted in 4 cases, and tenderness other than over the fourth and fifth dorsal in 11 cases (with or without coincident tenderness in the latter locality). Of these 11, it was located over the first dorsal in 1 case, second dorsal 2 cases, sixth dorsal 1 case, and eleventh dorsal to first or second lumbar in 7 cases; so that next to the fourth and fifth dorsal, the next most common site is the dorso-lumbar region. In only 11 out of the whole 37 cases could no tender spot at all be detected.

No note was made as to the existence or non-existence of tenderness in the women other than over the fourth and fifth dorsal.

Coming now to the therapeutic effect obtained by blistering over the fourth and fifth dorsal vertebræ in neuroses, the results cannot be said to be as successful as claimed for the treatment by Dr. Harkins. In a few instances they were striking, and showed the method to be of some practical value. It was applied in quite a variety of functional and organic nervous affections, such as chorea, neurasthenia, neuralgia, paralyses, vomiting of pregnancy, torticollis, spinal irritation, rheumatism, tobacco-neurosis, etc.

The most strikingly successful case was that of a woman of about thirty to thirty-five years of age, who had been under treatment in the surgeon's room at the Dispensary for about four or five weeks, without any improvement. She was finally brought to me. At this time she complained of great pain and tenderness in the back of neck, the pain shooting upwards over the back and sides of the head. The muscles of the neck were stiff, almost rigid, the head being fixed in one position. There was great tenderness over the cervical vertebræ, and the slightest jar on the top of the head or movement of head caused intense pain; indeed it had been thought there might be caries of the vertebræ, especially in view of the physical condition of the woman, which was that of anæmia and debility. Her expression was indicative of prolonged suffering. There was also enlargement of the submaxillary glands. Finding, also, tenderness over the fourth and fifth dorsal vertebræ, I directed that a blister be placed over that region.

The next day the woman returned, presenting an entirely different picture. The pain and tenderness were gone, the motion of the head was natural, and the look of suffering had disappeared from the face. Of course, the pleasure exhibited by the patient at being at last relieved from pain was what might have been expected. She afterwards had some trouble with the enlarged glands, but the above symptoms never returned. I saw her about a year afterwards, when she stated she had had no return of the symptoms. Two other cases of the same character but less severity were equally successful. One was that of a man whose surprise and delight at his sudden cure were truly comical. I have tried the treatment in one case only of vomiting of pregnancy, when it was eminently successful (vide *Boston Medical and Surgical Journal*, 1886).

In a case of paralysis and atrophy of the deltoids, biceps, brachialis anticus and coraco-brachialis of both sides, accompanied with intense pains about the shoulders, arms, and neck, I found the spine exceedingly tender in the fourth and fifth dorsal region. The case was probably one of progressive muscular atrophy. For the relief of pain, I blistered with the actual cautery in the above region. The effect was to give great relief from pain, but none on the course of the disease was noticed. The cautery, from time to time, had to be repeated. Some improvement followed the treatment in a case of spasmodic torticollis, and in one of "nervous excitability" from excessive use of tobacco. The neuralgic pains of spinal irritation were also relieved by blistering.

On the other hand, in all organic diseases, such as tabes and neuritis, it has naturally failed to produce any curative effect. In chorea, my experience has been opposed to that of Dr. Harkins, as I have failed to obtain any improvement, unless it be, as is possible, that some of the cases which did not return for a second observation were benefited, and for this reason did not return. This was the case with a number of patients with various ailments, and as a single visit is not the usual failing of patients attending nervous clinics, it is not a very extreme assumption to suppose some of them were cured. In the majority of cases, certainly, the treatment was without success. Whether or not a blister over the fourth and fifth dorsal vertebræ has any specific influence, or more than over any other portion of the spine, or elsewhere, I refrain from discussing in the absence of sufficient data.

Finally, from what has been said, the following conclusions may be drawn:

Tenderness over some portion of the spinal column is not peculiar to any particular class of diseases, but may be present whenever the system is debilitated from any disease. It may be met with in health; it is more frequent over the fourth and fifth dorsal vertebræ than elsewhere. Second, decided and beneficial effects may often be obtained by blistering over the fourth and fifth dorsal vertebræ in various neuroses.

Clinical Memorandum.

A CASE OF PUERPERAL ECLAMPSIA.[1]

BY SARAH ELLEN PALMER, M.D., OF PORTLAND, ME.

Mrs. W. B., primipara, thirty-nine years of age, married sixteen months since. Six years before her marriage she had left the school in which she taught because of a serious illness, beginning with sudden unconsciousness, while leading the school exercises. Of this illness I have no medical account. With this exception she had never been ill, save occasional attacks of facial neuralgia.

During the first eight months of pregnancy, the health had been perfectly good, save an annoying eczematous eruption on the legs, which yielded to simple remedies and partial rest; no swelling of the feet followed. In November, when eight months pregnant, she suffered from an attack of tonsillitis, succeeded, before she was fairly well, by a mild form of diphtheria. From this she made a perfect recovery.

The patient was dismissed December 15th, the house thoroughly disinfected, and the drainage investigated. At this time the urine was examined, as it had been thrice before; then, as now, the kidneys were found in a perfectly normal condition. At the time of confinement the feet were slightly swollen and œdematous, but the ordinary boots could be worn.

Friday, January 8th, I was summoned at 5, A.M. The cervix was shortened, but not obliterated. At 3.15, P.M., she was delivered of a boy weighing seven pounds. The placenta followed at once. The labor was normal, though slow, and the patient's strength good throughout. The uterus contracted well. During the second stage the pains, though effectual were separated by a considerable interval; ether was given to dull the sensibility, but not to unconsciousness, and with no effect on the efficiency of the pains. One drachm of Squibb's fluid extract of ergot was administered on the expulsion of the head from the cervix, and again just before delivery. During the progress of the labor, the bowels were evacuated, and the urine was drawn with a catheter in the second stage. After labor the patient was in good condition, expressed herself as feeling well, and took some nourishment. Thirty minutes from delivery, she shivered and said she felt "nervous, not cold." Before I could reach the bed she was in a clonic convulsion, almost immediately tonic in character. The uterus, held by the hand of my assistant and well contracted, now relaxed; the pulse at the left wrist was imperceptible, the right was not examined; blood issued from the mouth. Stimulant injections of brandy and ether were given hypodermatically; the pulse weak and rapid, appeared at the wrist, and the uterus contracted in response to a hypodermatic of ergot. Convulsive motions continued about one minute and a half, followed by unconsciousness for thirty minutes. The face, hands and feet were almost immediately perceptibly swollen. Dr. I. T. Dana, of this city, came in consultation, and the following treatment was given by common consent. Because of an idiosyncrasy, morphia was sparingly given; one-third of a grain was injected with the hypodermatic syringe, and this was repeated twice during the next two days. Pilocarpin, one-eighth grain, was also given hypodermatically. The urine, drawn with the catheter, became almost solid on boiling, and from a specimen sent a few hours later to an accomplished specialist, the following report was received: Appearance of the liquid yellow, turbid, with a considerable sediment; reaction neutral; specific gravity 1.024; loaded with albumen. The microscope showed urates of ammonium, triple and simple phosphates; epithelia from the vagina, bladder, convoluted tubules of the kidney and pelvis and cervix uteri, with hyaline and granular casts. A diagnosis of acute catarrhal and croupous nephritis, with a grave prognosis, was added by the microscopist.

Upon recovering consciousness after the first convulsion, the patient answered Dr. Dana's greeting, and was immediately seized with a second attack, which was shortened by the administration of ether by inhalation. At this time the pulse was distinct at both wrists. During the following hour, two impending convulsions were aborted by the ether. During the day two drops of croton oil in one teaspoonful of castor oil placed on the tongue were followed by a free and apparently involuntary evacuation from the bowels.

Immediately after the first convulsion, forty grains of bromide of sodium were given by rectum. Six hours later, thirty grains of bromide with fifteen of chloral were injected.

During the day the patient recognized those about her and responded to simple questions; in the afternoon she seemed to hold a most vivacious and pleasing conversation with some invisible person. Towards night she fell into a semi-conscious state. Dr. Gerrish, who was now added to the consultation, was apparently recognized as he entered the room and greeted Mrs. B. Later the face assumed a dusky hue, and although she opened her mouth in answer to a request to protrude the tongue, she made no further effort. From this time the mental condition steadily failed until at twelve o'clock she was unconscious. The teeth were set firmly, the eyes were closed, the face was dusky and swollen, the respiration was Cheyne-stokes, the pulse was rapid, and the temperature was 101.5° F. During the afternoon, digitalis had been administered, and a sinapasm applied over the upper cervical region. At 12.30, A.M., the teeth were forced open and whiskey and beef tea poured down the throat. Sunday at 2, A.M., thirty drops of dilute phosphoric acid was injected with the hypodermatic syringe, and repeated every thirty minutes until four doses had been given.

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[1] Reported to the Practitioner's Club, June, 1886.

From this time she very slowly improved, and at 5, A.M., was sleeping quietly, with respirations more regular, and the dusky hue of the face slightly lessened. During the day dilute phosphoric acid was given by the mouth in fifteen-drop doses every three hours, the amount given being regulated by its apparent effect on the head. We judged of her sensations simply by her involuntary movements. During the morning she was in a semi-comatose condition from which she gradually aroused, but with evident aphasia which did not disappear until Tuesday morning, when she could, for the first time in sixty hours, frame intelligible sentences, seventy-six hours from the first convulsion. She talked very slowly at first, and was fatigued by the effort. She had no recollection of anything which occurred after the appearance of Dr. Dana, thirty minutes from the first attack. During this interval, beef-tea, whiskey and milk were freely administered; dilute phosphoric acid was given with the caution mentioned above, and tincture of digitalis.

The urine was passed with the involuntary dejections, and therefore the amount could not be exactly estimated, but it was drawn every six hours, and the quantity was nearly normal. Microscopical and chemical examination at this time showed the specific gravity to be 1,016, with the albumen slightly lessened and the casts fewer; but a large quantity of renal epithelium was still present. An occasional slight convulsive tendency was shown by fixed eyes or muscular movements. The lochia were scanty, but the quantity was increased by the administration of fluid extract of ergot.

On Tuesday night, she told me that she heard voices still, but that she realized they were only in imagination. For days she was troubled by wild fancies when sleeping. Tuesday night she also complained of hemiopia, which disappeared in a few days.

In health, the patient's pulse is full, strong, and sixty beats to the minute, the temperature rarely rising a fraction of a degree above normal. Until February 1st, the temperature did not fall below 99° F., and the pulse was weak, ninety beats to the minute.

January 25th, an examination of the urine gave normal specific gravity, albumen in small quantity, and careful searching revealed but one cast, though renal epithelium with pus was still largely present.

February 1st, she was allowed to sit up for the first time. On the 17th, she was able to go up and down stairs. From this time until April 14th, when she passed from my hands, she improved constantly, an examination of the urine at this date giving no albumen or casts, and very few renal epithelia with pus.

This case is reported because of the absolute freedom from premonitory symptoms, there being at no time albuminuria, œdema, headache, or nervous disturbance, and because of the profound impression on the nerve centres after but two convulsions.

Therapeutical Memorandum.

CONCERNING SOME HYPNOTICS.

BY S. G. WEBBER, M.D.,
Superintendent Adams' Nervine Asylum.

Several drugs have been lately given to the profession with the claim that they are valuable hypnotics. I have had an opportunity of testing these in the cases of many patients in the Adams' Nervine Asylum.

Paraldehyde has been some years in use. It has advantages over chloral. The immediate subsequent effects are less unpleasant. It very rarely causes headache on the next day; sometimes patients have a sensation of fullness or pressure in the head for a few hours after waking. I gave it in one case where the patient had been taking chloral in large doses, not measuring the dose, and had been injuriously affected by the drug. The paraldehyde gave, in this instance, better and more prolonged rest; the patient partially recovered his mental powers and some measure of strength. The paraldehyde was continued several weeks in nightly doses of forty minims. In this patient there was probably disseminated sclerosis, and it did not seem possible to do without some agent to produce sleep, at least so long as he was at home.

The chief objection to paraldehyde is its disagreeable odor and taste, and also the odor it imparts to the breath. I do not remember to have met any unpleasant symptoms arising from its use; but had never seen a case in which it has been used habitually for a long time. The dose is from forty five to eighty or ninety minims; sixty minims is the average dose. Occasionally a dose of eighty minims has failed to give the sleep which I have desired to obtain.

Urethan came into notice later than paraldehyde; it is much more pleasant to administer, having scarcely any taste or odor.

When I first gave it the dose was too small, but by increasing it to thirty grains good results were generally obtained. Sometimes much larger doses are necessary. It is quite soluable; fifteen grains will dissolve in a drachm of water.

The after effects are generally unimportant. It has seemed once or twice to give rise to nausea the day after; but often the patient says the sleep has been very natural and refreshing. It is not so sure to produce sleep as paraldehyde.

Hydrobromate of hyoscin has the advantage of being almost tasteless; and the dose is small. I began with a dose of one hundred and twentieth of a grain, as recommended by the articles I had read; but soon found this too small, and increased to a sixtieth of a grain, using the following formula, giving twenty minims:

℞.	Hydrobromate hyoscin . . .	gr. i.
	Alcohol	ʒ iss.
	Aquæ g. s. ut fl.	ʒ xx.
M.		

In a few instances I have given twenty-five minims of this mixture.

There is so little taste to this that it can be given in some simple drink, as gruel or beef tea, without the knowledge of the patient.

In one patient it produced discomfort in the head the next day, so that after two trials it was given up and urethran given instead. In other cases the sixtieth of a grain given for a week or more has produced no bad effects. In a few cases it has failed to produce sleep, and the sleep secured in other cases has not been of so long duration as that usually produced by paraldehyde, but subsequently in these same cases the latter drug has not proved more efficacious. On the whole, my experience with this drug is that it will act favorably with a large number of patients, that it is acceptable on account of its lack of taste and odor and because of its small dose; the sleep obtained is very refreshing and natural; it is, however, rather more likely to leave unpleasant effects, and seems to lose its power by repetition sooner than either urethan or paraldehyde.

Hypnone has a strong odor of bitter almonds. One patient spoke of it as having "all the odors of Araby the blest." I have given it in capsules in dose of five to eight drops (.07 to .13) or even more, the former dose is rather small for good results. It will produce very natural sleep, and the patient awakes refreshed. It is of much less value than the drugs already considered, and fails more frequently than the others in producing sleep. It may be conveniently substituted for the others when they have been taken some time consecutively.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

Meeting June 7, 1886. Dr. Derby in the chair.

Dr. E. J. Forster reported,

A CASE OF PUERPERAL DIPHTHERIA.

Dr. F. W. Johnson inquired if it was the reader's custom to order vaginal douches after delivery as routine treatment.

Dr. Forster replied that this had been his custom, but he was now making a trial of the "antiseptic pad" with a view to omitting the douche.

Dr. A. H. Nichols reported

A CASE OF POISONING BY CHLORIDE OF ZINC; WITH REMARKS.[1]

Dr. B. F. Davenport said that in reports of cases of poisoning by chloride of zinc the effects of its corrosive action were always prominent, and this was due to the ready solubility of the salt, which permitted its use in a very concentrated form. In cases of poisoning by canned fruits the majority of authorities attribute the results to lead rather than to zinc poisoning; the fermentations causing solution of the lead. This idea has usually been conclusively proven where the cases had been analyzed and the cases followed to the end.

Dr. Derby inquired if zinc chloride was commonly used in sealing cans.

Dr. Nichols said it was, because it could be used by unskilled workmen, while sealing by resin required a certain amount of practice and skill.

Dr. Greene inquired if the reader disapproved of the use of zinc chloride in any case of epithelioma of the lip, provided the use was restricted to persons of proper surgical skill.

Dr. Nichols replied that the employment of the knife was better in cancer of the lip, but that there was no reason why the salt should not be used in cancer of the breast and other parts of the body, beyond the fact that it was out of fashion and had fallen into the hands of irregular practitioners.

Dr. Forster inquired as to the effect of the amount of podophyllin which the patient might have received in this dose.

Dr. Nichols replied that he had felt sure none of the effects were due to this. There was no action produced on the intestinal tract.

Dr. Derby said that this possibility of the podophyllin playing some part in producing the final results had also occurred to him, and inquired if Dr. Nichols felt certain he could entirely eliminate this factor.

Dr. Nichols said that Dr. Johnson, who had investigated very carefully cases of poisoning arising from canned goods, had written him that the most skilled workmen had failed, in his presence, to seal cans without permitting some of the zinc chloride to enter the can, as he had proved by analyzing its contents.

Dr. H. W. Williams spoke of the advantages to be gained by combining in use cocaine and caustics, either directly or by employing hypodermic injections of the former.

Dr. Derby inquired as to the occurrence of zinc chloride poisoning among the cases of cancer treated by this agent in Paris, to which the reader had alluded in his paper.

Dr. Nichols said that these cases were very closely watched, and that he could not say the deaths were attributable to the caustics, as the fatal cases were all desperate ones, and the bad results were quite as likely from the disease. Those cases that did not do well were large cancers of the breast.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

THE TREATMENT OF PROCIDENTIA UTERI BY GALVANO-CAUTERY,

by Dr. John Byrne, of Brooklyn.

In regard to the relation of laceration of the perineum to prolapse of the uterus, the speaker held that laceration of the perineum by interfering with the process of involution, may be a remote cause, but that laceration and prolapse can be associated in any other sense, cannot be admitted.

Operations on the perineum can only influence the prolapse by offering an obstacle to vulvar protrusion. Only when a portion of, or the entire cervix is removed, can we look for permanent and satisfactory results after operation on the perineum.

In February, 1872, Mrs. H., the mother of four children, presented herself with the entire womb and vesico-vaginal wall protruding. She was thirty-five years of age. The cervix was ulcerated from the friction. She was treated by applications of glycerole of tanin and irrigation for two months. The ulceration was healed, but no impression was made on the prolapse or on the size of the uterus, which measured four and one-half inches. The cervix was then removed with the galvano-cautery loop. The patient recovered without a symptom. Five weeks later, there was no bulging of the vesico-vaginal septum, and the uterus could just be reached with the finger. No reasonable amount of force by means of a vulsellum forceps could draw it down. The patient was discharged cured and has continued well.

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[1] See page 343 of the Journal.

[1] Concluded from page 332.

The whole number of cases treated with the galvano-cautery has been nine, but in three only has the cervix been removed. In six of the cases linear cauterizations were required.

Case II was a patient with procidentia who had been treated with pessaries for a long time. The cervix appeared to be healthy. A double tenaculum was introduced into the cervical canal and the whole mass pushed into the pelvic cavity and lifted to show the line of vaginal insertion. A groove sufficiently deep to admit the loop was then cut around the cervix close to the vaginal vault. The loop was then adjusted and the cervix cut through to the depth of one-fourth of an inch. The wire was then removed and tampons of glycerole of tanin inserted. Two weeks after operation, the uterus resisted all reasonable efforts to depress it. Two years after operation no perceptible change was observed. The health had never been better and menstruation was regular.

In Case III the parts were returned and the line of vaginal insertion marked in spots with the cautery knife. The entire mass was then drawn down and a deep fissure three eighths of an inch in depth made around the circumference of the cervix. Then three incisions were made in the vagina, one central and the others diverging, and the whole mass was then returned. The recovery was complete. In none of the cases has there been any peritonitis of any account.

The speaker highly recommends farther trial of the galvano-cautery in these cases.

ELECTRICITY IN GYNÆCOLOGICAL PRACTICE,

by Dr. George J. Englemann, of St. Louis.

After reference to the confusion which had surrounded this subject he referred to the following points which should govern the use of electricity as a therapeutic agent. The formation of strict indications for the use of the galvanic and faradaic currents: a differentiation between the varying forms and modifications of the galvanic and faradaic current. Differentiation between the active and indifferent pole, the localization and concentration of the current, the precision of the dose, the use of stronger currents continued for a short time. He has used the galvanic or faradaic current in the reduction of the size of neoplasms, fibrous polypi, cystic growths and urethral caruncles, also in chronic pelvic inflammation and in chronic ovarian inflammation, in stenosis of the os, for the relief of the engorgement accompanying sub-involution, in prolapse when due to relaxation of the tissues. It is an aid in the correction of various forms of displacement, in metrorrhagia when due to inflammation and relaxation, in certain forms of amenorrhœa, and for the relief of many annoying reflex symptoms. In obstetrics it is useful in uterine inertia during or after labor, in cases of weak and irregular labor pains, post-partum hæmorrhage, in delayed involution, in paralysis of the urethra or bladder after labor, and in the interruption of extra-uterine pregnancy.

The only contra indication to the use of electricity is the presence of severe acute inflammation. It may be used in sub acute inflammation. In the more acute pelvic inflammations care is required in its use.

A number of cases were then referred to, showing the beneficial effect of electricity in diminishing the size of fibroid tumors and in other conditions.

Adjourned.

THURSDAY.— MORNING SESSION.

ELECTROLYSIS IN GYNÆCOLOGICAL SURGERY,

by Dr. W. H. Baker, of Boston. Mass.

The speaker referred more particularly to the use of electrolysis in cases of fibroid tumor; he laid down the following rules for the performance of the operation: it should not be employed within a week before or after menstruation. An anæsthetic should be administered; it is better to use electolytic needles for both the positive and negative poles: the operator should be absolutely sure of the cleanliness of his needles; the needle should be deeply buried in the tumor in order that the current shall be insulated from the parts outside of the growth; the insertion of the needle should be made at the most prominent part of the growth, whether that is in the vagina or in the abdominal wall; the needles should not be too nearly approximated; if both needles are properly placed the position of the two poles makes no difference; the circuit being completed, the number of cells should be gradually increased from four to twenty or thirty; (a more exact means of determining the strength of the current would be the galvanometer, but this had not given him accurate results); the length of time during which the application is continued should be from ten to twenty minutes and should be determined by the character of the pulse. When the pulse becomes slower and weaker than normal, the number of cells should be diminished or the current discontinued. The current should be diminished gradually and the wires should be disconnected at the battery before the needles are removed. The applications should not be made at the surgeon's office. After the application the patient is to be put to bed, where she is to remain for one week.

With such precautions, the speaker had never seen shock after the operation. A single treatment is often all that is necessary. He had never found it necessary to make more than three applications, and the latter number in only one case. There should be an interval of at least from one to three months between each application.

The use of electrolysis is also of service in the treatment of inflammatory effusions. The following case was related: Mrs. X., aged twenty-eight, married, the mother of one child three years old. The present trouble had existed since the birth of the child. A diagnosis of chronic perimetritis was made. The effusion was most marked on the left side behind the uterus. For six weeks ordinary treatment was given without much benefit. For the next two months, the treatment consisted of hot water injections, applications of iodine and the use of the galvanic current, with the positive pole in the posterior cul-de-sac and the negative pole over the epigastrium, using as many cells as possible. This was used every other day. This caused a decrease of the sensitiveness but did not diminish the size of the effusion. At the end of this time, the positive electrolytic needle was inserted into the mass and the negative sponge was pressed above the pubes. A current from eighteen cells was applied for ten minutes. At the end of a month scarcely a trace of the effusion could be felt. Before resorting to electrolytic puncture the application of the current as first employed in this case, should be tried, as it does not require an anæsthetic and avoids the slight risk which accompanies even small wounds.

The author presented the following conclusions:

(1) Electrolysis is a useful agent in the treatment of certain cases of fibroid tumors of the uterine walls and of chronic circumscribed periuterine effusion.

(2) When applied to fibroid tumors of the uterus, electric puncture is a most reasonable and efficient method.

(3) In the treatment of fibroid tumors by this agency, it is unnecessary to apply it often.

(4) Cases of perimetric effusion to be treated by this method should be selected with care in reference to the absence of all acute symptoms.

DISCUSSION.

DR. JAMES R. CHADWICK, of Boston. Ten years ago, I tried electrolysis in one case of fibroid tumor, introducing the needle through the abdominal wall. This caused a smart attack of peritonitis. During the following year, there was no decrease in the size of the tumor. A few weeks later I was called in consultation to see a case which had an enormous pelvic abscess as the result of electrolysis. This deterred me from continuing the treatment further. I shall, however, give it another trial.

DR. GEORGE J. ENGLEMANN, of St. Louis. The dangers mentioned by Dr. Chadwick, are those which are liable to follow puncture through the abdominal wall. By puncturing through the vagina and if possible through the tissue of the uterus we avoid the dangers of inflammation which accompany abdominal puncture. I believe that the same results can be accomplished without anæsthesia and with less danger by one electrode in the tissue and concentrating the total effect upon that electrode, by using a large electrode in connection with the other pole.

It has appeared to me that those tumors in which the muscular element predominates are less liable to be treated successfully by electricity.

DR. JAMES B. HUNTER, of New York. My experience with this method of treatment has been limited, but I cannot say that I have seen one case of fibroid tumor permanently relieved by electrolysis. In one case in which it was freely used by Dr. Freeman and myself, I subsequently operated and removed the tumor by hysterectomy, the patient making a good recovery. I could find no evidence of the effect of the current on the tissue of the fibroid.

DR. MATTHEW D. MANN, of Buffalo. I have employed this agent in one case, plunging one needle into the tumor from behind through Douglas's cul-de-sac, with a sponge electrode over the tumor on the outside. The current was kept up fifteen minutes. Six applications were employed. The size of the tumor much diminished, and the tenderness and pain were lessened. The patient is now able to attend to her duties.

PERSISTENT PAIN AFTER ABDOMINAL SECTION,

by DR. JAMES B. HUNTER, of New York.

Abdominal section is, as a rule, performed for pain, and if this still persists, one of the objects of the operation is not accomplished. Pain before an operation may be due to various causes. It may be located in the ovaries, when it will be increased by menstruation. Disease of the tubes is a cause of pain in a large number of cases. The pain of peritonitis is of great importance. Acute peritonitis may be limited to the region of the ovaries and tubes, and the pain caused by it may be periodical in character. The presence of adhesions interfering with the mobility of the intestines and other organs is a frequent cause of pain. A severe form of pain may also be caused by displacements of the uterus.

Abdominal section is performed for the relief of pain, and the organ at fault is successfully removed and the patient recovers, but the pain continues. If there is no marked relief at the expiration of twelve to eighteen months, if the patient has been favorably situated, the operation may be pronounced a failure, so far as the patient is concerned. Such pain may be due to former peritonitis, to peritonitis following the operation, or to some defect in the abdominal wall.

Many of the cases which have been cured of diseases endangering life still suffer pain. For a number of years I have been where I could follow up these cases. Peritonitis following the operation is a cause of pain in a certain number of instances. A slight amount of peritonitis often occurs after abdominal section, and it may leave some slight adhesions, interfering with the mobility of the viscera. Inflammation in the region of the stump often causes its attachment to the abdominal wall, and thus caused pain. Sometimes the uterus is fixed by inflammation, and the distension of the bladder causes pain. Adhesions of the intestine may also cause pain. Pain may result from defective union of the abdominal incision, allowing a ventral hernia. Pain in the cicatrix may occur, as in other situations. Abscess may also develop in the wound a long time after healing has been completed.

In the way of prophylaxis, the utmost precaution should be taken to prevent the development of peritonitis. Especial care should be taken to do no violence to the intestines. Antiseptic precautions should be adopted. The stump should be tied with aseptic silk. The early and judicious use of drainage and irrigation will go far toward preventing inflammation. The cold coil, with antipyrine, should be resorted to if there are any indications of peritonitis.

In the treatment of the pain, blisters, vaginal injections, and the use of iodine may be resorted to. The internal use of opium is usually demanded. Such treatment can, however, scarcely be expected to cure the pain. Rest in the horizontal position is, perhaps, better than any medicine. If all palliative measures have been tried, and at the end of twelve or eighteen months there is no improvement, a second operation may be warranted. The dangers of operative procedure, and the uncertainty of the operation causing any improvement must be stated to the patient. If the patient prefers the operation, an exploratory incision should be made. In one case the speaker had found a loop of intestine attached to the uterus, which he loosened, with a good result. In another case, considerable relief was afforded. As a rule, however, it is not possible to separate adhesions, and, if separated, they are prone to unite, and fresh peritonitis is apt to follow. Often the exploratory incision is all that can be made.

CONCLUSIONS.

(1) All cases of abdominal section done for the relief of pain should be carefully followed up for at least two years, and not counted as cured simply because the operation has not been fatal.

(2) Peritonitis following operation is to be dreaded as much for its remote consequences as for its immediate danger.

(3) Extreme caution is demanded when the operation is undertaken where there exist the physical signs of chronic peritonitis.

(4) Secondary operations, as a rule, are of no value, although occasionally they may afford relief.

(5) Where the operation is done for the relief of pain, a guarded prognosis should be given. There are certain chances that a perfect cure will not result, even if the operation itself is entirely successful.

DISCUSSION.

DR. A. J. C. SKENE, of Brooklyn. Among the causes of pain after laparotomy, I would place the ligature. In tying the pedicle after removal of the ovaries, some traction must be made upon the broad ligament, and the nerves must be drawn upon. That form of pain may disappear. Another cause of pain is the application of the ligature just tight enough to arrest hæmorrhage, without destroying the nerves. I think that we have more pain after the use of the ligature than after the use of the cautery clamp. The cautery, as a means of treating the pedicle, has never been thoroughly tried in this country.

In regard to what constitutes success after abdominal section, I would say that many of the cases which I have reported as failures have subsequently turned out to be most successful.

DR. R. STANSBURY SUTTON, of Pittsburg. Dr. Hunter has, in his paper, alluded to a case on which I operated two and one-half years previously. In this case the ovary was surrounded by a coil of intestine, which had undergone fatty degeneration to such an extent, that its own weight was sufficient to cause it to break. I removed the ovary with the diseased bowel, and brought the edges of the intestine together. The woman recovered, but she was not cured of her pain. It is not often that we have the opportunity during life to determine the results of a resection of the intestine. I should like Dr. Hunter to tell us what he found.

DR. W. GIL WYLIE, of New York. The author appears to have completely ignored the general condition of the patient. What will cause pain in one person will not in another. With reference to peritonitis, I would say that I regard it as a condition behind which there is some disease. In chronic peritonitis, there is often some cause which keeps renewing the inflammation. In many of the cases that suffer after operation, the pain is due to imperfect operation. Sometimes a small portion of diseased tissue is left. I have taken the precaution to destroy the diseased tissue that may be left beyond the ligature, either by carbolic acid, or preferably by Paquelin's cautery. This has lessened the mild attacks of peritonitis. Sometimes the inflammation is centred around a ligature, leading to abscess and the formation of a sinus. In some of these cases the trouble can be cured by dilating the sinus and fishing out the ligature. In many cases the peritonitis is due to the bursting of a small cyst. I have intentionally burst these cysts on the table, put the patient to bed, and watched the case.

Again, in cases where there is chronic inflammation of the lining membrane of the uterus, this is not always cured by removal of the tubes and ovaries. This may cause pain not only in the uterus, but reflexly in other parts of the body. These pains can often be cured by dilating the uterus and applying carbolic acid.

DR. ROBERT BATTEY, of Georgia. I have had some little experience with the difficulties alluded to by Dr. Hunter. We are all familiar with the neurotic women. As a result of a carious tooth, an intense neuralgia may be set up, which may continue for years, and not be relieved by the removal of the diseased tooth. This is probably due to an alteration in the nerve-tissue itself. The explanation that these pains persisting after abdominal section were due to inflammation and adhesions has been carefully considered by myself, but I have wholly failed to find a satisfactory explanation in this quarter. The neurotic cases which have given me the most trouble have been almost uniformly those where I was unable to find any such deposit in the pelvis.

The speaker has said that at the end of twelve or eighteen months, we should give up these cases as failures: I should qualify that statement by more than doubling the limit. Some of the cases which were most unsatisfactory at the end of a year have achieved the most gratifying cure by the lapse of time.

Among the causes which produce this neurotic condition, I am inclined to rank in the first place, an acquired neurotic habit from long suffering. In looking for causes, I have been much struck by one point, that alluded to by Dr. Skene, that is, the use of the ligature and especially a rather loosely tied ligature. Dr. Skene suggests the use of the cautery and clamp. I formerly used a method which has not been alluded to, and that is the separation of the ovary from its attachment by the ecraseur. In these cases, I did not have any of these troublesome neuroses and there was no hæmorrhage. I have seriously been considering a return to this method of treatment.

With regard to treatment by a second opening of the abdomen, I would call attention to the fact that by a simple opening of the abdomen, purely for diagnostic purposes, unaccompanied by any great disturbance of the parts, the condition of the patient is often greatly improved, especially as regards pain. In a case of gonorrhœal inflammation, I opened the abdomen after the failure of all other methods of treatment, finding everything glued down by adhesions. I abstained carefully from all manipulation after satisfying myself of the entire impracticability of any operation. The patient, without any deception on my part, gained the impression that the ovaries and tubes had been removed. She has now been under observation two months and the relief has continued. Before the operation she used full doses of morphia, but since then she has used no anodyne whatever. She has not menstruated since the operation.

I think that after removal of the ovaries and tubes, the uterine trouble will get well, but the cure may be hastened by applications to the interior of the uterus, of a solution of iodine in carbolic acid.

Dr. H. P. C. Wilson, of Baltimore. I am satisfied that while cases do occur where the pain after laparotomy continues as a result of local adhesions, yet the majority of cases belong to the class of cases described by Dr. Battey, where the condition is due more to the neurotic element than to the operation. Most of these are long-standing cases, where the mental condition has become so morbid that the patient is almost insane on the subject of her ovaries and tubes. Even if these organs are removed, the neurotic condition may remain for a long time. Where the woman has to work and has not time to think of herself, these pains more rapidly disappear than where she is pampered with every luxury. Nothing is so good for the relief of these pains than exercise by walking. There is one remedy of which I use more than any other drug in the materia medica, that is assafœtida. I never order less than sixty pills. This tends to keep the mind occupied, and these conditions are more mental than physical. A friend tells me that in one such case, he obtained great improvement by ordering the patient to eat a reed-bird every two hours, day and night.

Dr. Matthew D. Mann, of Buffalo. I suppose that Dr. Skene, in speaking of the ligature, refers to silk. I cannot see that the objection would hold against cat-gut. I have used this in a number of cases and have had no trouble with it. As regards the time after operation at which recovery may occur, I have seen it take place long afterwards.

Dr. James B. Hunter, of New York. Dr. Sutton has asked me what I found in the case on which he had operated. The patient was suffering much pain, which was increased on defecation. I opened the abdomen a little to the right of the original incision and found the attached portion of the gut. A white, oblique line showed where the two portions of the gut had united, and this was fastened to the abdominal wall. It showed a very satisfactory result. I removed the other ovary and tube and found them perfectly healthy. The condition was neither improved nor made worse by the operation.

The neurotic condition has been referred to, but I think this is secondary. As regards chronic neuritis, I agree with Dr. Battey that usually after removal of the ovaries nothing more is required.

I am willing to admit that my limit was too short, and should be extended to two or three years. I think that it is not well to expect any improvement after removal of the ovaries and tubes for at least twelve months. I think that it takes that long for the system to become accustomed to the changed condition.

THE BLUE DISCOLORATION OF THE VAGINAL ENTRANCE AS A DIAGNOSTIC SIGN OF PREGNANCY,

by **Dr. James R. Chadwick**, of Boston.

The speaker had made it a point in all cases of early pregnancy to make a note of how much discoloration he could detect; he had tables of four hundred and forty cases examined. He had divided the discolorations into four groups: First, doubtful, where it was so faint that he could not be certain of its presence; Second, suggestive, where it was more marked; Third, characteristic, where the discoloration, though faint, is confined to the anterior wall of the vagina and more particularly to the urethra, just below the meatus and on either side of the meatus. In every instance where this was present the woman was pregnant, with one exception; and Fourth, marked, where the congestion has become deep and exhibits the appearance constantly seen during pregnancy.

He did not claim that the characteristic discoloration is seen in every case, but if carefully looked for, it would be found quite pronounced in the majority of cases. The color varies from a violet to a dark, dusky, almost black color. He claimed that this sign was of especial value in cases of retroversion where the size of the uterus could not be determined and in extra-uterine pregnancy. He had obtained much assistance from it in a few cases of pregnancy accompanied by fibroid tumors, and also where there was a large accumulation of abdominal fat. When present, this sign is of decided value in the early months of pregnancy, but its absence should not be accepted as a positive proof against pregnancy. Cases were cited in which the discoloration had been observed in the seventh or eighth week of pregnancy.

DISCUSSION.

Dr. H. P. C. Wilson, of Baltimore. I consider this one of the most valuable means of diagnosticating pregnancy in the early stages. It is invaluable in cases where women wish to deceive you.

Dr. A. J. C. Skene, of Brooklyn. This has seemed to me to be a most reliable sign in the early months of pregnancy. I believe that it is an illustration of the physiological hyperæmia of the formative stage of development.

Dr. Joseph Taber Johnson, of Washington. Some years ago I referred to this point, and the discussion which followed seemed to indicate that the discoloration was a congestion produced by interference with the return of the venous circulation by the pressure of the enlarged uterus. It was held that the same discoloration could be produced by any other tumor which would have the same effect as the pregnant uterus.

Dr. William H. Parrish, of Philadelphia. In regard to the continuance of the discoloration after labor, I have noted that in primiparæ where involution of the vagina takes place completely, the discoloration disappears with corresponding rapidity. Where there is sub-involution, the blueness may continue for a longer time. In multiparous women where the blueness was marked, I have associated it with a condition of sub-involution of the vagina.

Dr. James R. Chadwick, of Boston. I have failed to notice any persistence in the discoloration described. The general discoloration may persist, but this characteristic blueness will, I think, be found to disappear. I have looked for this sign in forty or fifty cases of fibroid tumor, and have not found it in a single instance.

AFTERNOON SESSION.

Dr. R. Stansbury Sutton, of Pittsburgh, exhibited the specimens from three cases of

SUPRA-VAGINAL HYSTERECTOMY,

and made some general remarks on the operation.

DISCUSSION.

Dr. W. Gil Wylie, of New York. I think that in the large number of cases all that is necessary can be done by the vagina. In many cases of fibroid tumor, however, where hysterectomy has been performed for hæmorrhage. I think that curetting the cavity of the uterus would have obviated the necessity for the operation. Fibroid tumors cause hæmorrhage by enlarging the uterine cavity. Where there is hæmorrhage, there are nearly always granulations. With the curette, not only may the hæmorrhage be brought to a normal standard, but I have seen the tumor diminish in size. It has appeared to me that fibroid tumors have a period of development and a period of decay. After a fibroid tumor has continued five or eight years its vitality is lessened, and it may diminish in size. This is not the case in all instances, and we meet with cases in which, if hysterectomy is not performed, the patient will die, as the result of the hæmorrhage.

The President, DR. THADDEUS REAMY, of Chicago. I think that if Dr. Wylie uses the curette in cases of fibroid tumor, he must, notwithstanding the adoption of all antiseptic precautions, have a certain number of cases of septicæmia. Curetting is much more likely to be followed by septicæmia when there is a fibroid tumor of the uterus than when the operation is done for ordinary fungous granulations. I believe that curetting under such circumstances would be almost as dangerous as the removal of the tumor.

DR. W. GIL WYLIE, of New York. So far as my own experience goes, I have had no trouble whatever. I invariably use antiseptics before the operation, and douche out the cavity afterwards.

THE HIGH MORTALITY OF THE RECENT CÆSAREAN OPERATIONS IN THE UNITED STATES, WITH THE REPORT OF A CASE,

by WILLIAM H. PARRISH, M.D., of Philadelphia.

S. M., married, was admitted to the Philadelphia Hospital, while in labor, September 20, 1885. She was the mother of two children, the last of which was born twelve years previously. Labor had begun on September 18th, the membranes soon rupturing. She was seen by two physicians, who had her sent to the hospital. The cord had prolapsed, and the pulsations had ceased before she was sent to the hospital. On admission, she was found much exhausted, with the cord protruding from the vagina. The resident physician not recognizing the gravity of the case, Dr. Parrish was not summoned until some hours after her admission. At this time the uterus was in a state of tonic spasm; the patient was etherized. The vaginal examination revealed merely a rigid condition of the cervix; the pelvic canal was roomy. The hand was introduced into the vagina, and two fingers into the uterus. The examination showed two hard, intramural fibroid tumors about the internal os. The author concluded that Cæsarean section should be performed without delay, and three of his colleagues were sent for in consultation. They all agreed that attempts at enucleation should not be made, but they did not agree as to the necessity of Cæsarean section. They were in favor of craniotomy. The skull was perforated, but it was found impossible to grasp and crush the head. Various instruments were tried without avail. The necessity for Cæsarean section was then conceded by all. The uterus had then been emptied of its waters for at least forty hours.

The vagina and lower part of the uterus were washed out with a solution of corrosive sublimate. The cervix was closed by tying around it a rubber drainage-tube. The abdomen was opened and the section of the uterus made. At once a very offensive gas escaped. A large child was removed. The placenta was not in the line of the incision. Antiseptic precautions were employed during the operation. Deep and superficial sutures were introduced into the uterus and the abdominal incision closed. A hypodermic injection of ergotin was at once administered. After the operation the tube around the neck was removed. The patient died twelve hours later from exhaustion and rapidly developing septicæmia.

At the autopsy, the lips of the uterine incision were found in contact. Three dense intra-mural fibroid tumors were found.

DR. PARRISH then referred to the great mortality of this operation in the United States, and presented the statistics of Dr. Robert P. Harris, of Philadelphia, of which the following is a synopsis:

Cæsarean Operations in the United States	144
Women saved, 37.5 per cent	54
Children living when delivered, ...	64
First fifty operations, saved, 54 per cent.	
Second fifty operations, saved, 24 per cent.	

Operations performed in good season when the condition of the woman was favorable, have in this country saved seventy-five per cent. of the women and eighty per cent. of the children.

Cæsarean section has been performed in thirteen cases where the obstruction was due to fibroid tumors and of this number four recovered and five children were living. The time in labor in the saved cases was nine and one-half hours, fourteen hours, three days, and four days.

The following rules were then given for the performance of the operation.

(1) Carefully determine the degree of obstruction and operate early in labor, as soon as the os is sufficiently dilated to permit drainage, and before the rupture of the membranes.

(2) Operate with full antiseptic precautions, but the spray over the abdomen is unnecessary.

(3) Control hæmorrhage by compression, either with a rubber tube or manually, preferably by the latter means.

(4) Introduce numerous deep and superficial sutures so as to approximate accurately the muscular walls of the uterus, but do not carry the sutures into the endometrium. Removal of a section of the muscular wall is unnecessary.

(5) Protect the peritoneum from the discharges and if it become soiled, it should be carefully cleansed.

(6) Ergotin should be administered at the beginning of the operation.

THE PRESIDENT. In three thousand cases of labor I have never made a Cæsarean section nor any of its modifications. It is only now that the people are coming to recognize that craniotomy is not to be performed in any but the rarest instances, and that the sacrifice of life is unjustifiable. The explanation of the better results in other countries is not so much in the skill of the operators as in the condition of tho cases when operated upon.

DR. WILLIAM H. PARRISH, of Philadelphia. I agree with the president that craniotomy should be an operation of exceeding rarity. The people are not yet ready in this country to accept Cæsarean section, but one of the great troubles is with the general medical profession who regard this as an operation almost necessarily fatal.

Adjourned.

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CLINICIAN *VERSUS* PATIENT.

The very general and extended use which the present methods of medical instruction make of the clinical material afforded by hospitals and dispensaries has no doubt raised the question in the minds of the lay governors and supporters of these eleemosynary institutions as to whether their beneficiaries are likely to suffer any detriment through their employment in the education of students.

We believe that in this country at least the safeguards which not only public sentiment but professional care throws about the occupants of hospital wards are amply sufficient in the great majority of cases to prevent science from usurping anything that properly belongs to the rights of the individual; though doubtless cases have occurred in which the too zealous devotees of science have forgotten that their patients had a right above everything else to be put in the speediest way of getting well, which for some reason or other seems to be the leading desire in the minds of many sick people.

There has been, however, some loose talk about the subjection of hospital patients to experiments by those who do not sufficiently appreciate the fact that medicine is, at least in its present stage of development, an experimental science. Most of the experimentation to which the hospital patient is subjected, is common alike to him and to those who enjoy the services of the physician in his private practice. The earlier cases which are subjected to any new operation or medicinal treatment, are placed at a certain disadvantage, and this holds true whether the procedure be new to general medical knowledge or only to the experience of the individual practitioner.

The woman who is relieved of an ovarian tumor to-day, by an operator who is completing his series of a hundred successful cases is placed by fortune in a vastly more favored condition than she who first risked the operation under the knife of McDowell. But the immunity of the former was gained through the peril of the latter.

So there is always an experimentation which is proper in medical practice, and whose good fruits are gathered by all future patients within hospitals or without. Such experimentation is not confined to the hospital and if its results are more widely seen in such institutions, it is merely because of the better facilities there granted for collecting and collating observations.

One chapter of the Boylston Medical Prize Essay for the current year[1] is devoted to a consideration of the possible conflict between the interests of medical science and those of the individual patient and certain indefeasible rights of the latter. Among these are enumerated exemption from over-frequent physical examinations and from instrumentation for the mere purpose of giving instruction in diagnosis; the protection of female patients from exposure; the maintenance of every safeguard to parturient women against the transference of septic infection in connection with "touch courses," and the exclusion of labor cases from the wards of general hospitals; the subjection of the privilege of making an autopsy to the expressed consent in each case of the patient or his friends; and finally, the exemption of patients from experimentation merely *as such*.

On this last subject an English contemporary in discussing the essay in question, points out the difficulty of discriminating in some cases between what is legitimate and what is illegitimate in the matter of experimentation. The essay admits this difficulty and states that it is impossible to draw a definite line. There are certain classes, however, into which these cases seem to divide themselves. For instance, some investigations of interest to the student of anthropometry or of other statistics, to the physiologist or to the electrobiologist, can be made without causing pain or any other harm to the subjects. To ask permission to make them would be a waste of breath and to take it without asking, if theoretically a usurpation, practically violates no rights. Then there is the use of new remedies whose physiological action has been more or less investigated and with the result of indicating a probable or possible applicability to the cases in hand. Again, there is the debatable ground already referred to of tentative operations, which the physician would not care to have performed upon a member of his own family, but which, nevertheless, may give the best chance of present help to the patient, as well as of guidance for future cases.

Finally, there is the class of studies in which pain and nervous distress (whether real or imaginary) are caused through experiments that are utterly foreign to the needs of the patients who happen to be made their subjects. As an example of such usurpation the author of the essay referred to, has cited the wholesale experiments with nitrite of sodium, carried on by two eminent English therapeutists not long since, where the drug was administered to many different patients and repeatedly to the same person, and where effects alarming at least to the subject were frequently produced. Without expressing any opinion as to the appropriateness of this citation as a case illustrating the usurpation of the rights of patients, we may say in general that there seems to be a fairly definite distinction between an investigation which is carried on upon an entire ward of patients at the expense of their greater or less physical detriment, for the sake of determining what are the vaso-motor or other phenomena produced by a given drug, and the trial for primarily therapeutic ends of a remedy which has already given evidence of some adaptation to the case in hand.

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[1] The Relation of Hospitals to Medical Education. Boston: Cupples, Upham & Co. 1886.

The hospital is a proper place for studying the therapeutic action of drugs, but their purely physiological and their toxic properties should be elucidated elsewhere. The subjects for such an experiment should offer themselves voluntarily and not be taken *nolens volens.*

That such discussions as the foregoing with regard to the right of the patient are not absolutely uncalled for, is shown by a case which has recently excited some attention among medical circles in Europe. In the Hospital of St. John, in Brussels, during an examination of candidates in surgery, one of the central examination jury removed an antiseptic dressing which had been personally applied with unusual care by the visiting surgeon in a case of operation upon a suppurating knee-joint. When the latter surgeon visited his patient the next day he found him very much worse, and soon after amputation of the leg became necessary as the only means of saving his life.

Very naturally the surgeon reported the circumstances to the "*Conseil des Hospices*," the Board of Management of the hospital, and very properly that body adopted a rule that hereafter one of the medical officers in charge of the ward should be present on every occasion when a clinical examination was to be made, to inform the examiners what patients might without injury to themselves be made use of for examination purposes. The jury of examination, however, felt themselves so much aggrieved at the proposition to establish a surveillance over their proceedings that they refused to conduct any more examinations at any of the hospitals under the control of the *Conseil des Hospices*, and have transferred all their examinations to an institution which is under a different supervision and where the jury, as it says, is "treated with the consideration that is due to it."

This unfortunate affair, which has led to a good deal of ill-feeling in the medical and even the non-professional circles of Brussels, all arose, it is likely, from a misapprehension by the examiner of the nature of the case which he assigned for the candidate's examination, but it emphasizes none the less the fact that the interests of clinical instruction may be pushed to a point where they come in conflict with the safety of the patient.

— The New York Board of Health has ordered a rigid inspection of all Chicago meat received.

CYSTS OF THE TESTICLE AND EPIDIDYMIS.

THE above subject has been studied by Hochenegg[1] from a large number of testicles (332) that have been removed during life or after death.

The cysts seem to divide themselves into two groups, the one composed of those standing in connection with the seminal ducts (spermatic cysts, spermatoceles) and the other, by far the more frequent, having no such relation.

Among the spermatoceles are distinguished those which are within the tunica vaginalis and those without. The causes which tend to their production are either congenital or acquired. Among the first is a failure on the part of the vasa efferentia to unite with the rete testis. Such an aberrant branch can be dilated by the pressure of the secretion during function. They are usually found situated either between the testicle and epididymis or in the head of the latter.

Some parts of the conducting apparatus would seem to be especially predisposed to dilatation from their anatomical structure and situation. The lumen of the seminal canals is narrowed in the rete, is enlarged in the vasa efferentia, and again diminished in the duct of the epididymis. The parts lying directly before these contractions would naturally be the most liable to be affected. Thus cysts would be expected from the canals of the testicle and epididymis. But in point of fact they occur only rarely in the former situation, so that another factor than the capability of resistence of the wall must come into play, and that is found in the condition of the surrounding connective tissue.

The sessile hydatids of Morgagni and the vas aberrans of Haller which often communicate with the epididymis and therefore normally contain spermatozoa are at times found to be dilated. But for the formation of a cyst there, it is necessary to have an impulse, which stops the stream of the secretion in one or the other of the efferent ducts. Two cases are recorded where violence was assigned, resulting in the tearing of the testicle from sudden bending and stretching. The ends of the lacerated tubules were closed and then gradual dilatation followed.

Epididymitis can lead to a distention of the canal but not to a cyst, as the tube is not obliterated entirely, In one case an adhesion had taken place between the testicle, epididymis and tunica parietalis in consequence of an abscess. This was evidently a cause for a sharp bend in the vasa efferentia at their point of passage through the head of the epididymis, and subsequent enlargement. Further causes are to be found in retention of secretion. About every fifth man is the possessor of a spermatocele.

The spermatocele that lies without the tunic vaginalis is the most frequent, and arises from the dilatation of the efferent canals which lie in the serous duplicature between testicle and epididymis and in the loose connective tissue. Generally this is filled by the direct pressure from the gland but at times by the indirect from its adjunct. In many cases a preëxisting rupture of one or more canals is not to be excluded. The semen which has extravasated is encapsulated, so that a sacculated cavity is formed communicating with a duct, by which it is gradually dilated.

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[1] Med. Jahrb. d. k. k. Geselsch d. Aetzte in Wien, 1885, 1 Heft,

The further distention occurs at the expense of the common tunic in the inguinal canal, just as large hydroceles involve the skin of the penis for their covering. The wall of the cyst is composed of an external connective tissue coat and an internal epithelial layer, which is composed in young cysts of stratified columnar cells, with here and there ciliated ones, while the older ones are covered with several layers of flattened cells.

The spermatocele within the tunica vaginalis is the rarer form. It is formed by a cyst which has developed from one of the sessile hydatids of Morgagni or from the ducts of the epididymis projecting into the cavum vaginale, and is covered by the visceral layer of the tunica vaginalis. The cause of these is to be sought in trauma, abnormal formation, or inflammation.

Large spermatoceles have the form of an inverted pear, small intra-vaginal and all extra-vaginal ones have no characteristic shape. The testicle is found at the lower end of the tumor, and is placed horizontally in the extra-vaginal forms.

To the cysts which do not belong to the seminal ducts belong those in the epididymis, the testicle and beneath the peritoneal layer of the tunica vaginalis. These are (1) subserous cysts (of unknown origin); (2) Cysts from dilated lymph vessels; (3) Cysts from subserous or subalbugineous extravasations.

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COMBINED SCLEROSIS.

Grasset[1] has recently given an elaborate *résumé* of the subject of combined sclerosis, having collected the reports of thirty-three cases, including three cases from his own observation. He considers that the ætiology is the same as that of simple posterior spinal sclerosis, and that there is no definite heredity — unlike Friedreich's ataxia, which is also a combined sclerosis — except a general neuropathic taint. The symptoms in his own cases were a combination of the symptoms of spastic paralysis and tabes dorsalis, spasm and rigidity of the limbs, with contractions, being added to the classical symptoms of tabes, or else anæsthesia, lightning pains, and other tabetic symptoms being added to a spastic paralysis. A careful analysis of the thirty-three cases showed, at least, some symptoms of tabes in every case, while every case but one showed also some muscular symptoms. The condition of the patellar reflex was of interest. In fourteen cases no data were given, in twelve cases it was abolished, in seven it was somewhat exaggerated. In two cases it was exaggerated at first, but later it was abolished, having, as he thinks, the advance of the disease in the posterior columns.

He believes that the contractions are due to a lesion of the lateral columns. He thinks that the symptoms demand a lesion of both columns, which is confirmed by the autopsies. The lesion is a mixed one; in the posterior columns it is strictly systemic, while in the lateral columns it is diffuse. This is not exceptional, however, for in general paralysis we may get a diffuse lesion in the brain, and a systemic lesion in the cord. He, therefore, considers combined sclerosis as a clinically distinct affection. He quotes Zacher and Westphal as saying that, in a combined lesion, spastic symptoms do not develop in the limbs when the lesion of the posterior columns has reached the posterior root-zones in the corresponding section of the cord. Tabes dorsalis may be eliminated by the presence of spastic symptoms, spasmodic tabes by the presence of ataxic symptoms. All these forms of tabes, however, involve the whole cerebro-spinal system. If the patellar reflex is present in ataxia, it points to combined tabes. The combined form has ataxic symptoms (pains, anæsthesia, incoördination), combined with spastic symptoms (paralyses, contractions, and spasms), and cephalic and meso-cephalic (cough, dyspnœa, etc.) symptoms. Anatomically, there is a chronic myelitis in the posterior and lateral columns, neither wholly systemic nor wholly diffuse, but systemic in the posterior columns, and diffuse in the lateral — a mixed myelitis.

Strümpell[2] reports a case of apparently uncomplicated spastic paralysis, where the autopsy showed not only sclerosis of the lateral pyramidal tract, but also of the lateral cerebellar tract and the columns of Goll, with a certain amount of sclerosis of the outer circumference of the cord. All the symptoms could be referred to the disease of the lateral tract. As there was no paralysis, but a marked increase in the reflexes, the theory is advanced that the reflex inhibitory influences reach the motor-cells by a different path than the motor influences. He considers that this case, and others similar which he has reported, form a definite type of combined systemic disease of the cord. The pyramidal tract seems to be affected first and most, next the cerebellar tract, and lastly, the columns of Goll.

The sclerosis of the pyramidal tract begins exceptionally in the lower lumbar cord, is well marked in the lumbar enlargement and the dorsal cord, and ceases at the decussation of the pyramids. The sclerosis of the other systems of fibres is most marked above. The primary degeneration of the lateral tract, then, is ascending, and that of the cerebellar tract and the columns of Goll is descending — exactly the opposite of secondary degeneration. Vierordt[3] also finds the primary degeneration of the columns of Goll ascending. The degeneration of the cerebellar tract seemed to cause no symptoms. There was no loss of sensibility worth mentioning, but in one case some vesical disturbance might be attributed to the disease of the columns of Goll.

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[1] Grasset. Du tabes combiné (ataxo-spasmodique), ou sclérose postéro-laterale de la moelle. Contribution à l'etude clinique des myélities mixtes.) Archives de Neurologie, March, May, July, 1886.

[2] A. Strümpell. Ueber eine bestimmte Form der primären combinirten Systemerkrankung des Rückenmarks, u.s.w. Archiv. für Psychiatrie, XVII, 1, p. 217, 1886.

[3] O. Vierordt. Degeneration der Goll'schen Stränge bei einem Potator. Archiv. für Psychiatrie, XVII, 2, p. 365, 1886.

In all cases of apparent spastic paralysis, we must bear in mind this form of combined sclerosis, although transverse myelitis, multiple sclerosis, etc., may cause similar symptoms. He differs entirely from Grasset in assuming a mixed form as a combined sclerosis, where the symptoms of spastic paralysis and tabes dorsalis are combined; but he divides his combined systemic disease into three classes: Friedreich's ataxia, tabes dorsalis, and the spastic form, to which probably the cases once classed as "pure lateral sclerosis" belong.

Westphal[4] reports two cases of disease of the posterior columns, with retained patellar reflex. In both cases motor weakness and some muscular rigidity on passive motion were added to symptoms of tabes, and the patellar reflex was retained until a short time before death. The autopsies showed not only disease of the columns of Goll and Burdach, but also degeneration of the lateral cerebellar, and lateral pyramidal tracts, and of the anterior columns, especially the columns of Türck. On comparing these cases with others, Westphal finds that there is a region in the posterior root-zone external to a line drawn from the projecting angle of the posterior cornu, parallel with the posterior fissure.

If this region remains healthy in the junction of the dorsal and lumbar cords, the patellar reflex will persist, but as soon as it is invaded, the reflex disappears, and the more change there is present, the longer time before death did the reflex vanish. The disease of the posterior columns elsewhere accounts for the pain, anæsthesia, ataxia, etc., etc.; the disease of the lateral columns for the motor weakness and paralysis. Combined sclerosis does not develop from a previous myelitis, for the meninges showed only secondary changes. He denies utterly Strümpell's[5] claim that paraplegia developing in tabes dorsalis points to a systemic affection of the lateral columns, for, although they may be affected, it has not the remotest resemblance to a systemic disease. In fact, he considers the theory of the existence of special "systems" of fibres very uncertain. The clinical picture is that of tabes.

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MEDICAL NOTES.

— Dr. Jacob L. Williams, of No. 1 Mt. Vernon Street, Boston, writes us: "I have seen two cases of finger-tips, severed by careless use of a 'hatchet,' unite, and become practically as good as ever."

— Considerable comment of an adverse character has been caused in the medical journals of this country by the reported exhibition at a recent meeting of the American Microscopical Society in Chatauqua, before a mixed audience of men, women, and children, of the "germs of life" consisting of living human spermatozoa.

— At a *conversazione* given last week at the Toronto School of Medicine, as we learn from a local journal, dancing took place in the dissecting room, which was gaily festooned with bunting, and the uniforms of military officers, together with the ladies' evening toilettes, banished any grim suggestions of the place.

— A man went into a beer-shop in Berlin, and poisoned himself there. The landlord despatched his daughter for a doctor, who did what he could for the man and sent him to the hospital. When he recovered he refused to pay the doctor, on the ground that he had not desired his services. The police, too, declined to settle the account, as also did the landlord, though it amounted only to the modest sum of a dollar. The Berlin Medical Defence Society then took the matter up and sued the landlord, who, in turn, was defended by the Publicans' Society, and the matter has now been in litigation for more than four years, with the result that the doctor, instead of getting his dollar, has had to pay the costs, amounting to about twelve dollars. The only mitigating circumstance to the doctor would seem to be that legal expenses have not been proportionally heavier than the fees for medical attendance.

— The *Sanitary Engineer* points out a possible danger in the water-supply of those southern cities that have been affected by the earthquake, which it may be well to bear in mind, and that is, that some of the water-pipes may have been displaced or cracked by the earth tremors. At some points these water-pipes pass through sewers, in which case, if broken and empty of water, a risk is incurred that would not exist if they were under pressure, and while there is little probability that there will be any dangerous leakage, its possibility should be recognized and guarded against. There is also some risk from injury to sewers, and from loosening of badly made joints in house-plumbing. A thorough house-to-house inspection from the sanitary point of view is a highly desirable thing for Charleston, and should be carried out within the next three or four months. All these things are, however, no doubt well understood by the sanitary authorities and physicians of Charleston, and will be attended to in due time.

BOSTON.

— The Board of Health of Boston, discovered last week a severe case of small-pox at the West End, and removed the patient to the Canterbury Street Hospital.

— Mr. William Cavanaugh, of Washington Village, has brought suit against the individual members of the Boston Board of Health, Messrs. Durgin, Babbitt, and Keith, and attached the property of each to the amount of $10,000, for damages to his property, caused by the erection of a dam there about four years ago, for the purpose of flooding the immediate territory, which was in a bad condition. The estate of ex-City Engineer Wightman, deceased, has also been attached for $10,000. Cavanaugh sued the city some time ago, but the city solicitor had the case non-suited, pleading lack of responsibility. Cavanaugh now claims that the members of the Board and the ex-City Engineer were responsible.

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[4] C. Westphal. Ueber Fortdauer des Kniephänomens bei Degeneration der Hinterstränge. Zugleich ein Beitrag zur combinirten primären Erkrankung der Rückenmarkstrange. Archiv. für Psychiatrie, XVII, 2, p. 547, 1886.

[5] A. Strümpell. Krankheiten des Nervensystems.

NEW YORK.

A female patient recently died in a dentist's office in Brooklyn, E. D., while taking ether for the extraction of a tooth. A number of physicians labored unsuccessfully to resuscitate her, but the result of the autopsy made by the coroner has not been made known.

— The Brooklyn Board of Supervisors have followed out the recommendation of the Grand Jury, and made arrangements for the relief of the insane at the Flatbush Asylum. At a meeting of the Board held October 7th, Supervisor Pigott offered a resolution, which was adopted, that five temporary buildings, proposed by the Charities Commissioners, and so constructed as to meet the approval of the physicians of the Asylum and of State Commissioner Ripley Ropes, be erected at once on the county farm at St. Johnsland, L. I. The Supervisors were to meet again on the 10th, and award the contracts for these temporary structures: so that within a month and a half two hundred and fifty of the Flatbush patients can be removed to these new quarters.

— Dr. James Anderson, one of the most venerable and highly esteemed practitioners of the city, died October 7th. Although in his eighty-ninth year he enjoyed remarkably good health and was in his usual vigor until October 4th, when he was attacked with cholera morbus, the exhaustion from which proved fatal. He was born at the Battery at the lower end of New York, February 21st, 1798, and was descended from an old Dutch family. He began the study of medicine under the celebrated Dr. David Hosack, and in 1821 was graduated from the College of Physicians and Surgeons. After graduation he was associated in practice with his preceptor for a number of years, and during this period devoted much time to the quizzing of Dr. Hosach's numerous students. He was one of the early presidents of the New York Academy of Medicine, and was at one time President of the State Medical Society. He was also the founder and first President of the New York Physician's Mutual Aid Society.

— William Henry Dudley, President of the Collegiate Department of the Long Island College Hospital, died at his home in Brooklyn, on the 8th of October. The immediate cause of his death was pulmonary hæmorrhage occurring during an attack of broncho-pneumonia; although his constitution was undermined by diabetes, from which he had been suffering for over two years. Dr. Dudley was born in Ireland in 1811, and was graduated from the Royal College of Physicians and Surgeons in Dublin, in 1833. Removing to the West Indies, he was made Health Officer at Port Maria, Jamaica, and was also elected a Fellow of King's College there. In 1841, Dr. Dudley came to New York and received a diploma from the College of Physicians and Surgeons in this city. He soon removed to Brooklyn, however, where his life-work has been the building up of the Long Island College Hospital. He was instrumental in its organization in 1859, contributing liberally of his private means and time to make it a success; and this is said to have been the first adoption in this country of the plan, since so generally in vogue, of connecting a hospital directly with a medical college for the purposes of clinical instruction. Dr. Dudley was, besides, one of the physicians of St. John's Hospital, and had a large private practice in Brooklyn, where he was greatly beloved for his many genial qualities. He was twice married, his first wife being Miss Emily M. Fitz Gibbons, of Jamaica, West Indies, and his second, Miss Charlotte G. Duckintz, of Brooklyn, and two sons and a daughter survive him.

Miscellany.

OBITUARY.—JOSEPH SAMPSON GAMGEE, F.R.S. Ed.

This well-known English surgeon died September 18, at his residence in Birmingham, at the age of fifty-eight. Five years ago Mr. Gamgee was laid by for some weeks with a serious attack of hæmaturia, which evidently left its mark upon his kidneys and his general health. He regained, however, a fair amount of strength, and was enabled to follow his ordinary avocations. Three weeks ago, before his death, while walking quickly along the street at Dartmouth he fell, injuring his hip. Though suffering acute pain, he was unwilling to admit that there was any grave damage, and though for the most part confined to his bed, he saw his patients and dictated his correspondence. After a fortnight, not being satisfied with his condition, he consented to have ether administered, and a more thorough examination made of his injury, the conclusion arrived at being that there was a fracture of the upper end of the right femur. Three days afterwards he became sick; the next day he vomited blood and had abdominal distension, and on the following day suppression of urine, death ensuing in the evening, with his intelligence unimpaired to almost the last moment.

Mr. Gamgee was born at Florence in 1828, and was consequently in his fifty-ninth year. The son of an eminent veterinary surgeon (still living in Edinburgh), at first he was destined for the same calling, but subsequently he became a student at University College and entered the medical profession, studying afterwards at Paris, Pavia, and Florence. During this course of education he gained that mastery of languages which in after-life adorned his career, and made him a facile exponent both of the writings and teachings of continental authors, especially French and Italian. This art also led to his appointment as corresponding member of several foreign learned societies, and gave him the opportunity of supplying abundant contributions to the literature of his profession from many sources. Exhibiting in his student days the promise of an exceptional and brilliant career, he became surgeon to the Queen's Hospital, Birmingham, in 1857, a post which he held until his illness in 1881, when he was appointed consulting surgeon.

Into the conduct of his duties at the Queen's Hospital he threw himself with intense zeal and activity, and in both the professional and administrative work labored unceasingly to promote the reputation and welfare of the institution. The extension of the hospital and the origin of the Hospital Saturday collections were mainly owing to his influence and exertions, and in the details of these movements he gave valuable assistance and incessant labor. While president of the Medical Institute, by his unwearying devotion, he added largely to the library and the fund connected with it; and as president of the Birmingham Branch and Midland Medical Society he worked ardently in their respective interests. Among his writings were a work "On the Treatment of Fractures and on the Treatment of Wounds," and various monographs — "Harvey and Cæsalpinus," "Vivisection and Human Surgery," "The Hospital Saturday Movement," etc. As a strenuous advocate of treating wounds by dry and infrequent dressing, rest and immobility, his teaching was expressed in a form which exhibits a wide knowledge of surgical literature and his complete mastery of fine and graceful writing.

Mr. Gamgee was much more than a great surgeon; as a citizen and as a man he left a strong impress not only on his own community but on the tone of his profession everywhere. Many Americans who have seen him in his own home will retain pleasant memories of his hospitality and kindness to them. He was an honorary member of the Massachusetts Medical Society.

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Correspondence.

SUBCUTANEOUS INJECTION OF SALT SOLUTION.

Vienna, Sept., 29, 1886.

Mr. Editor, — I lately witnessed the subcutaneous injection of 50 ccm. of a salt solution into the body of a boy seven years old, by Professor Monti, and believing it may be of interest to your readers and perhaps at some time useful, I send you this brief description of his method. The requisites are, a piece of rubber tubing about six feet long, a large hypodermic needle and a graduated beaker containing a solution of salt. The salt solution is heated to 100° F., and then placed about four feet above the patient on a stool that rests on the top of a table. The hypodermic needle is attached to one end of the rubber tubing. The tubing is filled with water, and one end is inserted into the salt solution, then the needle end of the tube is lowered and the contents are allowed to run off until the stream becomes warm from the salt solution in the beaker. The needle is now inserted into the subcutaneous tissue while the stream is flowing. At this moment an assistant reads the level of the fluid in the beaker. This done one can tell exactly by means of the scale on the beaker how much of the solution has been injected. The tissue is distended by the fluid forming a tumor which disappears in the course of an hour or two. In the case I saw the injection was made an inch and a half below the naval, and a half inch to the right of the median line. The swelling was an inch and a half in diameter and about half an inch in height. The whole time occupied in giving the injection and making the necessary preparations did not exceed twenty minutes. The method has been employed in the collapse of cholera infantum and may further be found useful in some of those cases where intravenous injection has formerly been resorted to. Yours truly,

Albert H. Tuttle, S.B., M.D., (Harv.)

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FOURTEENTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION AND CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH.

Toronto, Ont., Oct. 8, 1886.

Mr. Editor, — The meeting of the American Public Health Association has this year a peculiar significance in its assembling for the first time without the limits of the United States. It has grown beyond the anticipation of its founders, and now embraces nearly the entire continent in its membership. Progress in sanitary matters in the Dominion has been rapid during the past four years, and the terrible scourge at Montreal in 1885 served to increase the zeal of public health authorities, and induce our provincial neighbors to seek the aid and support of the Association.

The Conference of State Boards of Health is a distinct body, which during the past three years has met at the same time and place with the Association. It is a deliberative body, composed of representatives from the State and Provincial Boards of Health. Its purposes are quite similar to those of the Association; so much so, in fact, that a decided movement was made this year to unite the two bodies, by making the Conference a Section of the Association. The measure was defeated.

The Conference met on Monday, October 4th, at Queen's Hotel, and spent the day in the consideration of various subjects pertaining to the administration of sanitary authorities both general and local. The objects attained by the Conference may be summed up briefly as follows:

A series of resolutions commending the plan of interstate notification of infectious diseases. The recent outbreak of yellow-fever at Biloxi, Mo., and the small-pox epidemic at Montreal, were urged as illustrations of the importance of such a course. A resolution was adopted, disapproving the drainage plan of the State Capitol of Indiana. Other subjects discussed were: A summary of sanitary laws, the infectious nature of consumption, the organization of county boards of health, the regulation of medical practice, and the transportation of dead bodies. Resolutions upon the latter subject were rejected.

The Conference adjourned, after several brief sessions, to meet at Washington, D.C., in September, 1887.

The meetings of the Public Health Association were held at Shaftesbury Hall, except the meeting on Tuesday evening. The papers upon special subjects were valuable, while those which were of a general nature were not burdened with originality or usefulness. Fortunately, the latter were few in number.

The morning session of Tuesday was devoted to the subject of Sewerage and Sewage-disposal. It was attended by many of the citizens of Toronto, who are just now suffering with the throes of a civil earthquake in the shape of a proposed sewer question.

An excellent paper by Dr. George Baird, of Wheeling, W. Virginia, advocated the "Destruction of Garbage and Night-soil by Fire." The paper described the relative situations of Wheeling, Va., and Bellair, Ohio, the drinking-water of the latter place being polluted by the night-soil of the former place, showing the folly of the claim that a running stream of water will purify itself in a few score feet. With greater care for the health and comfort of their neighbors, than is usual in the case of contiguous cities, the city of Wheeling undertook a series of experiments and finally succeeded in constructing a furnace which was eminently satisfactory, the night-soil being mixed with fine coal before burning. Natural gas is also employed in reducing the material.

At a later meeting the same writer offered another paper upon the subject of "Sanitation in the Matter of Street-Paving."

Toronto, like Chicago, draws its water-supply from the same lake into which its sewage is poured. Hence the local interest in the subject of sewerage. The papers presented by local physicians and engineers were of a high order of merit, treating the subject both in a general manner and with reference to the special needs of Toronto.

Dr. G. B. Thornton, of Tennessee, offered a paper entitled "Six Years of Sanitary Work in Memphis," in which he detailed the operations of the health authorities in that city which had been undertaken since its last great visitation by yellow-fever. Special mention was made of its sewerage system The paper was followed by discussions by Cols. Waring and Hadden in further explanation of the plan which had been adopted.

Dr. D. E. Salmon, of Washington, D.C., read a paper on "Recent Progress in the Investigation of Hog Cholera." He said recent discoveries showed the disease was caused by bacteria. Sterilized culture liquid used as an inoculant was found to protect pigeons against the living germs. The experiment had not been yet carried out to a conclusion in regard to protecting hogs. The microbes multiplied with extraordinary rapidity in water. This experiment showed these germs had power of multiplying in ordinary drinking-water, such as is taken from our rivers and streams. A solution of mercuric iodide — proportion one to two millions — was found to destroy the germs. The question therefore suggested itself whether the fluids and tissues of hogs could not be so impregnated with this disinfectant as to render them absolute proof against the bacteria.

Dr. A. N. Bell read the report of the Committee on the "Disinfection of Rags." The report was quite long, discussed other matters foreign to the subject, and provoked a lively discussion which lasted till midnight. The resolutions which accompanied the report were referred to the Executive Committee, and were finally passed, after being modified, at a subsequent meeting.

Excellent papers were offered on Thursday evening by Dr. Bryce, of Toronto, on the "Decomposition of Albuminoid Substances and some Sanitary Problems connected therewith." By Archibald Blue, Esq., on "Food in its Relation to the Distribution of Wealth," and also by Dr. H. P. Yeomans, upon "The Best Methods of Teaching Hygiene in the Public Schools, as well as the Means for securing Uniformity in such Instructions."

Dr. J. B. Russell, Health Officer of Glasgow, Scotland, who had been made an honorary member of the Association, gave a brief address in which he spoke in a happy manner of his impressions of American sanitation as compared with that of Scotland.

The Lomb Prize Committee reported that no prizes would be awarded this year, no essays or plans of sufficient merit having been offered.

I cannot close without special reference to the entertainment of welcome on Tuesday evening, and the President's Annual Address. The exercises were held in the Normal School building. Addresses of welcome were made by Dr. C. W. Covernton. Hon. A. S. Hardy, and Mayor Howland, of Toronto.

The admirable address of the retiring President, Dr. H. P. Walcott, was listened to with unusual attention.

The study of infectious diseases. criticism of faulty methods, and sanitary fallacies, State supervision of sanitary work, and appropriation for the same, the organization of boards of health, local and general, received due consideration. His allusions to local matters were timely and dignified.

Massachusetts was represented at the meetings by Drs. Walcott, Jones and Abbott, as delegates from the State Board and Drs. Durgin, Holt and Rice from local boards.

X.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 2, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	677	319	26.40	12.90	14.55	1.95	5.55
Philadelphia	971,363	372	133	17.82	15.66	4.86	5.94	5.13
Brooklyn	690,000	309	146	29.00	12.54	12.54	2.32	9.24
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	181	68	38.25	22.95	19.55	6.80	6.80
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	134	52	20.98	15.54	8.88	2.96	1.48
Cincinnati	325,000	118	54	34.85	10.20	7.65	5.95	11.90
New Orleans	238,000	111	42	22.50	12.60	10.80		.90
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	107	43	20.46	10.23	3.72	3.72	4.65
Pittsburgh	190,000	67	34	26.64	10.36	4.44	4.44	8.88
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—		—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	43	15	16.31	18.64	6.99	—	—
Worcester	68,383	21	10	14.28	4.76	14.28	—	—
Lowell	64,051	30	13	39.96	3.33	16.66	6.66	10.00
Cambridge	59,660	—	—	—	—	—	—	—
Fall River	56,863	22	13	28.44	4.55	31.85		4.55
Lynn	45,861	13	3	7.69	23.07	7.69		—
Lawrence	38,825	15	5	20.00	13.33	13.33	6.66	
Springfield	37,577	15	7	46.66	6.66	26.66	—	—
New Bedford	33,393	21	8	33.33	9.52	19.04	14.28	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	15	5	20.00	—	6.66	13.33	—
Holyoke	27,894	9	4	11.11	—	—	11.11	—
Chelsea	25,709	6	3	33.33	—	33.30	—	
Taunton	23,674	13	3	38.45	7.69	15.38	23.07	—
Haverhill	21,795	12	4	41.66	16.66	8.33	8.33	25.00
Gloucester	21,713	5	1	20.00	20.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	3	—	—	—	—	—
Malden	16,407	6	4	33.33	33.33	33.30	—	
Fitchburg	15,375	5	1	20.00	20.00	20.00		
Waltham	14,609	5	1	20.00	20.00	—	20.00	—
Newburyport	13,716	7	3	42.84	28.56		—	12.84
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,343: under five years of age 997; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 580, consumption 296, lung diseases 150, diarrhœal diseases 254, diphtheria and croup 130, typhoid fever 82, malarial fever 46, scarlet fever 23, whooping-cough 21, cerebro-spinal meningitis 16, measles five, erysipelas three. From malarial fevers, New Orleans 12, New York and Baltimore eight each, Brooklyn and Charleston four each, Philadelphia two. From scarlet fever, Cincinnati seven, Brooklyn and Boston four each, Philadelphia and Pittsburgh three each, New York two. From whooping-cough, New York and Brooklyn seven each, Boston and Pittsburgh two each, Philadelphia, Cincinnati, and District of Columbia one each. From cerebro-spinal meningitis, New York eight, Springfield three, Cincinnati two, Philadelphia, Pittsburgh and Gloucester one each. From measles, New York four, Baltimore one. From erysipelas, Lowell two, Cincinnati one.

In the 22 cities and greater towns of Massachusetts, with a population of 1,032,650 (population of the State 1,941,465), the total death-rate for the week was 21.71 against 21.50 and 21.47 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending September 18th the death-rate was 22.6. Deaths reported 3,942: infants under one year of age [illegible]; acute diseases of the respiratory organs (London) 168, diarrhœa 925, fever 58, whooping-cough 49, scarlet fever 43, measles [illegible], diphtheria 25.

The death-rates ranged from [illegible] in Bristol to 40.8 in Norwich. Birkenhead 19.7; Birmingham 26.4; Hull 30.8; Leeds 29.1; Leicester 23.9; Liverpool [illegible]; London 17.6; Manchester 31.4; Nottingham 24.4; Sheffield 27.9; Sunderland 26.6.

In Edinburgh 13.9; Glasgow 24.2; Dublin 27.5.

For the week ending September 18th, in the Swiss towns, there were 36 deaths from diarrhœal diseases, consumption 25, lung diseases nine, whooping-cough three, typhoid fever and puerperal fever each one.

The death-rates were, at Zurich 11.5; Geneva 9.1, Basle 14.8; Berne 10.7.

The meteorological record for week ending October 2, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Oct. 2, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . . 26	29.893	69.2	78.3	52.2	88.0	73.0	82.0	81.0	S.W.	S.W.	W.	14	19	17	O.	T.	C.	—	—
Monday, . . 27	29.941	64.3	79.7	55.0	83.0	62.0	100.0	81.7	W.	E.	E.	12	8	12	O.	F.	R.	—	—
Tuesday, . . 28	29.901	59.7	62.4	54.0	100.0	100.0	100.0	100.0	S.E.	N.	E.	9	4	6	R.	R.	R.	—	—
Wednes. . . 29	29.938	59.4	67.0	53.8	83.0	51.0	78.0	70.7	N.	N.W.	N.	15	7	4	O.	F.	C.	—	—
Thursday, 30	29.911	53.8	59.1	46.2	80.0	85.0	95.0	86.7	N.W.	E.	N.	4	13	6	F.	O.	O.	—	—
Friday, . . . 1	29.828	51.5	68.0	45.0	93.0	55.0	51.0	66.3	W.	N.W.	N.W.	8	20	9	O.	F.	C.	—	—
Saturday, . 2	30.255	46.1	55.1	37.1	66.0	44.0	63.0	57.7	W.	W.	N.W.	6	16	6	C.	F.	C.	32.00	0.45
Mean, the Week.	29.952	56.3	69.9	49.0				77.7											

[1] O., cloudy ; C., clear ; F., fair ; G., fog ; H., bazy ; S., smoky ; R., rain ; T., threatening ; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 2, 1886, TO OCTOBER 8, 1886.

Ginson, Jos. R., major and surgeon. Granted two months' leave of absence, from September 25, 1886, on surgeon's certificate of disability, in lieu of the unexpired portion of the ordinary leave of absence granted him in S. O. 158, A. G. O., July 10, 1886. S. O. 227, A. G. O., September 30, 1886.

Gardner, Wm. H., major and surgeon. Ordered from Department of Texas to Department of the East. S. O. 227, A. G. O., September 30, 1886.

Matthews, Washington, captain and assistant surgeon. Granted leave of absence for one month and twelve days, with permission to go beyond sea. S. O. 232, A. G. O., October 6, 1886.

Fisher, W. W. R., first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 230, A. G. O., October 4, 1886.

Borden, Wm. C., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Bridger, Wyo., and ordered to return to his station, Fort Douglass, Utah. S. O. 126, Department of Platte, October 2, 1886.

Kendall, Wm. P., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 81, Division of the Pacific, September 24, 1886.

Hammond, John F., colonel (retired). Died at Poughkeepsie, N. Y., September 29, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 9, 1886.

James Suards, medical director. Will convene Medical Board, October 6, 1886.

Browne, J. Mills, medical director. Ordered to report to president Medical Board, October 6, 1886.

Dean, R. C., medical director. Ordered to report to President Medical Board, October 6, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING OCTOBER 2, 1886.

Purviance, George, surgeon. Granted leave of absence for twenty-five days, September 30, 1886.

Stoner, G. W., surgeon. Granted leave of absence for twenty-three days, October 1, 1886.

Carter, H. R., passed assistant surgeon. To proceed to Galveston, Texas, as inspector, September 30, 1886.

Ames, R. P. M., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved, September 30, 1886.

Wasdin, Eugene, assistant surgeon. Ordered to examination for promotion, September 20, 1886.

Brooks, S. D., assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved, September 30, 1886.

Williams, L. L., assistant surgeon. Relieved from duty at Mobile, Ala.; ordered to Marine Hospital, Wilmington, N. C., September 27, 1886.

Perry, F. B., assistant surgeon. Relieved from duty at San Francisco, Cal.; ordered to Marine Hospital, St. Louis, Mo., October 1, 1886.

THE CHARLESTON MEDICAL SCHOOL.

The Medical Faculty of Harvard University, in response to an appeal from the Dean of the Charleston Medical School for aid in restoring their building shattered by the earthquake, have appointed the undersigned a committee to collect subscriptions for that purpose.

The undersigned will gladly receive any sums, however small, for this worthy object, which may be sent to,

Henry P. Bowditch, *Dean Harvard Medical School.*
Thomas Dwight, 235 *Beacon Street.*
J. Collins Warren, 58 *Beacon Street.*

DEATH.

Died in Birmingham, England, September 18, 1886, Joseph Sampson Gamgee, F.R.S. Ed., M.M.S.S. Hon., aged fifty-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Woman's Medical College of the New York Infirmary. Eighteenth Annual Catalogue and Announcement June, 1886.

Des Cataractes et de leurs Opérations. Conférences Cliniques Professées Par le Dr. Galezowski et Recueillies Par le Dr. Boucher Médecin-major de Ire classe. Paris. 1886.

A Treatise on the Practice of Medicine. By Roberts Bartholow, M.A., M.D., LL.D. Sixth Edition. Revised and enlarged. New York: D. Appleton & Co. 1886.

Handbook of Diseases of the Ear for the Use of Students and Practitioners. By Urban Pritchard, M.D. (Edin.) F.R.C.S. (Eng.) With Illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

Paralyses Cerebral Bullar and Spinal. A Manual of Diagnosis for Students and Practitioners. By H. Charlton Bastian, M.A., M.D., F.R.S., F.R.C.P. With numerous illustrations. New York: D. Appleton & Co. 1886.

The Artificial Feeding of Infants. By John M. Keating, M.D., Visiting Obstetrician to the Philadelphia Hospital, and Lecturer on Diseases of Women and Children. Physician to St. Joseph's Hospital. Fellow of the College of Physicians, etc. (Reprint.)

Zur Lehre vom Granuloma Fungoides. (Mycosis Fungoides Alibert.) Von Dr. Carl Hochsinger Secundararzt I. Cl. des K. K. Allgemeinen Krankenhauses in Wien, und Dr. Eduard Schiff, Docent für Dermatologie und Syphilis an der Wiener Universität. Wien. 1886.

A Text-Book of Human Physiology including Histology and Microscopical Anatomy with reference to the requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Second American, Translated from Fifth German Edition with Additions by William Stirling, A.M.D., Sc.D. With 583 illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

Lecture.

RENAL CALCULUS, ITS DIAGNOSIS AND TREATMENT.

BY JAMES TYSON, M.D.,
Physician to the Hospital and Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania.

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL.

Gentlemen,— I wish to call your attention to-day to a subject of considerable practical importance and one which we do not often have the opportunity of treating in the way which I propose to-day. The subject is that of renal calculus: its diagnosis and its management. The immediate suggestion for this lecture is a case which recently came under observation in this house, and whose fatal termination and autopsy have given us the morbid specimens I propose to show you.

I shall in the first place briefly give you the history. The patient was a woman, forty years of age and married. She had no knowledge of her relatives. She had lived in a healthy country place for fifteen years. She has been married and enjoyed fair health up to eight months ago, when she began to have pain in the left side, with frequent and painful micturition. In the course of a month or two, these symptoms disappeared, but the pain returned at times. About one month before admission she awoke in the morning with violent pain in the left side. This pain continued and was accompanied by loss of flesh and frequent vomiting. The pain was increased by straightening out the legs.

The patient was admitted to the hospital March 24th, 1886, with this meagre preliminary history, complaining of a dull aching pain in the splenic region, tenderness over the spleen and over the left kidney. The temperature was 100°, and the woman was weak and nervous. The most tender spot was mid-way between the crest of the ilium and the lower border of the ribs. The urine contained an enormous amount of pus, fully one-third of its bulk.

In the history of this case we note the following points: extreme pain, varying somewhat in severity, but always present, tenderness, most marked midway between the border of the ribs and the crest of the ilium, and purulent urine. Under such circumstances, there is no difficulty in pointing out the organ affected. Given purulent urine with pain in the locality described and tenderness so distinct and so easily determined, there must be something wrong with the left kidney.

The next question naturally asks the cause of the suppuration? There are three principal causes of pus in the urine where the kidney is distinctly involved. These are tuberculosis of the kidney, impacted calculus and what is known as surgical kidney.

It is well known that tuberculosis may affect the mucous membrane of the pelvis of the kidney and gradually encroach upon the substance of the organ, infiltrate it and break down, infiltrate again and break down, and thus continue, until the organ may be converted into a cavity filled with pus, more or less inspissated, and the walls covered with cheesy miliary tubercles.

The so-called surgical kidney, is simply a suppurative affection of the kidney, the result of surgical disease. The term is not very well applied. It is usually the result of inflammatory disease of the bladder, the inflammation extending upwards along the ureter until the kidney becomes involved. This condition is produced by various causes, most frequently, probably, by stone in the bladder. Although a distinction is sometimes made between surgical kidney and the condition of the kidney resulting from impacted calculus, there is no essential difference in the nature of the process. Where suppuration occurs as the result of impacted calculus, the process is exactly like that where the inflammation is the result of extension from the bladder.

Which of these conditions had we to deal with in the case described? Under the most favorable circumstances, we are often compelled to allow this matter to rest in doubt. It occurred to us that taking the symptoms described in connection with the cachexia which this patient presented to a marked degree, there might be here tuberculosis of the kidney. Seeking further information on this point, the urine was examined for the tubercle bacillus, but none were found. We did not attach much importance to this, for although it is true that in tuberculous affections of the kidney the bacillus has been found, yet its absence cannot be said to exclude the presence of such disease. We therefore did not conclude from this negative result that tuberculosis was absent, and I must admit that I always inclined to the view that this was a case of tuberculosis. This view was favored by the absence of any definite history of nephritic colic. Where the suppurative process is due to impacted calculus, we usually are able to trace a long history of pain in the region of the kidney. In this instance we could obtain a history of pain dating back only eight months, and when the specimen is examined, this short history will seem still more surprising. Surgical diseases starting from the bladder and causing trouble in the kidneys, are accompanied by symptoms of irritation of the bladder. Nothing of this kind was present in this particular instance. Therefore taking all the evidence into consideration, while realizing the difficulties of making a positive diagnosis, I felt that the probabilities were in favor of tubercular disease. As an aid to diagnosis, we introduced the aspirating needle in the region of the kidney, but the pus was not reached.

The woman gradually sank and died a few days ago, and I have the specimen here to show you. Extraordinary and astonishing as this may strike you, let me assure you that this condition with these symptoms is not infrequent. Here is a stone which was removed from this case, and it is one of the most remarkable specimens that I have ever seen. It has a base or trunk from which spring four principal prolongations. The base corresponds to the pelvis of the kidney and the four prolongations to the four calices. The extensions of the stone are further subdivided to correspond to cavities which they filled in the organ. It is of course unnecessary to say that this large calculus must have occupied longer than eight months in its formation. Whether or not careful examination earlier than eight months ago, would have given evidence of disease of the left kidney or whether the woman had had symptoms before this time and had forgotten them, matters not. The autopsy has revealed this extraordinary concretion filling up a large portion of the kidney substance, with a history of only eight months pain.

Let us return for a moment to the question of diagnosis. It was plain to us that we had to deal with disease of the left kidney, but beyond this point there was acknowledged uncertainty, although there was a leaning towards the idea of tuberculosis. This proved to be erroneous. Are there any circumstances under which a more certain diagnosis is possible? There are, and it was partly with a view to bringing these to your notice that I selected this case as a text. If we had at any time been able to collect sediment from the urine, or small calculi or their fragments capable of analysis, the nature of the case might have been determined. The difficulties in the diagnosis of renal calculi are often much less than are commonly supposed, because their analysis is much easier than is commonly supposed. It is really a very easy matter to get at the composition of a calculus.

In the first place, under what circumstances would a renal calculus be suspected? If there is a history of excruciating pain in the region of the kidney, extending into the groin, paroxysmal in character, a pain which is so severe that words cannot describe it, you at once suspect that there is a stone in the kidney which is seeking to find its way into the bladder. I think that there is no condition which is likely to be confounded with this. Given a severe paroxysmal pain in the region of one or both kidneys, extending to the groin with retraction of the testicle in the male, I know of only one condition that can cause it. It is true that there is described in the books what is called neuralgia of the kidney, a condition in which there are the symptoms described without the presence of a stone. For myself I doubt the existence of such a condition as idiopathic neuralgia of the kidney. What has been termed neuralgia of the kidney is in all probability nephritic colic, depending on the presence of gravel. For practical purposes, therefore, we may throw out of the question nephralgia or neuralgia of the kidney.

It is also true that we have here severe muscular pains which might be confounded with pain in the kidney. The majority of persons who think that they have kidney disease have their attention directed to it by the occurrence of pain in the lumbar muscles which they attribute to the kidney, the idea being that renal disease is associated with pain over the kidney. In point of fact, real kidney disease other than calculus disease, is rarely attended with pain in the back. The pain of lumbago or rheumatism of the lumbar muscles is different from that due to impacted calculus. Under ordinary circumstances the former pain is not so sharp. It is true we have almost all experienced at one time or other a sharp lumbar pain momentary in duration, most frequently coincident with a sudden motion or twisting of the body. But this is of short duration as compared with the pain of nephritic colic. The other lumbar pains of rheumatism are not so severe, although they may be of long duration. They are greatly aggravated by any movement of the body. They are also more readily removed.

There is one other rare condition which produces pain like that of nephritic colic to which allusion should be made, and that is floating kidney. Sometimes a floating kidney is so loose that it twists upon itself, closing the ureter very much as a rubber-hose is obstructed when it is twisted upon itself. Such obstruction causes an accumulation of urine back of it and gives rise to intense pain which is quite like that of nephritic colic. This, therefore, should be remembered.

Having made the diagnosis of nephritic colic we must not stop here, for it becomes a matter of extreme importance in treatment, to ascertain the nature of the stone causing the irritation. A rational treatment demands this. And while we cannot always do it, we frequently can, indeed more frequently than is commonly done, and the treatment which is so often only palliative and empirical, may become curative and rational. Such a diagnosis demands the presence of sediments in the urine or the passage of a small calculus.

Where there are constant or repeated sediments of uric acid or oxalate of lime recognized by the microscope, we are thus at once informed of the nature of the stone. Sometimes a small stone is passed, the structure of which cannot be unravelled by the microscope. Other means must then be used to determine its composition. In the first place there is something in the appearance of a stone which will aid in the diagnosis. Taking this large stone, I have little doubt that it is a phosphatic stone, composed largely of phosphate of lime. It is exceedingly rare, in fact, I think it never happens that a stone with any other composition reaches this size. In the second place, the stone is white in color. This is the color of phosphatic stones, but also that of oxalate-of-lime calculi, although they never reach the size of this one. They are further characterized by their roughness. On the other hand, stones composed of uric acid and their compounds are apt to be smooth and of various shades of red; at other times they are fawn-colored and again white.

I have here some samples of stone which I shall examine. Here is a part of a stone which was removed from the kidney of a little boy, ten years of age, who died under my care. This boy had purulent urine for a long time and for years had suffered with pain. On two occasions stones were removed from the bladder by operation. After death this large stone was found in the pelvis of the kidney. Here are also other smaller stones, some of them smooth and others rough.

The necessary apparatus for analysis is simple. In the way of instruments, you need a little piece of platinum foil, and a pair of forceps to hold it, or a platinum spoon, a mortar and pestle, some nitric acid, acetic acid, hydrochloric acid and ammonia. A fragment of the stone to be examined is reduced to powder in the mortar. The piece of stone which I shall use is white in color. As I have said, the phosphatic stones are white, so are those of oxalic acid. Uric-acid stones are apt to have a reddish tinge, but they may be almost white on the surface, at least. In this case you will note that although the stone was white, the powder presents a reddish tinge. I place a small portion of the powder on the platinum foil and heat it in the flame of a spirit-lamp. Instantly the powder blackens and partially disappears. In a few seconds, it is entirely gone. I need not go a step further in the examination of this stone. Given a powdered stone which disappears upon the application of heat, what is it? It is either organic matter, or pure uric acid, or almost pure uric acid, or one of those extremely rare forms of stone, known as cystin, xanthine and urosteolith. The first never assumes a stony hardness, and the last three are so rare that they do not occur in an average man's life. I have seen but one cystin stone and none of the others. It may therefore be concluded with almost absolute certainty that this stone is uric acid. But this may be rendered absolutely certain by another test, the murexide test. A little of the powdered calculus is placed on a plate and dissolved in nitric acid. Heat is then applied and the acid evaporated. A little solution of ammonia is next added and you observe the beautiful purple color which comes out at the point of contact. This proves that this is a uric-acid stone.

Suppose, however, that on the application of heat the stone does not entirely disappear? We should then again apply the murexide test and if we obtain the reaction, the stone must consist of uric acid in combination with bases, and clinically speaking, this is equivalent to uric acid.

Taking another stone, the composition of which I do not know; I powder it and heat it to redness on the platinum foil. It at once becomes black, but a considerable residue is left. I then take a small fragment of the original stone, and without powdering, place it in the platinum spoon, and again apply heat. You will recall that in these examinations the question practically resolves itself into this: Is the stone composed of uric acid, oxalate of lime, or phosphates? A stone made up of triple phosphates of ammonium and magnesium is characterized by the peculiarity of fusing on the application of heat — fusible calculus. This enables us to recognize such a stone. This particular example does not fuse.

We, therefore, know that it is not composed of triple phosphates. It does not burn up, it does not melt into a bead; it is, therefore, either phosphate of lime or oxalate of lime. If it is an oxalate-of-lime stone, it has, by the process of heating, been converted into carbonate of lime.[1] If it is a phosphate-of-lime stone, its composition has not been altered by the application of heat. To the burned powder I now add acetic acid; if it dissolves with effervescence, it is derived from an oxalate-of-lime stone; if there is no effervescence, it is phosphate of lime. The best way to apply this test is to put some of the stone, which has been heated, on a glass slide, and apply a thin cover. The acetic acid is allowed to run in at the edges. If it is desired, under the microscope, with a low power, the evolution of the bubbles of carbonic acid may be easily studied, but we shall adopt the rougher method without the microscope. No bubbles of carbonic acid are liberated. I conclude, therefore, that the stone is phosphate of lime. A very rare stone in man, although common in horses, is the carbonate-of-lime stone. This is recognized by treating the *original* powder with acetic acid, when it will dissolve with effervescence, whereas, the oxalate-of-lime stone does not dissolve with effervescence until it has been heated to a red heat.

To recapitulate, you are to powder the stone and apply heat. If it disappears, it is in all probability uric acid, or compounds of uric acid. If there is any doubt, the murexide test may be applied. If the stone does not disappear upon being incinerated, it is composed either of phosphates or of oxalate of lime. If it is the triple, or ammonio-magnesian phosphate, the application of heat to a piece of the original stone will melt it into a bead; if it does not melt, it is either phosphate of lime or oxalate of lime. If it is oxalate of lime, the incineration will convert it into carbonate of lime, which, in acetic acid, will dissolve with effervescence; if it is phosphate of lime, it dissolves without effervescence. Thus, with very little trouble, we may, with sufficient accuracy for practical purposes, ascertain the composition of a calculus. The bases are not ascertained, but this is not necessary.

Having determined the composition of the stone, what will be the treatment? The uric acid and oxalate of lime call for one treatment, the phosphates for another widely different. The latter is much more difficult to dissolve than the former. Uric acid is soluble in alkalies; oxalate of lime in neither acids or alkalies. Uric-acid sediments are thrown down in urine of acid reaction and dissolved by alkalies. The indication, therefore, is to give alkaline diluents, to render the urine alkaline, and if you do not cause the solution of the stone, you may, at least, prevent it from increasing in size. The experiments of Dr. Roberts, of Manchester, are almost too well known to be repeated. He imitated with alkaline solutions the dropping of the urine from the kidney into the bladder upon uric-acid calculi, and was able to effect a certain degree of solution. Whether this will take place in the body or not we do not know, but it is a rational method of treatment, and will tend to prevent the stone from enlarging, and as the passages enlarge, the stone may descend. The spasmodically contracted ureter, which grasps the stone, may, after a time, relax and permit the latter to drop into the bladder. If you can keep the stone from becoming larger, you favor this result.

The correct treatment for uric acid is, therefore, the alkaline treatment. For this purpose any alkali may be used, such as citrate or acetate of potassium. I prefer the citrate of potassium, in twenty-grain doses, four times a day, each time in eight ounces of water. Dilution is very important. It is of the greatest importance that you should, as it were, wash out the tissues of the patient with a tendency to gravel, in order to get rid of the *débris* of tissue metamorphosis. The introduction of large quantities of water into the system is an important element in the treatment. It is to the good effects of such treatment that the reputation of many of the mineral springs in the treatment of gravel is due. The introduction of plain water will accomplish this result as well as many of the spring waters. When, however, we come to springs like those of Vichy, which contain a large quantity of alkali, you can understand how useful they must be in the treatment of this form of calculus.

The same plan applies to the oxalate-of-lime calculus, but with less prospect of success, so far as solution of the stone is concerned. You cannot dissolve the oxalate of lime with acids or alkalies of such strength as it would be proper to use in the body. At the same time, the methods which prevent the formation of uric acid will prevent the formation of oxalate of lime. In the treatment of both of these varieties diet is of the greatest importance. In neither of them should the patient be allowed to eat a large amount of nitrogenous food, as meat or eggs. Fresh, succulent vegetables may be allowed in some cases, with a moderate amount of meat, or in bad cases, no meat at all. If there is one condition in which the good reputation of a pure milk diet is justified, it is in the treatment of uric-acid calculus. So often have I been successful in obstinate cases of frequently-recurring uric-acid gravel with the pure skim-milk treatment, that it is the first thing that I offer the patient. I have noticed that if the skim-milk diet is kept up for a month or six weeks, and then stopped, the attacks of colic do not recur. In carrying out this plan of treatment, I recommend that during the first day, a glass of milk be taken every two hours. After this, the quantity is gradually increased until sufficient to satisfy the patient is taken. The quantity required to sustain life varies between three and seven quarts per day. It depends partly upon the size of the patient, and the amount of exercise taken. The milk acts both as a diluent and as an alkaline fluid. One set of vegetables should be avoided in the diet of persons having an oxalic diathesis, and that is those containing oxalic acid, such as tomatoes, sorrel, and especially the pie plant.

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[1] For this, too high a degree of heat should not be applied. A long-continued white heat will calcine the oxalate of lime into lime; a red heat is sufficient to convert into the carbonate.

The importance of the diagnosis is shown in the fact that if the stone is composed of phosphates, the milk diet is much less valuable as a cure. The indication is here to increase the acidity of the urine, but while it is true that the phosphates are soluble in acids, it is, practically speaking, impossible to give acids in amounts sufficient to affect the calculus without injuring the system. By the use of benzoic acid, in ten-grain doses, the reaction of the urine may be rendered acid, and the further deposition of phosphates may be thus prevented, but nothing can be done towards dissolving the stone. Fortunately, most calculi are of the uric-acid variety. In phosphatic calculi, you can simply hope to prevent increase in size by rendering the urine acid, and in the course of time, if not too large, it may descend into the bladder. If too large for this, there only remains the operation of nephro-lithotomy, the growing frequency of which seems to be justified by its results.

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Original Articles.

OPERATIONS ON NERVES.

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I. Resection and Suture. (*a*) Musculo-spiral, (*b*) Median, (*c*) Ulnar.
II. Primary Suture. (*a*) Ulnar, two cases.
III. Excision for Pain. (*a*) Middle cutaneous of thigh, (*b*) Long-saphenous. (*c*) Inferior dental, (*d*) Infra-orbital.
IV. Stretching. (*a*) Spinal accessory for spasmodic wry-neck.

The cases recorded below were treated at the Massachusetts General Hospital during the past fifteen months, with the exception of the last, which was at the Carney Hospital. As will be seen, some of the cases are complete, while others are still under observation.

NERVE SUTURE.

Case I. Injury to median nerve from bursting of bottle. Healing. Painful neuralgia in fingers and thumb, with loss of power in thumb. Removal of injured portion, suture, relief of pain, and restoration of motor function.[1]

Patient, J. C., a young man, bar-tender, was injured by the bursting of a ginger-tonic bottle July 20th, 1885, in the left wrist in front. The cut healed readily, but there was loss of sensation in the middle and fore-fingers and the palmar surface of the thumb. Accompanying the loss of sensation there was severe pain in the thumb and palm of the hand. This symptom of severe pain led him to come to the Nervous Department of the hospital where Dr. Putnam examined him and recommended an attempt to relieve the symptoms by surgical means.

July 18th, 1885, operation with ether.

The median nerve was quickly exposed at the point where it was supposed to have received injury, about one and one-half inches above the palm. The nerve was found involved in the cicatrix and almost entirely severed, being united by only a few fibres. The whole nerve was isolated from the surrounding parts and the injured portion entirely excised by a transverse section above and below. The ends, which were sharply cut and clearly defined, were then brought into apposition and sewed together. Considerable traction was first used so that there would be as little tension as possible. A cat-gut suture was then passed into the proximal trunk half an inch above the cut, and brought out in the centre of the divided end. It was next introduced into the centre of the end of the distal part of the nerve and brought out half an inch farther along.

The divided sheath of the nerve was then brought into close approximation by fine cat-gut sutures, care being taken to include only the sheath itself. The wound was closed with silk, drainage provided for, and the arm and forearm placed upon an internal angular splint with the carpus well flexed. The wound healed rapidly, though not by first intention, and the patient was discharged August 11th, to the convalescent ward. There had been no change in his symptoms except almost complete relief of pain. There was still slight pain in the top of the thumb, ulnar side.

August 29th, 1886, a little more than a year later, I examined him. There was a prominence in the anterior carpal region at point of suture. Sensation was good in all parts supplied by the median. There was no pain and had been none for months. Finally, the muscles supplied by the median alone, *adductor* and *opponens pollicis*, were well developed and responded to the man's will. In this case, therefore, the functions of the nerve were completely restored.

Case II. Stab in back of arm. Division of musculo-spiral nerve. Wrist-drop. Suture of nerve stump, suppuration, erysipelas, no improvement at end of three months. Second operation. Resection and suture. Complete and permanent recovery after four months.[2]

George Donahue, laborer, forty-three years of age. Came to the Massachusetts General Hospital, May 19th, 1885, having been stabbed by an Italian with the blade of a pair of shears. The external wound was small. The triceps was cut and the musculo-spiral nerve severed. Two small pieces of bone were clipped from the humerus. Had wrist-drop and inability to extend fingers.

Dr. Warren enlarged the cut. The ends of the nerve were found and united with six small cat-gut sutures through the sheath. The triceps was sewed up with cat-gut. Drainage-tubes were left in wound and sterilized cotton dressings applied. Arm put on internal angular splint.

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[1] Mass. Gen. Hos. Records, p. 73, vol. 220.

[2] Mass. Gen. Hosp. Records, Vol. 220, p. 108.

After the operation some sensation along course of radial nerve was noticed. One month after, bad erysipelas and prolonged and extensive suppuration of whole upper arm. July 6th, Dr. Putnam found no reaction to galvanic current. Sensation was found over dorsum of hand. Strong wire brush current caused painful sensations everywhere supplied by musculo-spiral. Muscles were soggy and skin dry and hard. Voluntary motion of ulnar and median preserved, but feeble.

Reëntered hospital August 10th, for resection of the nerve, not being able to use arm, his condition being same as when discharged. At this time the case was examined by Dr. Putnam with me, and it seemed best not to wait any longer before making another attempt, on the ground that there had not been the slightest improvement or sign of any, and that the failure of immediate union, with prolonged and extensive suppuration of the neighboring parts, rendered it extremely improbable that any improvement in his condition would ever result.

It having been decided to make a second attempt, the patient was etherized and the musculo-spiral nerve exposed by a cut about six inches in length made over the normal course of the nerve at an angle with the scar of the stab. It was found running into the dense mass of cicatricial tissue by which the former wound was healed, and from which the distal portion of the nerve was with some difficulty found emerging. The nerve was divided above and below the old wound by a clean, sharp incision, and the cicatricial tissue with the excised nerve-end was dissected out. This specimen measured an inch and a half.

After thorough stretching of the proximal end, by which the nerve was quite materially elongated, the sheath was united with seven fine silk sutures threaded upon a fine cambric needle. The joint made in this manner was quite perfect. No suture was put into the nerve itself. The external wound was closed with silk, drainage established, and the whole arm extended upon a straight splint. The most careful antiseptic precautions were taken and the wound healed immediately by first intention under Dr. Warren's sterilized cotton dressings.

No improvement of any importance was observed up to the time of his discharge except that he could use his *extensor secundi internodii pollicis*. He was discharged to report to Dr. Putnam, whose patience in his treatment was rewarded about four months later by a complete restoration of the powers of the nerve.

Ten months after the operation I saw the patient holding a piece of iron pipe weighing more than a hundred pounds, which he was putting into a deep hole he had just dug in the streets.

Case III. Ulnar nerve completely divided by glass. Healing of wound. Motor and sensory paralysis. Resection and suture of nerve stumps. Union by first intention. Case still under observation.[3]

Mary Quinn, twenty-two years, single, domestic. August 10, 1886, patient came to hospital having previously cut wrist in putting her hand through a pane of glass. The wound had entirely healed. There was loss of sensation in little and half of ring fingers, while abduction and adduction of fingers was very slight. Patient was etherized and a cut made over the ulnar nerve on the radial border of the *flexor carpi ulnaris*. This cut was at right angles to the original wound. The ends of the divided nerve were only found after a long dissection as their relations were considerably altered and the distal portion of the nerve retracted some distance. The upper portion of the nerve was stretched as much as possible before refreshing the end, but it was found extremely difficult to elongate the trunk sufficiently to make it join the peripheral portion without considerable tension.

The stumps were united by eight fine silk sutures, passed upon cambric needles through the nerve sheath. The arm was placed upon a splint and carpus kept in flexed position. Two weeks later she was sent to the Convalescent Home, the incision having healed perfectly by first intention, with no constitutional disturbances, under antiseptic dressings. She was sent to the neurologist upon her discharge from the home and is now under observation, with as yet no apparent restoration of motor-power in the nerve, and without any disturbance from neuritis or other cause.

PRIMARY SUTURE.

Case IV. Laceration of arm just above internal condyle. Ulnar and internal cutaneous nerves torn. Suture of ulnar. Union by first intention. Case under observation, symptoms as yet negative.[4]

Bartholomew Lynch, entered hospital July 8th, with left arm lacerated half an hour before admission by being caught in a flying belt. There was a ragged wound of left arm two inches above internal condyle. The wound extended from near the middle line in front around to the back of the arm, dividing the ulnar nerve, basilic vein and part of the *triceps* muscle and tendon. The wound was filled with dirt and blackened grease. After prolonged searching the stumps of the torn nerve were found. The ragged ends were carefully cut off above and below, three-fourths of an inch of nerve being thus sacrificed. Both portions of nerve were stretched with as much force as it was possible to apply, and the sheaths were united with fine silk sutures.

The *triceps* muscle and tendons were united with cat-gut sutures and the external wound closed with silk. The forearm was extended upon a straight splint, the wound having been covered with iodoform and carbolic gauze. Discharged on the 19th to report to the neurologist. No improvement noticed when last seen, and no pain or discomfort from the operation.

Case V. Cut of wrist. Ulnar nerve, *flexor carpi ulnaris*, and ulnar artery divided. Ligature of artery, suture of tendon and nerve. Immediate union, absence of local and constitutional symptoms. Case still under observation.[5]

This patient came to the hospital August 10, 1886, with a fresh cut of the wrist, ulnar side, a short distance above the joint, caused by a piece of glass. The ends of the nerve were found and united by their sheaths, fine silk sutures being used. He was sent back to the out-patient room and made a rapid recovery, the wound healing by first intention. There was absence of all constitutional and local symptoms. He was then referred to Dr. Walton who reports to-day, eight weeks after operation, as follows: There has been no improvement as yet, although the area of anæsthesia has retracted a little.

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[3] Mass. Gen. Hosp, Records, Vol. 224, p. 135.

[4] Mass. Gen. Hosp. Records, Vol. 226, p. 53.

[5] Mass. Gen. Hosp., Out-patient Department.

NEURECTOMY.

Case VI. Cut over middle of right thigh. Pain in scar and along course of middle cutaneous branch of anterior crural nerve. Painful cramps in calf. Dissection. Branch of nerve found to enter scar. Excision of scar eight months later, and an inch of nerve trunk. Cure.

James Prento, thirty-three years. In August, 1885, cut his right thigh with an ice hook. There was, on entrance to the hospital, April 3, 1886, a small scar on the right thigh, six inches above the knee-joint, at its middle and outer part. There was pain at this point and he was tormented by frequent and persistent cramps of the muscles of the calf. He was seen by Dr. Walton, who considered the pain and cramps probably due to the scar in which it was thought some branch of the middle or external cutaneous nerve was entangled. An operation was therefore advised for the removal of the scar and a portion of the nerve, if any should be found.

A cut was made above the scar parallel to the usual course of the nerve. A small branch of the middle cutaneous nerve was found an inch or more above the scar and followed down into it. The scar itself was then dissected out and with it an inch of the central end of the nerve.

April 26th, patient discharged, wound being healed and the pain and cramps having entirely disappeared.

Dr. Walton, to whom the case was referred after discharge from the hospital, reports as follows: The pain which existed to a greater or less extent before the operation went away. The cramps ceased. A patch of anæsthesia was found below the scar in the parts supplied by the excised branch.

Case VII. Cut on inner aspect of foot, of four years' standing. Pain in scar referred along course of internal saphenous nerve; dissection. Branch of nerve found involved in scar. Renewal of scar and portion of nerve; cure.[6]

John Sullivan, aged forty-eight, had a painful scar on the inner aspect of the left foot, from a cut four months before. Suffered a good deal of pain in the region of the scar, of a lancinating character. Referred to me by Dr. Walton. I found, on cutting down upon the probable course of a branch of the long saphenous nerve, a small filament, which, when followed, was found to enter the cicatrix. An inch of the nerve was excised, and the scar itself. A complete cessation of the pain followed immediately.

Case VIII. Neuralgia of inferior dental nerve for five years. Division of nerve inside mouth; relief for two years. Return of pain in aggravated form, lasting one year. One inch of nerve destroyed by opening inferior dental canal from outside. Immediate recovery and cure.[7]

S. P. B., seventy-two years old, entered September 3, 1886. Eight years ago, developed severe neuralgia in the right side of the face, over the lower jaw. Three years ago, inferior dental nerve was divided just above the point where it enters the dental foramen. This operation gave relief for two years, when the same trouble returned.

August 4th. One inch of the inferior dental nerve was cut out. An incision parallel to, and through the fibres of the *masseter* muscle, three inches in length, was made down to the jaw-bone. With a gouge and mallet a narrow opening, one inch long, was made through the ramus of the jaw over the dental canal. The nerve and artery thus exposed were cut at each extremity of the opening, and the whole curetted out. There was little hæmorrhage. The external wound was closed with silk, and iodoform dressings applied.

Two days later, stitches and drainage-tube were removed. For some days after the operation there was complaint of slight pain in the parts supplied by the mental branch of this nerve. This rapidly disappeared. He was discharged on the 10th.

August 25th. Came and reported that "it was a real pleasure to live; that he had had more real pleasure in life since leaving hospital than in any ten years before."

Case IX. "Epileptiform neuralgia" of side of nose and face. Neurectomy of infra-orbital nerve; complete cure.[8]

Tim O'Brien, sixty, married, laborer; entered hospital, August 8, 1885, with history of trouble in face for sixteen years. Some years ago had an operation done in an English hospital, without relief. Has pain in right side of face and nose, in parts supplied by the infra-orbital nerve. This is spasmodic, and extends from the inner canthus of eye down to the ala of the nose. During this paroxysm he leans his head upon his hands, with evidence of great pain, and the muscles of the nose contract spasmodically upon the right side, drawing up the ala and wrinkling the skin.

August 12th. Under ether, the infra-orbital nerve was found, a needle having been first inserted into the infra-orbital canal. The nerve was pulled out of the canal as far as possible, and cut. The peripheral end was then drawn up, and its branches dissected down an inch or more, and then divided.

The next day patient reported himself very comfortable, with pain much relieved. What pain still existed was referred to the ala of the nose.

August 18th. Five days after operation the pain had entirely left the face.

August 21st. No return of pain; face healed. Discharged.

NERVE-STRETCHING FOR SPASMODIC WRY NECK.

Case X. Spasmodic wry neck, probably of central origin; rapid and uncontrollable contraction of right sterno-mastoid. Constitutional treatment a failure. Head made immovable in plaster-of-Paris helmet; failure. Spinal accessory nerve exposed and stretched. Right sterno-mastoid becomes perfectly quiet, but left becomes affected; patient much improved. Spasm returned two months later to less degree.[9]

James Dutton, twenty-eight years old, weaver; April 10, 1886, entered Carney Hospital. Previous history good. Eight months before entrance noticed a slight twitching of the neck, which would appear at intervals of a week or two. Stimulants or lying down would stop the twitching. Never any trouble in swallowing; no venereal disease. The left side of the neck seemed enlarged and swollen. There was a distinct swelling behind the posterior pharyngeal wall, which looked red, and felt brawny. Two days after entrance the lump in pharynx was aspirated; no pus.

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[6] Out-patient Department, September 4, 1886.

[7] Mass. Gen. Hosp. Records, Vol. 226, p. 163.

[8] Mass. Gen. Hosp. Records, Vol. 220, p. 100.

[9] Carney Hospital Records.

April 26th. Head put into stiff bandage, which kept him steady and comfortable.

June 19th. Head-gear was removed, and head found to shake as much as ever. Became despondent and suicidal.

From July 1st to August 3d, was put upon large doses of quinine, salicylate of soda, and iodide of potash without benefit.

After consultation with Dr. Bullard and the staff, and at the patient's earnest request, it was decided to try stretching of the right spinal accessory, as the twitching seemed to be mostly in the right sterno-mastoid. Operation under ether.

An incision, four inches in length, was made from the mastoid process downward and forward, along the anterior border of the sterno-mastoid muscle. The dissection was carried directly backwards toward the vertebræ, until the nerve was exposed. Continued and repeated tension was put upon it by means of hooks and the fingers. By measurement, ten pounds weight was applied. Dr. W. N. Bullard tested the nerve with the electric current after each stretching, but at no time did the sterno-mastoid and trapezius fail to respond. The wound was closed antiseptically, and the union was immediate.

The next day the twitching had entirely disappeared, and the muscle remained perfectly quiet for two months. The left sterno-mastoid, which had been perfectly quiet before, now took upon itself an action precisely similar to that which had existed in the right, but less in degree.

Examination, October 11th, shows that there is still rapid contraction of the right sterno-mastoid, though much less than before the operation. His general condition is much improved, and his discomfort is quite trifling.

The first suggestion that the ends of a divided nerve be sewn together in order that the interrupted functions of the nerve might become re-established, dates back many years. "The union of the ends of a divided nerve had already been proposed by Wilhelm von Saliceto and Guy Chauliac in the last century. Arneman mentions this subject, and as it appears was the first to study the operation experimentally. Unfortunately, according to this author's statements, his first attempts were failures, and it is highly probable that owing to this lack of success the nerve suture found for a long time after Arneman no surgical support. Up to the twentieth year of our own century but few authors had occupied themselves with this operation, and their researches were, moreover, so incomplete that they could do but little towards the further solution of the question. (Delpeich, Collisan, Lemmering and others.)

"Flourens, however, published in 1828 the results of his experiments, among which several made upon fowls were so successful that they enabled him to determine that a primary union took place between the ends of a divided nerve, and that the same occurred immediately following the application of the suture.

"Larrey at the same time found the central ends of two nerves in an amputation stump completely grown together. Surgically the operation remained for a still longer time without any application, and but a very small number of cases are to be found in the literature of the subject,[10] and they are obscurely reported and scantily described, the operators satisfying themselves with their mere mention."

The present stage of the operation began in 1864, with the work of Weir, Mitchell, Velatin, and Langier. This work has been carried on to the present time by numerous writers until the literature of the subject is very extensive. While most writers agree that the suture of divided nerves should be done, others reject entirely the operation.

The indications for nerve suture is generally considered to be when the wound is such that the divided ends do not fall naturally together. When the adjacent parts keep the distal and peripheral stumps in their normal position, and the ends are only separated by the natural retraction of the nerve itself, it is thought that the restoration follows as well as when suture is employed, and that there is less danger of neuritis and other complications.

I believe that suture should be employed in all cases where important nerves are divided, because in no recorded cases have serious local or constitutional symptoms been observed, and because it is only in this that we can hope for a primary intention. In all the cases recorded above, except Case IV, the cut has been a clean incision. Yet, in dissecting down to find the retracted ends or the cicatrix, it has been found either that the nerve ends were so placed as not to fall together or even near together, or when cicatrized that the normal nerve tissue was interrupted by a very considerable interval of dense cicatricial tissue, through which the regenerations must take place. Nevertheless, it is true that a nerve may regain its functions even when the stumps are separated a long distance and no sutures have been applied.

THE OPERATION.

In primary suture it is often difficult to find the ends of the nerve. In Cases IV and V this trouble was met with. The dissection then should be made well above and below, where the nerve preserves its normal relations. This very fact (difficulty of finding nerves) confirms my belief that the nerve ends do not readily fall together.

The ends having been found, if clean-cut they should be stretched sufficiently to make any longitudinal tension impossible,— so that when sutured the nerve will lie in the bottom of the wound, lax and tortuous. This is aided by flexion or extension of the nearest joint, as may be required.

In lacerated wounds where the ends of the nerve are torn and bruised, a clean-cut surface should be made with a sharp bistoury. The use of scissors for this purpose I do not think best because the nerve fibres are crushed between the blades instead of being cut. If it is necessary to remove a very long piece of contused nerve — an inch or more — it is better to leave the contused end rather than trust to great elongation, or to the efforts of nature to fill the gap. In Case IV so large a piece of nerve was excised for this reason that it was found extremely difficult to bring the ends into apposition, and if an unfavorable result follows it may be due to this fact.

In applying the suture the thread is either passed through the nerve itself or its sheath. Of the forty-eight cases collected by Rawa, twenty-one were of the direct variety, through the nerve itself, nine perineuritic, and the others not recorded. In eight cases of the direct, rapidly disappearing neuroses came on, and once or twice neuritis. The indirect (perineuritic) was followed in but two cases by nerve symptoms.

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[10] Rawa in Kiew. Wien. Med. Wochenschrift, Vol. 35, p. 221, March, 1885.

In Case I, both the direct and indirect method was used. In all the others the perineuritic.

This method I believe to be the better, though most surgeons incline to the direct, believing that a better and more thorough union of the stump surfaces is thus obtained.

It is for this very reason that I believe the indirect method the better. Nothing could be more perfect than the union of the stumps in my cases in the manner to be described. Though the number of sutures employed varies much with different men, the only accurate joining of the ends can be made by six or eight threads.

The material should be silk or cat-gut. Silk makes the better knot and neater joint and holds longer. The technique is as follows:

The nerve having been elongated as much as possible without injury to the stump, the ends are let fall into the bottom of the wound in the position they will naturally assume. This will give the anterior surfaces. A fine cambric needle is passed through the sheath, about one-eight of an inch from its cut edge, towards the end of the stump. It then is passed beneath the sheath of the other stump through its open end, and emerges one-eight of an inch from its edge. The knot is tied and the long ends of the thread left. The assistant takes these long ends and pulls gently away from the operator. This rotates both stumps enough for the placing of the second stitch. This in turn is pulled and the next applied. In this way the nerve can be turned enough to place the stitches into the posterior surface. The operation is completed by starting in the centre in front again and rotating the nerve in the other direction. The line of suture made in this way is as perfect as can be imagined. Its strength exceeds that of the direct method, and it may be relied upon to hold the nerve ends together until union is completed.

The prognosis is favorable in nerve suture when union by first intention takes place, though months or years may elapse before the function of the nerve is restored.

The cases of neurectomy and nerve stretching are offered as contributions to the statistics of these operations. The method used of excising the inferior dental from outside the face proved more difficult than was expected, owing to the depth of the wound, but was very satisfactory, and will doubtless be followed by a long period of rest from pain.

In finding the spinal accessory the best incision is along the anterior border of the sterno-mastoid. This should be carried down two or three inches from the mastoid process and the tissue divided carefully until the nerve is found, running obliquely outwards. Ten pounds weight was applied, and this seems to me about as much as a spinal accessory nerve of average size will safely bear.

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REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. W. LOVETT, M.D.

LATERAL CURVATURE.[1]

The occurrence of lateral curvature at different ages is very fully discussed by Dr. Samuel Ketch. He quotes passages from the leading orthopedists to show that the prevailing idea is that it is a disease occurring for the most part about the age of puberty, the only authors who dissent being Adams, Eulenberg, Hueter and Shaffer. He takes exception to this idea and quotes Eulenberg's cases. In 1,000 cases of lateral curvature collected by him, 87 per cent. are recorded as beginning before the tenth year, 56 per cent. of all cases occurring between the ages of seven and ten. Ketch collected the cases of lateral curvature treated at the New York Orthopedic Dispensary within the last eight years. Of 229 cases, 189 were in females. It occurred from birth to the twelfth year in 52 per cent.; from the twelfth to the eighteenth year in 41 per cent.; from the eighteenth year upward in 3½ per cent.; period of appearance not noted in 2½ per cent. The youngest case was two weeks old. He concludes first, that rotary lateral curvature is principally a disease of childhood and may be congenital or acquired; and second, that puberty, except as a concomitant occurrence has no direct causative influence.

A NEW METHOD OF APPLYING THE PLASTER JACKET IN SCOLIOSIS.

Fraenkel[2] announces a new method based upon the necessity of over-correction of the lateral curvature. He insists upon the importance of this over-correction in other deformities (club-foot, etc.), and describes how it can be applied to the spine. The child must undergo a preliminary course of treatment directed to restoring flexibility to the spine; this is done by the ordinary methods of bending the child over the knee, and common gymnastic exercises. When a moderate degree of flexibility is restored the patient is suspended in Sayre's sling, bandage swathes are stretched over the convexity of the two curves, primary and secondary, and carried off to the opposite side. An assistant then pulls on each side, over-correcting both curves and keeping up the over-correction until the jacket is applied and has hardened. He recommends the frequent reapplication of the jacket.

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[1] New York Medical Record, April 24, 1886.

[2] Berl. Med. Wchsch., May 8, 1886.

Petersen[3] claims to accomplish the same thing by the use of Barwell's sling while the patient is suspended; in this way much less assistance is needed.

LATERAL CURVATURE.

Landerer considers that scoliosis is to be regarded as a deformity resulting from supericumbent weight, as genu valgum is, and that all treatment shall be based on that fact. The chief factor in determining the attitude is the muscular system. In a new-born child the spinal column is straight, if the child is made to sit up, the head and spine bends forward, and a total kyphosis is presented; if, however, the child is held sideways the spinal column with the head falls sideways and a single lateral curve involving the whole spine is presented. In a child, when it becomes necessary to hold the head erect, in a similar position a double curve S-shaped would present itself, the force causing the upper curve being the muscular system. Heavy superincumbent weight alone is not sufficient to cause a lateral curvature if the muscular system is strong enough to hold the spine in a vertical position.

The spine in beginning lateral curvature is usually quite flexible and the erect position is to be maintained chiefly by strength of the muscles. Massage, the writer claims to be a ready means of developing the muscular strength. As a new exercise the writer advises that in suitable cases the patient carry a basket upon the head for five or ten minutes daily, steadying the basket with the hand of the depressed shoulder.[4]

STATISTICS OF LATERAL CURVATURE.

Kölliker[5] has had an opportunity to observe and classify 721 cases of true lateral cuavature. Of these 577 were in females and 144 in males. He found, however, that of the severe cases alone, the numbers of the different sexes were more nearly alike, and that in the most severe cases, the number of males predominate. Simple dorsal scoliosis is the most common form (381 cases) and the next most common form is the typical S-curve (172 cases), that is, with the projection of the right shoulder and left lumbar region — the reverse double curve was only seen in 22 cases.

He found, however, that of the single curvatures the convexity was more frequently to the left than to the right. The left dorsal scoliosis appeared to be the variety most readily healed.

CLUB-FOOT.

Ried[6] contributes the histories of seven cases operated on by him for severe club-foot by resection of the tarsus. The operations were said to have been followed by satisfactory results in all cases.

In opposition to many writers he is an advocate for extirpation of the astragalus with resection of the tip of the fibula in younger persons in cases of severe club-foot, and of wedge-shaped osteotomy in older cases with much distortion of bone, presenting his reported cases as proofs in favor of his argument. Wedge-shaped resection of the tarsus he does not consider advisable in younger cases; but removal of the astragalus he advocates together with section and removal of a part of the anterior process of the calcaneus and of the posterior surface of the cuboid, even in children of two years of age. The incision for the removal of the astragalus advocated is a curved one from the outer malleolus across the projection of the astragalus to the inner edge of the extensor tendons. If any thickening of the sheath of the tendons is present it can be trimmed off so as not to interfere with the healing process.

The foot should be kept in a fixation and correction apparatus after the operation, which should be worn some time.

In opposition to the views of Ried, Wolff[7] claims that better results can be obtained by the means of forcible correction with the subsequent wearing of a fixed bandage than by any operative measures. He cites a case of a patient nineteen years of age with severe congenital deformity—(talipes equino varus) — where a cure was practically accomplished in five months. In a second case, a paralytic deformity in a patient twenty-four years of age complete correction was accomplished in five weeks. The writer claims that in all cases complete correction is possible without the use of the knife in any other way than for tenetomy of the tendo-aphillis.

In a clinical lecture Dr. A. S. Roberts[8] gives some very interesting facts about the ætiology and varieties of club-foot. In speaking of the treatment of it he directs attention to the lateral deviation of the anterior part of the foot. Taking the medio-tarsal joint as a starting point, he found that the part of the foot in front of it made an angle with the part behind it that varied much in the different conditions. In normal feet the angle varied from 26° to 37°; in valgus it averaged only about 8°, in severe cases falling as low as 5°. In varus cases, on the other hand, the angle averaged 51°, and anything over 40° Dr. Roberts considers abnormal. The treatment advocated for the correction of varus and equinus is extension by Shaffer's shoes which are slightly modified by Roberts and are quite clearly figured in the article.

The article on club-foot by A. S. Roberts and Samuel Ketch[9] in Wood's "Reference Handbook," is a most complete treatise on the subject. An analysis, as to the frequency of occurrence, of several hundred reported cases leads the authors to the following conclusions:

(1) That it is most frequently found in males.

(2) That Talipes varus predominates.

(3) That the right foot is oftenest affected.

(4) That both feet are more frequently affected than one alone.

(5) That primitive forms are rare.

A very full discussion of ætiological theories follows and Berg's theory of arrested rotation is accepted as the most likely one. The history and literature of the subject is presented in full. The treatment advocated is that which is identified with Dr. Shaffer's extension shoes, namely, strong force exerted by means of hinged-lever and screw apparatus applied daily for a few minutes at a time. The article is fully illustrated by cuts of the different varieties of the deformity and of apparatus.

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[3] Langenbeck's Arichv., Heft. 1, Bd. 32.

[4] Deutsche Zeitschrift f. Chir., Bd. xxiii, p. 557.

[5] Centratlblat f. Chirurgie, No. 21, 1886, p. 371.

[6] Deutsche Zeitschrift f. Chirurgie, 23d Bd., 5th and 6th Heft., p. 530.

[7] Berliner klin Wochenschr., 1885, Nos. 11 and 12.

[8] Philadelphia Med. News, 1886, 48, p. 309.

[9] Wood's Reference Handbook, Vol. II, p. 196.

Dr. Gibney,[10] in an article on "Club-Foot," discusses at length the question of tenotomy. The objections ordinarily made to it he formulates as follows: (*a*) that it weakens the foot; (*b*) that it tends to produce calcaneus; (*c*) that the cicatrices resulting from it make subsequent treatment unreliable; and (*d*) that it is a painful operation. He disposes of these objections with an answer to each one; some of the answers are, however, not very convincing. He then discusses the abuses of the operation, which have brought it into bad repute in many places. They are: (1) incompleteness of operation; (2) failure to correct or over-correct the deformity; (3) too early use of the foot in paralytic cases; (4) the use of tenotomy where there are cicatrices from old operations; (5) operation without after-treatment. If these abuses are guarded against, he advises the performance of tenotomy in most cases. The remainder of the paper is taken up with a discussion of the other methods, "rapid cures," tarsoclasis, open methods, and tarsotomy.

CLUB-FOOT.

Mr. Parker gives a brief *résumé* of the work on "Club-Foot," which was done by him, in connection with Mr. Shattuck, and reported by them to the Pathological Society. They started upon their dissections with the idea in their minds that either spasm or paralysis of the muscles was the cause of the deformity, but the deformity persisted after the muscles were dissected off, and not until certain ligaments had been divided was reduction possible. The ligaments cannot be said to be "shortened"; they are normal in structure, and give no evidence of having undergone any pathological process; they are simply shorter than normal. This is the only constant condition, but more or less inclination inward and forward of the head of the astragalus is apt to be present. The average angle of inclination in a normal foot is 38°; in talipes varus it averages 49°, reaching 64° in some cases. There is a more or less incurved condition of all the bones of the foot; the muscles of the foot and leg, the nerve-trunks, and the spinal cord are normal. The ligaments at fault are the inner ones, along the incurved side of the foot, and in severe cases, the long and short plantar ligaments. From the division of these ligaments in many suitable cases, Mr. Parker has had uniformly successful results.

Following are the rules for the division of the ligaments: For the inner one (which is the anterior part of the internal lateral ligament, described under the name of the astragalo-scaphoid capsule), a curved tenotome is entered just in front of the internal malleolus with the point toward the sole. The knife should be kept between the skin and the ligaments, and they are cut down upon with a sawing motion; the tibialis posticus and anticus muscles will naturally be cut at the same time. For the division of the plantar ligaments, long and short, the calcaneo-cuboid articulation is chosen. A knife is entered at the outer edge of this, and the line of the articulation is followed when both ligaments are divided at the same time. The operation should be wholly subcutaneous, and a plaster-of-Paris bandage applied at once, which holds the foot in its new position.[11]

FLAT-FOOT.

Humphreys[12] contributes a paper upon the "Mechanism and Pathological Condition in acquired Flat-Foot." The astragalus is the key-stone of the arch of the foot, the posterior pillar the os calcis; the anterior is formed by the scaphoid, cuneiforms, and the three inner metatarsals. The anterior pillar is, by its structure, more elastic and weaker, because it contains the astragalo-scaphoid joint. This joint, in addition to its ligaments, is strengthened by the tendons of the tibialis posticus and peronei muscles. Now, in long standing, the muscles become fatigued, fail to afford the necessary support to this joint, the ligaments stretch in time, and an extension of this astragalo-scaphoid joint takes place. In consequence of this altered relation of the pillars of the arch, the astragalus is changed in position, and, by virtue of its shape, it rotates inward, so that it falls inside of the plane of action of the tendo-achillis, and the foot is thereby weakened, and the muscles whose function it is to raise the ankle and heel on the fulcrum of the ball of the foot cannot do so. "It is a persistent over-extended and incurved condition of the chief joint of the tarsus." Moreover, the muscles on the tibial and flexor side of the foot become relaxed and enfeebled, and fail to afford the proper support, and, therefore, the extensors and peronei not being extended and used, become irritable and contracted, and add to the discomfort.

FLAT-FOOT TREATED BY OGSTON'S METHOD.

Franks and Stokes[13] report cases treated by astragaloid osteotomy. Franks performed Ogston's operation, refreshing of the astragalo-scaphoid articulation, and nailing the bones in a corrected position, and some stiffness in gait followed, perhaps on account of the fixed gypsum bandage, which was worn four months. Stokes considers Ogston's operation too severe, and prefers removing a wedge from the inner side of the neck of the astragalus, thus avoiding an anchylosis at the Chopart's articulation. The case was a successful one.

KNEE-JOINT DISEASE.

Dr. Judson[14] comes forward with a new and very simple splint for the treatment of tumor albus in children. After insisting on the importance of absolute rest in this disease, he proceeds to describe his new splint, which consists of a strip of malleable iron, about an inch wide, which runs the length of the leg and thigh in the middle line behind, being somewhat longer than the ordinary ham-splint. At the top and bottom of this, and at two equi-distant points, are riveted semi-circle steel bands, transversely bent, to fit the leg and thigh. It is, in fact, a skeleton ham-splint. It is bent to fit the outline of the leg, and secured by straps and buckles. Dr. Judson claims that a plaster or ham-splint holds the femur as if it were imbedded in a mass of jelly, and, therefore, fails to afford definite support, while in this splint the transverse steel arms approach much more nearly to the bone and therefore, holds it more firmly. The apparatus is very inexpensive, and could be made by any blacksmith.

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[10] N. Y. Medical Journal, 1886, XLIII, 427.

[11] British Medical Journal, 1886, II, 10.

[12] Lancet, 1886, I, 329.

[13] Trans. of the Acad. of Med. of Ireland, 1885.

[14] N. Y. Medical Journal, 1886, 43, p. 623.

Clutton[15] describes a

BILATERAL CHRONIC SYNOVITIS,

occurring in children from eight to fifteen years old, which affects only the knees, and is clearly syphilitic in origin. He has seen and recorded eleven cases of this sort, in all of which the condition of the patients was such that there was no doubt of the existence of constitutional syphilis. The synovitis is painless, does not give rise to muscular spasm, and the affection is extremely chronic. It does not tend to go on to destructive changes, but it is, nevertheless, not very amenable to constitutional treatment.

LOOSE CARTILAGE.

Poulet and Valliard[16] have endeavored, in a long series of pathological and experimental investigations, to learn under what conditions loose cartilages are most frequently developed. They report that a foreign bony or cartilaginous substance in the joint is developed out of bone corpuscular elements, and originate either from traumatic causes, peri-articular osteophytes, from loosened fragments of the joint cartilage of separated pieces of fragments from the ends of the joints. Dry or deforming arthritis shows the most favorable condition for the development of loose cartilage, and should be regarded as a symptom of the disease. Beside this most frequent form of dry arthritis, there is also a variety seen chiefly in youth, attacking only one joint, and only at one point of this joint. A peculiar affection of an insidious course, which is otherwise little known, exists, and is active in separating pieces of cartilage from the ends of the joints. In such cases, the resulting foreign substance is held in a depressed symmetrical spot in each of the bones, forming the joint. Every bony, foreign body may undergo changes in shape and structure, differing as the body may be free or pedunculated. The latter are inclined to a fibrous change, while the free bodies may undergo a cartilaginous change on the periphery, so that a substance originally bony may become partly cartilaginous, and further, this cartilage may proliferate.

A CASE OF OLD DISLOCATION OF THE KNEE BACKWARDS.[17]

Karewski reports a most unusual case of this rare deformity. A woman thirty-two years old, presented herself with an old deformity of the knee, resulting from a severe injury received when sixteen years of age. A complete dislocation of the knee-joint had taken place backward which from the presence and size of a scar, it was evident that the dislocation had been a compound one. The condyles of the femur were markedly prominent in front, covered by a cushion of fat on the under-joint surface. The patella is dislocated downwards. The edge of the tibia projects backwards, and in a measure the upper-joint surface can be felt.

Motion at the joint was perfect and the woman had been able to earn a livelihood as a serving-maid. Some arrest of growth of the tibia had been caused by the accident. The affected tibia was 3 cm. shorter than the other, in addition to the shortening due to the luxation. According to the history the patient had remained several months in bed after the accident and gradually learned to walk without using crutches. She complained of lateral laxity of the joint, and suffered from one attack of hydrops articuli in consequence.

(To be continued.)

Clinical Memorandum.

PLACENTA PRÆVIA PARTIALIS.

BY W. D. BIDWELL, A.M., M.D., OF LEAVENWORTH, KANSAS.

Mrs. P., a short, stout, healthy woman, twenty-six years old, was married two years ago last February. In July of that year she was taken with flooding after a hard day's work, which was followed by a miscarriage of a three-months' fœtus.

She became pregnant a second time about last Christmas. In May of this year she had a hæmorrhage, without pain, about equivalent to an ordinary monthly sickness. At this time she supposed she was only three months pregnant. In July she had another slight flow of about the same amount. September 7th, while stooping over, she began to flow, and lost about a quart of blood. She at once went to bed, and applying cold cloths locally, succeeded in stopping the flow. From that time she was about the house again till the 13th, when she felt languid and tired, and had to rest. At 12 o'clock, at night, without any pain or other warning, she began to flow freely, in spite of cold applications, and by the time I arrived, at 3.45, had lost some four or five quarts of blood.

Examination showed that the abdomen was nearly as large as at term, the cervix was long and soft, the os slightly patulous, and admitting the end of the finger. On the right side the uterus felt soft and boggy, while the head of the child could be felt on the left. After obtaining the above history, I informed the family that it was in all probability a case of placenta prævia. They were quite positive that the woman was only seven months pregnant, and as, in my opinion, it was advisable to deliver the woman at once, I asked Dr. Brock to see the case with me.

After consultation, it was decided to tampon the vagina, and watch the case closely. At 5 o'clock, September 15th, the pulse was 110, hæmorrhage still continued, and there were one or two uterine contractions. At 11 o'clock, it was evident to all concerned that something must be done, and the scruples of the family being at last removed, I dilated the cervix manually, and introducing the hand into the uterus, seized the right foot, rupturing the membranes at the same time, and performed version. The presence of a foreign body set up forcible contractions, and the child was soon delivered, though the rigidity of the perineum caused a moment's delay. The child, a female, was well developed, but still-born, and all attempts to resuscitate it were in vain. After the placenta was expressed by Credé's method, ergot was given in full doses every half-hour, till three doses were taken, and directions were left to give it if there was any return of the hæmorrhages. Twenty-four hours later the patient had a slight chill, though she had taken quinine immediately after delivery. Forty-eight hours later, after taking more quinine and opium, there was no return of the chill, the temperature was 99°, appetite good, and the patient feeling first-rate.

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[15] Lancet, 1886, I, 391.
[16] Centralblatt f. Chirurgie, September 18, 1886, p. 642.
[17] Deutsche Zeitschrift f. Chirurgie, Bd. xxxiii, p. 535.

Two days later the temperature fell to normal, and the woman has made a perfect recovery, gaining strength rapidly.

Had we suspected that the child was so near full term, the method proposed by Dr. Bishop in the *Medical and Surgical Journal* of September 9th would probably have bettered the chances of the child being born alive, but taking into consideration the weakened condition of the woman and the danger from further hæmorrhage, the quick delivery by version gave the mother a better chance. Examination of the placenta showed that a surface four inches long and one and a half wide had been separated, thus exposing a considerable surface of open vessels, from which the hæmorrhage had come.

This case resembles the majority of cases of placenta prævia in the implantation, being mostly on the right side, but differs from them in that it occurred in a multipara, who had had but one miscarriage, and that some months previous to the second conception.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

October 11th, 1886, the **President**, **Dr. F. W. Draper**, in the Chair.

Dr. James B. Ayer reported a case of

WHOOPING-COUGH AT THE AGE OF FIFTY-ONE. TREATMENT BY CRESOLENE.

Last May, his patient, fifty-one and a half years old, father of two boys who were then afflicted with whooping-cough, was prostrated by a severe attack of bronchial catarrh, involving the whole respiratory tract down to the minute bronchi.

On the tenth day the convulsive stage began. The paroxysms, preceded by a feeling of oppression about the larynx and accompanied by nausea, were, the speaker could testify from observation, typical of whooping-cough.

The patient was convinced that he obtained great relief from the vapor of cresolene; nevertheless, the paroxysms continued daily up to the end of the twelfth week, and at the present time (twentieth week) they occur occasionally. He remembers having had an attack of the disease when eight years old. During the past few months Dr. Ayer has heard of many cases of whooping-cough among adults in this city.

Dr. J. C. Warren said that crysolene is a coal-tar preparation. It was shown here some two years ago by Mr. Andrews. It always seems in his experience to give relief.

Dr. C. P. Putnam said that he is somewhat skeptical about the value of the drug. It has appeared to do good at first, and has then failed. Possibly, because it was a novelty, he was overinclined at first to attribute to it any relief that might be observed. At any rate, he has used it many times and is entirely unable to say whether it has or has not any effect.

Dr. M. H. Richardson, speaking of the possibility just mentioned by Dr. Putnam of being deceived by improvement following the use of a drug, said that he had thought that a patient of his was receiving benefit from the dragées of Rabuteau, until it was discovered that they were being discharged undissolved through a fistula-in-ano.

Dr. M. H. Richardson then read a paper on

OPERATIONS ON NERVES.[1]

Dr. C. B. Porter said that the literature of the subject was well covered by the paper. The observations of Dr. J. J. Putnam and Dr. Walton have thrown a good deal of light on the subject of nerve suture, and by long perseverance with electricity they get good results in cases which would formerly have been considered hopeless. He had on one occasion sutured the ulnar and the median nerves in one operation, and had supposed that he had a failure, this being three or four years ago; although to-day he would persevere longer with the use of electricity. Again, to-day he would not suture both nerves at the same time, because of the impossibility of getting the greatest possible relaxation of both at once. He had in mind one case of suture of the ulnar, in which there was a return of sensation in two or three days, at least the patient said so, but no permanent improvement. He referred to cases of excision of the supra-orbital and infra-orbital for neuralgia, with relief which has lasted completely for a year; and to a case of painful stumps after amputation, in which removal of the stump of the great sciatic, small sciatic, and long-saphenous had given complete relief.

One young man had become a morphia-eater because of the painful stump after amputation of the thigh. Dr. Porter had determined to first break him of the opium habit and next to amputate the nerve stump. The patient therefore entered the Massachusetts General Hospital, but by the time that he was broken of the opium habit, his neuralgia had disappeared; it having been probably aggravated by the low condition kept up by opium eating.

Dr. S. G. Webber said that he had no surgical experience with the nerves. It seems wonderful that restoration of function should take place over considerable spaces, even a quarter of an inch. If operation cannot bring the severed ends of a nerve together, as in the case of a crush, the nerve fibres may bridge the space, and this result is, he thinks, worth trying for. Often if but one nerve be cut, although there is less motion, the injured man learns to use other muscles and so preserves good use of the limb. This is more likely to be the case with the ulnar than with the radial.

The speaker thinks that nerve stretching might be more often done for torticollis, for the symptom is a distressing one; the operation has produced good results, and even partial relief is a great blessing, while scarce anything else does good.

Dr. E. H. Bradford stated that as far as his recollection served, the reported success of the operation of stretching the spinal accessory in spasmodic torticollis was not encouraging. Some cases had been reported as cured after section of the nerve.

Dr. Bradford mentioned stretching the sciatic in a case of severe pain along the course of the nerve in a powerful adult, suffering from disease of the hip joint. Mr. McNamara had suggested and performed the operation, with the idea of temporarily paralyzing the irritated muscles and giving rest to the joint when acutely inflamed, as the sphincter ani is stretched in hemorrhoids. In Dr. Bradford's case the relief was marked.

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[1] See page 368 of this number of the Journal.

Dr. J. C. Warren said that it was of interest to inquire how long after injury an operation may be successful. He thought a case had been reported of stretching of the spinal accessory for severe torticollis in sleep, some fourteen years, he thought, after the injury, but without much success. He said also that Mr. Annandale's directions for exposing the nerve are different from those of Dr. Richardson. He makes his incision on the posterior border of the sterno-mastoid muscle on a line with the thyroid. Here the nerve is found easily in the cadaver, and there are no large vessels exposed, as he supposes would be the case in Dr. Richardson's operation.

Dr. Richardson replied that it is not necessary to expose large vessels, if the anterior border of the muscle is closely followed.

Dr. James J. Putnam spoke of the absence of danger of neuritis in operations upon nerves when done under antiseptic precautions.

The principal danger in operation for stretching seems to be that of setting-up chronic changes in the spinal cord. With regard to the strain that nerves will bear he had found that so slender a nerve as the facial would bear a strain of nearly twenty pounds before breaking. If desirable, stretching or crushing may be made as effectual as section, in interrupting the conducting power of the nerve and causing degeneration of the lower end, and it has the advantage of securing an eventual restoration of function,— where this is desirable — with greater certainty.

It is probable, as Ranvier has shown, that repair of cut nerves really takes place by a growth of fibres from the central end, and may take place so long as this remains in good condition. In the case reported by Dr. Porter, of secondary suture of the median and ulnar, the speaker had examined the excised piece, which consisted of a dense mass of connective tissue, and had found an abundance of healthy nerve-fibres in the upper end of it but none in the lower end, though a number of months had elapsed since the injury. Ranvier has shown that nerve-fibres may make their way through a certain amount of connective-tissue lying between the cut ends of nerves in certain animals, but experience seems to show that this is not true of the dense cicatrices which form after serious injury of the larger nerves in man. Speaking of complex, coördinated spasms, like torticollis, he said it was important to find and connect every underlying constitutional taint before or beside operating on the nerves.

In a severe case of torticollis observed recently, the speaker had found lead in both the drinking-water and the urine.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, October 7, 1886.

SOME PHASES OF CEREBRAL SYPHILIS

was the title of a paper read by Dr. Julius Althaus, of London, a Corresponding Fellow of the Academy. He first gave a historical sketch of the study of cerebral syphilis, our knowledge of which, he said, was of very recent origin, in the course of this paying special tributes to the labors of Virchow, Hübner, and Fournier. He then went on to say that the time at his disposal would only permit him to refer to two points in which comparatively little had as yet been ascertained. These were syphilitic coma and syphilitic hemiplegia.

SYPHILITIC COMA.

Coma suddenly developing in a patient who has been suffering from venereal disease more or less recently, was a thing not generally known by the profession. The other forms of coma, which he enumerated, were well recognized, but syphilitic coma was not even mentioned in the text-books, Fournier being about the only author who referred to it. Dr. Althaus, altogether, had met with eight unmistakable cases, and they were all in males, between the ages of twenty and forty. In one case the coma came on only eight months after the contraction of the primary sore; in six the period varied from three to five years; and in one it was developed after an interval (from the initial lesion) of no less than seventeen years.

Among the exciting causes of syphilitic coma, may be mentioned over-work, mental anxiety, sexual excess, and alcoholic excess. In two out of the eight cases referred to, no exciting cause could be ascertained.

In describing the symptoms, he mentioned first the premonitory, and among these were headache, confusion of ideas, and drowsiness, defective vision, with the appearance of black spots before the eyes, numbness in the limbs, and more or less loss of muscular power.

Next, he spoke of the symptoms of the initial stage. Habitually, the coma comes on during sleep, and the patient is discovered in the morning lying quietly on his face. He evidently suffers no pain, and there is no restlessness or tossing of the body. The countenance is utterly devoid of expression, and is generally pale. Sometimes the patient can be partially aroused. If so, he will complain that he is blind, and on opening the lids, it will be found that the eye-balls are deeply contracted within the orbit. There is also divergent strabismus, the degree of which depends on the intensity of the coma. The pupils are contracted, and the reflex sensibility of the conjunctiva abolished. There is relaxation of all the muscles, and the limbs on both sides are affected alike. There is more or less anæsthesia, and the tendon reflexes are either diminished or entirely abolished. There is also incontinence of the excretions, from paralysis of the sphincters. The urine dribbles away, but, as a rule, the bowels are very constipated. If they are opened by purgative medicine, however, their contents are passed involuntarily. The pulse is generally slow — 40, 50, or 60. In one case it was as low as 36, but in another it was 86. Its quality is variable. The respiration is slow and shallow, the average frequency being eight to ten a minute. The temperature is below normal (96° to 97°), and in one case was as low as 95°. In one case there was extensive herpes of the face, but, as a rule, the skin was dry and parched. The tongue is also dry, and deglutition difficult.

Such being the symptoms present, what is the condition of the brain giving rise to them? There are unmistakable signs of paralysis, but there are also signs of irritation. Such a coincidence, however, is by no means so singular as might at first appear. The brain is an exceedingly complex organ, and the gray cortex requires a larger supply of oxygenated blood than any other part. In poisoning by carbonic acid, there is first a stage of irritation, and then this is followed by coma. In syphilitic coma there is also probably a short stage of irritation. The initial stage lasts from two to five days, when recovery begins, or the patient sinks into the final stage. In ten days or a fortnight he may apparently be well, and may be able to resume his usual occupations. In other cases, however, recovery is more gradual.

FINAL STAGE.

If the progress of the case is towards a fatal termination, there is an intensification of the symptoms of loss of voluntary muscular power and reflex sensibility. The lower jaw drops, and the mouth lies wide open. The breath is fetid, and the power of swallowing is lost. The surface of the body is bathed in a clammy sweat, and the pulse is small, full, and very quick. It rises to 180, and later, it is impossible to count it. The sphygmographic tracing is that of a patient in collapse. The respiration grows more and more rapid, and may be of the Cheyne-Stokes character. Hypostatic pneumonia is also likely to result. This stage lasts from twenty-four to thirty-six hours.

Of the eight cases seen by Dr. Althaus, six ended in recovery and two in death, in the first attack. In three of the six which recovered from the first attack, there was a relapse. One of the patients recently died, after having had no less than five attacks of syphilitic coma. No autopsies, unfortunately, were permitted in the cases which proved fatal.

Dr. Althaus expressed the opinion that this affection is due to implication of an important cerebral artery, and in all probability the basilar, which supplies the most important vital parts of the brain. Sudden occlusion of this artery causes death by profound coma, as has been proved by a number of instances. He described a case in one of the London hospitals, in which the autopsy showed that there was an occlusion of the artery, due to inflammatory action, and also referred to similar instances reported by Vulpian, Bastian, and other authorities. By occlusion of the basilar artery, sudden anæmia of the cardiac and respiratory centres is caused, but in syphilitic occlusion the case is usually of longer duration than in ordinary thrombosis. This explanation of the pathology of syphilitic coma, Dr. Althaus remarked, is still in need of confirmation by post-mortem observation.

The diagnosis, he went on to say, is easy or difficult, according to circumstances. Apoplexy usually occurs in the old, while syphilitic coma is seen in the prime of life, and apoplexy is attended with hemiplegia, which is lacking in the latter. The variety of apoplexy which it most resembles is that in which the hæmorrhage takes place into the pons. It may be mistaken for opium poisoning, but in syphilitic coma the pupils are not so extremely contracted as in other opium poisoning or hæmorrhage into the pons. If itching of the skin and retention of urine are also present, it will indicate opium poisoning. The fits in epilepsy, hystero-epilepsy, etc., are of much shorter duration than an attack of syphilitic coma, and are also apt to be accompanied by biting of the tongue, foaming at the mouth, and perhaps petechiæ of the face. In suspected alcoholic coma, the odor of the breath is not a reliable sign, as alcoholic stimulus may have been administered at the onset of an attack of coma due to other causes; but if the urine is found to contain alcohol, the diagnosis will be plain, since this agent, if taken in large quantities, is eliminated unchanged in the urine. The temperature is usually lowered in alcoholic coma, but not to as marked an extent as in syphilitic coma.

The detection of uræmic coma is easy if the history of the case is known. It may come on suddenly, but it is usually preceded by headache and nausea. It is characterized by fits and remissions; not the dead level of unconsciousness which is met with in syphilitic coma. Anasarca is often present, and the examination of the urine will reveal the presence of disease of the kidneys. By raising a blister and examining the serum which it contains, the presence of urea can also be detected in the blood. One half of the cases of diabetes terminate in coma, and therefore the condition of diabetic coma, or acetonæmia. is not infrequently met with. The peculiar difficulty of respiration and the acetone breath are important factors in the detection of diabetic coma, and the urine will also usually be found to contain acetone and its allies.

As to the prognosis, this is always grave, although not so hopeless as is the case of either uræmic or diabetic coma. It is serious, however, because the presence of this condition shows that the syphilitic disease has invaded the cerebral centres. Even if the patient recovers from the immediate attack, there is always danger of a return of the trouble. The prognosis of the attack itself is usually hopeful; but active treatment is required, and the future prognosis also depends to a large extent on this. If the patient is willing to submit to a two years' course of systematic treatment, he will probably have a fair chance of recovery; but if he will not carry out its details thoroughly, the alternative is death or general paresis. The two fatal cases which Dr. Althaus met with were hopeless when he first saw them, as they were far advanced, and had been treated simply with stimulus.

In speaking of the treatment he said that ether by hypodermic injection was often of great service; the usual dose being twenty minims three or four times a day. Ammonia is of little value, but blistering sometimes has a good effect; while the cold douche, applications of ice, etc., are likely to do more harm than good. The great reliance must be specific treatment, and the best method of employing it so by means of inunctions. There is perhaps nothing so good for this purpose as the old blue ointment; though the oleate of mercury, made with the yellow oxide, is excellent too. Lanolin can also be used with good effect as a vehicle for the mercury. For hypodermic use the perchloride is the best preparation, and the injections should be made deep into the gluteal muscles in order to avoid as much as possible the danger of abscesses.

Dr. Althaus then took up the subject of

SYPHILITIC HEMIPLEGIA,

of which he said there was a number of different types, although they all have certain points in common. In the first place, syphilitic hemiplegia almost invariably occurs in males (ninety-five per cent. of all cases); secondly it occurs in the young, (between the ages of eighteen and forty); and, third, it is characterized by the peculiar behavior of the deep reflex phenomena. The complication of hemiplegia with ocular paralysis of different kinds is very significant of syphilitic disease. He related a case in which the patient, twenty-eight years of age, had incomplete paralysis of the left side, which had been incomplete from the beginning, and which was preceded by ptosis. There was no apoplectic seizure at the time of the onset of the trouble.

Another type was preceded by headache of peculiar obstinacy, which disappeared, however, when the hemiplegia set in. In another variety both sides are affected, but at different times. In some cases many months intervene before the hemiplegia occurs on the second side. In still another variety the paralysis comes on, not more or less rapidly, but slowly. In one case which he related, hemiplegia developed within eight months after the initial lesion of syphilis. The patient was systematically treated, and made a fair recovery.

These different types were all totally different from ordinary hemiplegia. All cases of the latter were very much alike; but scarcely any two cases of syphilitic hemiplegia resembled each other. The diagnosis of this affection by the test of treatment was often very fallacious, for many cases of syphilitic hemiplegia were not materially benefited by specific treatment. There was, however, one truly pathognomonic symptom, namely an excessive exaggeration of the deep tendon reflexes, both of the upper and lower extremities. This was the symptom on which Dr. Althaus depended in making the diagnosis. It could only be relied upon, however, in cases in which the reflexes on one side were normal.

The treatment was not always satisfactory, and therefore in such cases the prognosis was not good. Some cases unfortunately terminated in general paralysis of the insane. It was the secondary consequences of the syphilitic process which often proved unamenable to treatment; for the removal of the syphilitic gumma would not restore the nerve-cells and fibres which had already been destroyed. The lesson to be derived from these cases was, therefore, that active treatment should be commenced as soon as there is the slightest evidence of cerebral trouble. The secondary ordinary lesions which result from syphilitic lesions of the brain are unfortunately not affected by anti-syphilitic treatment.

DISCUSSION.

Dr. R. W. Amidon said that he would like to call attention to one factor in the production of syphilitic coma which the learned author of the paper had not specifically alluded to, namely, the factor of a weak heart. Dr. Althaus, he felt sure, however, would be willing to acknowledge its agency, since he had mentioned among the exciting causes over-exertion, anxiety, and sexual and alcoholic excesses; all of which conditions were recognized as conducing to a weak heart. He thought that this important factor did not receive sufficient attention from the profession.

The occluding disease of arteries was well understood, but alone, he did not think it was sufficient to account for the coma. Taken in connection with a weak heart, however, it would satisfactorily account for all the phenomena so graphically described in this paper.

Dr. A. D. Rockwell remarked that as our experience in the domain of nervous diseases widens, we must necessarily become more and more impressed with the importance of syphilis in this connection. Patients often state, with honest conviction, that they have never had syphilitic trouble, and yet the subsequent history of their cases proves conclusively that they have. He said he had had no personal experience with syphilitic coma, but he thought that perhaps a case which he had had under his care some time ago might prove of interest in connection with the subject of the paper. It was one of spastic paresis, with some difficulty of utterance. From the beginning there had been facial paralysis. This had been followed by aphasia and hemiplegia, which afterwards disappeared, and then reappeared again. The patient denied that he had ever had syphilis, but a course of anti-syphilitic treatment resulted in very marked benefit.

Dr. Robert W. Taylor said that he was in hearty accord with the author of the paper in much that he had said, but he thought that he had scarcely done full justice to certain observers in the historical part of it. It was true that two great pathological epochs in connection with syphilis were inaugurated by Virchow and Hübner, but these were outshone, he believed, by certain clinical epochs. The Strasbourg thesis of Hildebrand showed that about 1848 and 1850, there was some professor at that university who had taught a knowledge of cerebral syphilis. The next epoch commenced about 1863, with the writings of Lancereaux and other brilliant French syphilographers, and these were the text-books from which a vast amount of our knowledge had been derived. Without detracting from the labors of Hübner, he thought that a word of recognition was due to the late Walter Moxon, of London, for his remarkable contributions on syphilitic disease of the arteries, published in "Guy's Hospital Reports."

Dr. Althaus's description of syphilitic coma was clear, graphic, and admirable in every way, and it was evidently the result of careful bedside study. As regards syphilitic hemiplegia, Drs. Van Buren and Keyes, in this country, had studied the subject very thoroughly, and all the varieties and symptoms described by Dr. Althaus had been noted in the paper which Dr. Keyes read a number of years ago, embodying their researches, the main points of which had now been incorporated in several text-books. He believed that certain concomitants, besides syphilis, were necessary to produce these severe neuroses, and among them he would rank as of great importance alcoholic and sexual excesses, and unnatural sexual habits.

Dr. Landen Carter Gray, of Brooklyn, said that some of the questions brought up by the author of the paper, he thought, ought to receive a little discussion. The pathology of these cases of syphilitic coma was a subject which still deserved a great deal of study, and personally, he was hardly prepared to accept Dr. Althaus's conclusions. The textural changes which took place in the brain itself were out of all proportion to the arterial changes, as was shown in two autopsies which he had had the opportunity of seeing, in cases where the coma was the predominant symptom before death, the paralysis present being secondary. In both cases, the presence of arterial disease was evident not only to microscopic inspection, but also to the naked eye. Yet this, so far as he was able to judge, was not sufficient to account for the symptoms noted during life. In one of the cases there were enormous textural changes, including softening, amounting to pulpiness, with lepto-meningitis and syphilitic neoplasms. The mere theory of some occlusion of the basilar artery, he thought, was not enough to account for the coma. Again, if the coma were very profound, it might be impossible to say whether any paralysis were present or not.

As to the matter of treatment, he was somewhat surprised to hear the views expressed in the paper. Dr. Althaus apparently depended entirely on mercurials, and had little or nothing to say in regard to iodide of potassium. As for his part, he had some time since given up the use of mercury entirely in these cases, as he had never seen any beneficial results from it. He had had indubitable evidence, in his experience, of the superior value of the iodide, and he believed that this was the experience also of the great majority of neurologists in this country.

Dr. L. Putzel said that he was glad that the question of therapeutics had been taken up, and stated that he agreed entirely with the author of the paper in regard to the superiority of mercury. It was now about six years since he had become convinced that syphilis did not yield, or at least, but slowly, to iodide of potassium. Formerly, he employed the bichloride of mercury, but more recently he had found much better results from the use of inunction. It was his custom to employ this until the teeth began to be touched, and then discontinue it. In connection with this, small doses of iodide of potassium sometimes seemed of service.

As to occlusion of the basilar artery, which Dr. Althaus would assign as the direct cause of syphilitic coma, it seemed to him that we were likely to have a number of vessels injured, but not sufficiently to cause occlusion. The blood-supply would be diminished, but this would not be sufficient to cause total occlusion until the end.

Recent Literature.

Rheumatism, its Nature, its Pathology, and its Successful Treatment. By T. J. Maclagan, M.D. New York: Wm. Wood & Co. 1886.

This volume, which constitutes the September issue for the present year of "Wood's Library of Standard Medical Authors," is a reprint of the English edition, which has already received favorable notice in these columns. Its publication as one of the series referred to will be gratifying and profitable to the subscribers.

Diagnosis of Diseases of the Brain and of the Spinal Cord. By W. R. Gowers, M.D., F.R.C.P., Assist. Prof. of Clin. Med. in Univ. Coll., Phys. to Univ. Coll. Hosp., and to the Nat. Hosp., for the Paralyzed and Epileptic. New York: William Wood & Co. 1885.

This most valuable work comprises the lectures of the author on the diagnosis of diseases of the brain and spinal cord. The student or practitioner who studies it carefully, will be amply repaid by the clear ideas which he will attain regarding locality and nature of lesions affecting the central nervous system, and the methods of analyzing cases of nervous disease. The book is not a systematic treatise on the various lesions affecting the brain and cord, the sections on the pathology being rather intended to teach methods of diagnosis than to describe exhaustively the diseases diagnosticated. The student will acquire a practical knowledge, however, of the principal disorders with which he will have to deal in his practice. It is needless to call attention to separate parts of the work, as all are excellent, carefully prepared, and presented in a clear, concise, and attractive style. The book contains about three hundred pages.

A Guide to the Examination of the Nose. By E. Cresswell Baber, M.B., London. Surgeon to the Brighton and Sussex Throat and Ear Dispensary. With illustrations. New York: J. H. Vail & Co., 21 Astor Place. 1886.

This book has been carefully prepared, and it can be recommended as a reliable guide to the examination of the parts of which it treats. The author has wisely drawn largely from Zuckerkandl's classic work, which gives peculiar value to the chapter on the anatomy of the nose. Attention is called to some important anatomical points which have not been sufficiently insisted upon, and familiar details are rapidly passed over. Considerable prominence is given to the tubercle of the septum, an accumulation of glandular elements forming a distinct eminence on either side of the septum in its superior region, and which Mr. Baber is inclined to think guards and protects the anterior extremity of the olfactory slit in the same manner that the anterior end of the inferior turbinated bone, especially when erected, guards the respiratory region.

The chapters on anterior and posterior rhinoscopy describe clearly and in detail the different instruments and methods necessary to examine the nasal cavities. The book is profusely illustrated, and contains many original drawings by the author.

Dictionary of Practical Surgery by various British Hospital Surgeons. Edited by Christopher Heath, F.R.C.S., Holme Professor of Clinical Surgery in University College, London; and Surgeon to University College Hospital. Philadelphia: J. B. Lippincott & Co. 1886. 2 vols. in 1, 8vo., pp. vi, 970 and 884.

The dictionary is intended to fill a want in the library of the busy practitioner by supplying immediate information as to diagnosis and treatment in cases of surgical disease or injury. The aim of the editor has been to produce a compendium of the British practice of surgery at the present day, and he considers that the object has been fairly accomplished, as only two years have elapsed between the planning and completion of the dictionary. In the general plan of the book the different surgical affections are described in comparatively short articles under their proper names, in alphabetical order, or when it has been found more convenient to group together a series of diseases of one organ, cross references have been given.

The value of such a dictionary must depend very largely upon the character of the writers of the different articles, and the list contains the names of a very large number of men who are widely known in connection with the subjects upon which they have written.

Abdominal Aneurism is treated by William Murray, Abdominal Hernia by Frederic Treves, Abdominal Tumors by J. Knowlsey Thornton, The various Syphilitic Affections by Jonathan Hutchinson; Robert Liveing has written many of the Dermatological Articles, and Berkeley Hill that on Stricture of the Urethra; Tumors of the Bladder are treated by Sir Henry Thompson, Lithotomy and Lithotrity by William Cadge; William Watson Cheyne writes on Antiseptics, Dr. Cruise, of Dublin, on the Endoscope; Mr. Gamgee on various subjects connected with the treatment of wounds.

Other writers are Sir William MacCormac, William

Maccuen, Stephen MacKenzie, Howard Marsh, Sir James Paget, Bilton Pollard, C. Mansell Moullin, T. Pickering Pick, Victor Horsley, Charters J. Symonds, Bernard Pitts, Dyce Duckworth, Alban Doran, Percy Kidd, and many others whose names are a guarantee for the excellence of their papers.

One of the great advantages of such a book is the readiness with which one gains information in regard to unusual and obsolete terms, and some interesting articles are to be found, as that by Mr. Chetton on Fragilitas Ossium, and those on Riders bone, Dugas' test, and others too numerous to mention: the book contains also a description of a large number of splints and operations that are known by the names of their inventors, but the book shows that it is what it claims to be, a compendium of British Surgery, by the omission of some important American names, as Physic's splint.

The book covers the entire domain of surgery and many kindred subjects, and we can imagine might be especially useful to any one who does not pretend to maintain an accurate acquaintance with all the wide field, but is still constantly liable to meet, in reading and conversation, with terms newly come into use.

The writer of this notice must confess to have opened this book with a feeling that dictionaries were becoming too frequent, but a very little time spent in reading the articles that interested him, has served to impress him with the fact that a great deal of time and care has been spent in its preparation, and that it is well worthy of the place beside Quain's Dictionary of Medicine, which it was intended to fill.

A Treatise on the Diseases of the Nervous System. By William A. Hammond, M.D. Eighth edition, 8vo., 945 pp. New York: D. Appleton & Co. 1886.

This edition has been "revised thoroughly," but it does not differ materially from the preceding edition except in the addition of a section on "Certain Obcure Diseases of the Nervous System." This section consists of chapters on tetany, Thomsen's disease, and the curious disturbance known as miryachit, with its kindred affections. The first two chapters are exceedingly defective. No mention is made of the peculiar position of the fingers in the spasm of tetany, nor of Trousseau's symptom — the aggravation of the spasm by pressure on the nerve trunks. The electrical reactions in the two diseases, so fully described by Erb, are also neglected. The chapter on miryachit is curious and entertaining. The revisions of later editions, however, have failed to make the book an exponent of recent knowledge. Its value to the specialist and the general practitioner is apparent when we state that there is no discussion of tendon reflex or reaction of degeneration, no chapter on multiple neuritis, and no description of the different forms of peripheral paralysis; and, furthermore, that under aphasia no mention is made of Kussmaul's investigations or of word-deafness; under amyotrophic lateral sclerosis no mention is made of exaggeration of the reflexes; under infantile paralysis no mention is made of qualitative changes in electrical excitability; and under locomotor ataxia no mention is made of reflex immobility of the pupils to light. Yet this book "has continued to receive approval, at home and abroad, to an extent beyond that ever given to any other work of like scope and objects, published in any part of the world"!

Medical and Surgical Journal.

THURSDAY, OCTOBER 21, 1886.

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THE FORTY-FOURTH MASSACHUSETTS REGISTRATION REPORT.[1]

The population of Massachusetts, by the State Census of 1885, was 1,942,141, of whom 932,884 were males and 1,009,257 were females. The population of the State increased 30.37 per cent. from 1865 to 1875 and 17.57 per cent. from 1875 to 1885.

The birth-rate in 1885 was 25.12 per 1,000 of the population; the death-rate 19.61. Since 1860 the excess of birth-rates over death-rates, calculated by periods of five years, has gradually diminished so as to be now about one-half what it was twenty-five years ago.

There were 50,379 births during the year, including 1,589 still-born. The rate of living births (48,790) to the population is nearly the same as that of France, as is the average for the last twenty years, but much less than in England, Denmark, Sweden, Austria, Netherlands, Hungary, Switzerland, Italy, Spain and Germany. In the twenty-three cities in Massachusetts the birth-rate in 1885 was 27.59; in the rest of the State 21.97. There were 903 illegitimate births.

The marriage-rate was 8.78 (17.56 persons married to each 1,000 of the population) or 1.5 lower than the average of the past twenty years. The approximate average age at marriage was of men 28.05 years; of women 25.30. There were 646 divorces granted during the year, 214 to men and 432 to women.

The deaths, 38,094, were 1,104 more than the previous year, making a death-rate of 19.61, as compared with 19.80 for the period of five years, and 19.44 for the thirty years, ending in 1885. In the twenty-three cities, with a population of 1,087,496, the death-rate was 21.2; in the rest of the State 17.6. For the four quarters of the year the percentages of all deaths were, beginning with the first 24.4; 23.0; 29.1; 23.5.

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[1] Forty-Fourth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages and Deaths in the Commonwealth, for the Year ending December 31, 1885. Together with the Reports relating to the Returns of Libels for Divorce and to the Returns of Deaths investigated by the Medical Examiners. For the Year 1885. Prepared by the Secretary of the Commonwealth. With Editorial Remarks by Frank Wells, M.D.

The death-rate of males was 20.2; of females 19.0. Thirty-one + (31.41) per cent. of the deaths were of children under five years of age; 20.03 of infants under one year. The death-rates at the several ages were, under 1, 212.49; under 5, 67.00; 5 to 10, 7.46; 10 to 15, 3.77; 15 to 20, 6.35; 20 to 30, 9.08; 30 to 40, 10.62; 40 to 50, 12.96; 50 to 60, 19.71; 60 to 70, 36.19; 70 to 80, 76.16; 80 and over, 182.32.

The percentage of deaths from the "zymotic" diseases was 4.6 less than the average of the past ten years and less than in any one of the ten; from constitutional diseases, .5 less than the average, but from "local" diseases 5.5 above the mean for ten years. The relative prevalence of the prominent "zymotic" diseases is as follows:

Years.	Diseases.									
	Dysentery.	Typhoid Fever.	Whooping Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small-pox.	Total.
1876,	417	881	192	684	2,610	47	1,222	2,087	31	8,171
1877,	580	814	369	544	2,634	135	467	1,927	26	7,496
1878,	602	679	400	583	1,934	305	404	1,573	2	6,482
1879,	372	637	302	559	1,734	19	850	1,349	8	5,830
1880,	395	882	230	625	1,769	236	574	2,118	38	6,867
1881,	360	1,072	217	677	1,706	230	397	1,861	47	6,567
1882,	398	1,079	265	491	1,280	68	318	2,159	45	6,103
1883,	336	860	137	530	1,091	321	575	1,941	5	5,796
1884,	254	875	410	562	1,081	75	627	2,081	3	5,971
1885,	253	768	184	520	1,003	313	587	1,852	19	5,499

Of constitutional diseases, pulmonary consumption caused 5,955 deaths in 1885, as compared with 5,798 in 1884, 5,931 in 1883, 5,865 in 1882, 5,886 in 1881, and 5,494 in 1880. From cancer, the number of deaths was 1,087 in the past year, as against 1,060 1,027, 987, 949, 982, 862, 807, 647, 657 and 593 in the previous ten years.

Of "local" diseases, apoplexy, paralysis, insanity and convulsions, have steadily advanced in fatality since 1876 — the number of deaths from these diseases, in 1885, having been respectively, 294, 151, 40 and 60 greater than the average for ten years. From pneumonia, the number of deaths exceeded those for 1884 by 822, and the average for ten years by 731; from bronchitis, 192 more deaths took place than in the previous year; from pleurisy the mortality was 73 greater than in 1884. Heart diseases and Bright's disease were more fatal than usual.

For the ten years previous to 1885, there was a very uniform yearly decrease in the mortality from childbirth. The past year, however, exhibits a sudden increase in the number of deaths from this cause — 83 more than in 1884.

The following very striking table, even after due allowance for greater accuracy in statistics of late years, shows an extraordinary result of the strain of modern life, as well as of improved sanitation, by virtue of which there is a lessened mortality from infectiou-diseases, which prevail in early or middle life, and a correspondingly increased death-roll from the diseases which belong to middle and late life.

	Death-Rates.					
	1860.	1865.	1870.	1875.	1880.	1885.
Mortality-rates per 10,000 from Apoplexy. . .	1·93	2·08	2·70	2·78	4·19	5·12
Softening of the Brain .	·36	·33	·58	·59	·68	·65
Paralysis	3·26	3·78	4·32	5·43	5·23	5·82
Insanity.	·58	·59	·71	·71	·71	·96
Cephalitis and Brain Disorders	5·93	7·61	6·04	6·91	6·19	7·46
Totals, ...	12·06	14·39	14·95	16·42	17·00	20·05

At the end of the report are two tables of statistics, giving a compilation of the work done by the medical examiners of Massachusetts during the year 1885, based upon returns made by the examiners, in accordance with the requirements of a law enacted in 1884 — clearly the work of clerks skilled in making statistical exhibits. It was hoped that these records, collated, edited and published, would stimulate medical examiners to the performance of the best work possible, and would incidentally afford valuable and useful material for medico-legal study. The tables alone show inadequately the results of the work done by the medical examiners and their manner of doing it. We trust that the next Registration Report will contain an elaborate analysis and editorial comments on these tables and bring out their full value.

The report, in general, is a creditable one to the editor, but there are many ways in which it may be improved, and we have always taken the ground that the editing of the vital statistics of the Commonwealth should be in the hands of the State Board of Health, where it was at the time of the death of the former board. The medical profession would then have great cause for congratulation in the matter, with so painstaking a statistician as Dr. Abbott and such accomplished sanitarians as Dr. Walcott and Dr. Draper, and all the resources of their office, to supplement the work of the Secretary of State, who already deserves the thanks of all interested in public health for the ability and zeal with which he has yearly improved his part of the work, namely, the collection and compilation of the statistical returns.

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TUBERCULOSIS OF THE THYROID GLAND.

Virchow formerly held this affection as a very rare one, and as extending from the neighboring lymph-glands. Subsequently, Cohnheim regarded it as a constant accompaniment of the acute general form, while Chiari has found it in the course of chronic disease, and holds the tubercles to originate from the interstitial tissue, rather than from the midst of the alveolar epithelium.

E. Frankel[1] has more lately made observations on six cases occurring in fifty cases of phthisis, out of three hundred and seventy autopsies. His results agree in the main with the two authors last mentioned. First, as to the gross appearances. There is no doubt that the miliary is the most common form. In the extent of the disease, there are great variations; at times the whole gland is equally involved, at times one lobe only is the seat of trouble. In the marked cases, after the surrounding soft parts have been removed, grayish-white nodules can be seen shining through the proper capsule, and, on section, stand out in the same way from the midst of the tissue in which they lie. In other respects, as a rule, the organ presents no other variation, nor is it increased in size. Virchow has reported a case with cheesy and softened nodules, and Frankel has met with another.

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[1] E. Frankel. Virchow's Archiv., Vol 104, p. 58.

It was hoped to settle the question as to which of the elements of the thyroid could be looked upon as the point from which the tubercle took its departure. The tendency to early cheesy degeneration of these growths throws difficulties in the way, but from a large series of microscopic preparations, it was evident that their origin is in the soft interstitial tissue separating the follicles. This is quickly broken through by abundant round cells, which are at first still separable from the lining epithelial cells. They soon mingle with these and with the other contents, until the different elements can no longer be distinguished by aid of the microscope. At times this tuberculous infiltration seems to act by compressing the follicles until their opposite walls come in contact. In this or that way, the normal structure of the gland disappears, and thus appear accumulations of round cells, undergoing more or less marked retrograde changes, and among which are found typical giant cells.

This observer is the first to demonstrate the presence of tubercle bacilli in the thyroid. Of his six cases, they were present in five. In one case only, however, were they present in great numbers; in the others, they were to be seen only here and there. His observations go to prove the correctness of Weigert's theory[2] in regard to the formation of giant-cells, namely, that where the bacilli are in small numbers, numerous giant-cells are found.

MEDICAL NOTES.

— The Noble County (Ind.) Medical Society receives $500.00 a year for caring for all the sick paupers in the county. The member nearest the pauper treats the same. The money is used for building up a society library.

— The *Medical Age* is responsible for the following: A gentleman received a note from his lawyer, which he was unable to decipher. On his way to his office, he met a friend at the door of a drug store. The friend, after vainly attempting to read the note, suggested that they step inside and hand it to the druggist, without comment. The druggist, after studying it in silence for a few minutes, stepped behind his prescription case, and in a short time returned with a bottle of medicine, duly labelled, and bearing directions. When the gentleman saw his lawyer, he was informed that the note was a notice for him to call at his office between 3 and 4, P. M., of the following day.

— Somebody, we believe it is Miss Kate Field, tells a story illustrative of one of the embarrassments attending cremation, to the following effect: A lady making a visit upon friends, found, to her great annoyance, that she had neglected to bring with her any tooth-powder — an article upon which she was very dependent for her comfort. Looking about her bedchamber, her eye fell upon a small, beautifully-wrought vase or jar. Removing the cover, she found it to contain a grayish, calcareous powder, which, to her mind, was evidently designed for use as a dentifrice. She did not hesitate to avail herself of the lucky discovery, the use of which proved most satisfactory. The next day she apologized to her hostess for having made free with the toilet appliances of the room, and at the same time remarking that the article she had found was much more effective for its purpose than anything she had hitherto used, desired to know where it could be obtained. The countenances of the family assumed an expression, at first, of bewilderment, which deepened into one of consternation as one of the daughters gasped forth, "Why, that's aunty!"

NEW YORK.

— Dr. Fordyce Barker gave a large reception at his residence, on the 15th of October, to Professor Winckel, of Munich, and the members of the New York Obstetrical Society.

— The widow of the late Mr. Woerishoffer, the banker, has given the sum of one hundred thousand dollars to different scientific and charitable objects, as a memorial of her husband, and it has just been announced that twenty-five thousand of this amount is to be presented to the New York Academy of Medicine, through the President, Dr. A. Jacobi.

— The opening and dedication of a new German hospital — the Lodge and Association Hospital — took place October 10th. It was the result of the organization not long since of a society entitled the Aid Society of the Lodge and Association Hospital, by the representatives of a number of German lodges and societies, for the purpose of raising a fund for the fitting up and maintenance of a hospital for the benefit of sick members of the various bodies to which they belonged. A suitable building was rented on St. Mark's Place, and about $3,000 expended in arranging it for the purpose designed. It has accommodations for about forty patients, and is to be under the direction of Dr. Emil Neumer, physician-in-chief. There will be fourteen sub-physicians, and members of participating lodges and societies will be admitted under all circumstances, except when suffering from contagious diseases. The patients will all have the privilege of selecting their own physicians, and may remain in the hospital as long as one year, if necessary. The Secretary has issued a circular requesting associations and societies of every kind to participate in the enterprise, and stating that the annual dues have been fixed at a minimum of $15, payable in advance, any society contributing receiving the benefits of the institution from the day the dues are paid.

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[2] Boston Medical and Surgical Journal, Vol. 113, p. 465.

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Miscellany.

OLEUM EUCALYPTI IN MALARIAL AFFECTIONS.

Dr. Musser, of Philadelphia, records in the *Therapeutic Gazette*, June, 1886, a series of experiments with this oil in the treatment of various forms of malarial fever. He gives ten drops on a lump of sugar three or four times daily to adults, but states that three or five drops repeated oftener would be of more service. He says, "The oil of eucalyptus is of material value in malarial affections, and in cases where quinine is, on account of idiosyncrasy, inadmissible, the drug may be relied on in nearly one-third of all the cases of vague malarial intermittent affections." He concludes thus: — "1. That the oil of eucalyptus is of decided value in about thirty-three and one-third per cent. in all cases of intermitting malarial fever. 2. That it has no specific value in any one type of the disease. 3. That the longer the duration of the disease the less liable is it to do good. 4. That relapses are not prevented by it. 5. That its influence on the spleen has not been demonstrated. 6. That a dose of ten drops four times daily has been a sufficient dose, but that five drops every three hours would be of greater value possibly. 7. That good results are not attained as quickly as by large doses of quinine, but that a good effect should be observed within five days at least."

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DR. CHARLES DUDLEY HOMANS.

At a meeting of the Obstetrical Society of Boston, held October 9, 1886, the President said:

"It becomes my sad duty to remind you at this meeting that Dr. Charles Dudley Homans, an original and valued member of this Society, died at Mt. Desert, his summer residence, on the second day of September last. We shall greatly miss his genial presence and manly bearing. Our profession has lost in him an honorable and straightforward member, one whose high sense of honor and sound judgment made him a valued friend and adviser. These characteristics of our departed associate were ever apparent, and attracted all men to him.

"I need not remind you of the many offices of responsibility which he held during his useful and unostentatious life. He loved his profession and was jealous of its purity. He was always a source of strength in this Society and filled at one time and another nearly all its offices.

"'Life's race well run,
Life's work well done,
Life's crown well won,
Now comes rest.'"

The President then appointed Drs. William Ingalls, W. W. Wellington, and C. Ellery Stedman a committee to draft a suitable minute for the records. The committee reported as follows:

"On the second day of September last this Society lost by death one of its original and most valued members, Charles Dudley Homans. His grand characteristic was loyalty: his duties at the hospital were never slighted: Societies, patients, friends, always knew where to find him. He had a clear and quick perception of statements, and was ready with wise advice, and truthfulness governed his speech. He was a good scholar, and had a tenacious memory: his disposition was cheerful.

"The Society desires to record this memento as an affectionate tribute to his memory."

The minute was unanimously accepted.

Charles M. Green, *Recording Secretary.*

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BOSTON DISPENSARY.

The statistics of this institution for the year ending September 30, 1886, are as follows:

The number of new patients treated at the central office is 18,506, classified as follows: —

Medical Department.— Men, 2.453 ; women, 4,555; children, 2.188 ; total, 9,196.

Surgical Department.— men, 1.370 ; women, 656 ; children, 683 ; total, 2,709.

Skin Department.— Men, 534 ; women, 336 ; children, 312 ; total, 1,182.

Department for Diseases of the Nervous System.— Men, 339 ; women, 235 ; children, 51 ; total, 625.

Department for Diseases of Women. — Women, 426.

Department for Diseases of the Throat and Nose. — Men, 457 ; women, 562 ; children, 399 ; total, 1,418.

Department for Diseases of the Eye. — Men, 82 ; women, 152 ; children, 153 ; total, 387.

Department for Diseases of the Ear. — Men, 102 ; women, 147 ; children, 163 ; total, 412.

Department for Diseases of the Genito-Urinary System. — Men, 619 ; women, 5 ; children 2 ; total, 676.

Department for Diseases of the Rectum and Anus. — Men, 74 ; women, 29 ; children, 5 ; total, 108.

Orthopedic Department. — Men, 9 ; women, 10 ; children, 33 ; total, 52.

Dental Department. — Men, 300 ; women, 420 ; children, 685 ; total, 1,405.

The number of visits made by patients, old and new, at the Central Office is 36,956, classified as follows :— Medical, 15,440 ; surgical, 21,516 ; total, 36,956. The number of patients treated in the Districts is 11,576, including 279 cases of midwifery, classified as follows : men, 2.062 ; women, 4,311 ; children, 5.203 ; total, 11.576. The results of treatment in the Districts are as follows :

Discharged, cured or relieved	10,470
Removed to Hospitals	840
Died	296
Remaining under treatment	51
	11.657
Under treatment at last annual report . .	81
	11,576
The number of patients treated at the Central Office and in the Districts is . .	30,172

Number of cases of midwifery attended during the year	279
Number of cases of midwifery attended since July, 1856	4,724
Whole number of patients since October, 1796	931,344
Whole number of patients since July, 1856	812,541
Average daily attendance at Central Office	123
Largest number present any one day, April 26	224
Smallest number present any one day, January 28	40
Number of recipes put up at Central Office during the year	42,210
Number of house recipes	34,221
Number of district recipes	7,989
Largest number of recipes put up in one day, May 17	251
Smallest number of recipes put up in one day, January 28	41
Number of paid recipes	38,747
Number of free recipes	3,463
Number of paid dental patients	900
Number of free dental patients	505

The list of medical officers is as follows: —

Surgeons: Drs. Charles E. Inches, J. Foster Bush, George N. Monks, Edward O. Otis. Physicians: Drs. Robert Disbrow, Joseph P. Oliver, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Henry C. Haven, Harold Williams, James J. Minot, George M. Garland, Edward M. Buckingham, Vincent Y. Bowditch, William C. Emerson, Robert B. Dixon, Frederick W. Vogel, Russell Sturgis, Rufus A. Kingman, Thomas F. Sherman, James S. Howe.

Department for Diseases of the Skin.— Physicians: Drs. Francis B. Greenough, Abner Post. Department for Diseases of the Nervous System. — Physicians: Drs. William N. Bullard, Philip C. Knapp. Department for Diseases of Women. — Physicians: Drs. Francis H. Davenport, John W. Elliot, John B. Swift, George G. Hayward. Department for Diseases of the Throat and Nose. — Physicians: Drs. Thomas A. DeBlois, John W. Farlow, Edward W. Warren. Department for Diseases of the Eye. — Physicians: Drs. William D. Hall. Department for Diseases of Ear.— Physicians: Drs. Franklin H. Hooper, George A. Leland. Department for Diseases of the Genito-Urinary System. — Physicians: Drs. George H. Tilden, Francis H. Watson, Hayward W. Cushing, Gardner W. Allen. Department for Diseases of the Rectum and Anus. — Physicians: Drs. Walter J. Otis, William D. Hodges.

Obstetrical Department. — Physician: Dr. Charles M. Green.

Orthopedic Department.— Physicians: Drs. Royal Whitman, William M. Conant.

Dental Department. — Dentist: Dr. Joseph E. Waitt.

District Physicians: No. 1. Dr. Willis B. McMichael. No. 2. Dr. Herbert B. Whitney. No. 3. Dr. Frederic M. Briggs. No. 4. Dr. Edward Reynolds. No. 5. Dr. Howard M. Buck. No. 6. George E. Richards. No. 7. Dr. Thomas F. Temple. No. 8. Dr. Winfried B. Bancroft. No 9. Dr. Frederic W. Doggett.

Apothecary: Frederick H. Dudley. Assistant Apothecary: Joseph S. Lang.

William H. H. Hastings, *Supt.*

Correspondence.

HOW TO ABORT A FELON?

West Dennis, Mass., Oct. 10, 1886.

Mr. Editor, — I have read recently, I think, in the columns of your Journal, a formula for "how to abort a felon," the basis of which was flexible collodion.

I cannot find the formula now and cannot remember it. Will you or some one of your readers inform me through your paper, and oblige, yours respectfully,

H. S. Kelley, Jr.

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PROFESSIONAL LETTERS OF RECOMMENDATION.

New York, Oct. 8, 1886.

Mr. Editor, — Some years ago I gave a letter to a soi-disant importer of "pure Hungarian wine," telling him that I had tasted the samples he had sent me, that I liked the taste and was glad to know where I could get a *vin de crû*, when needed in my practice.

To prevent unpleasant ethical complications, I called on the so-called importer and told him that my letter was intended solely for his personal use, and that under no conditions was it to be used as an advertisement of his wares to the general public. He professed to understand me perfectly, and said he would keep my letter as a valued one and put it with those of Longfellow, Salvini, Tanner the starver, and the late President Garfield's Doctor Bliss.

A few months ago the importer called on me, when I asked for proof that he was honest in his circular, when stating that his wines came directly to him from the vineyard. For, said I, the records of the New York Custom House fail to show that you have passed your wine as other importers pass what they bring from foreign ports. He told me that "a trade secret" which he would explain to me was the obstacle to having his name appear as those of Park & Tilford, John Duncan's Sons, and others appear on the entry book of the Custom House. He has never called to tell me the secret, nor has he explained (as he promised to do) why the late Doctor Frank H. Hamilton was mistaken in supposing that his name had been fraudulently used, as certifying to the excellence of the wines in question.

To-day, I was handed a trade circular sent by the importer (?) to a gentleman of this place, in which my name is added to the long list of those who have lauded the excellence and efficacy of those pure Hungarian wines.

Such conduct is dishonest, and I wish to let my medical friends know with what care they should deal with an imposter like the one referred to.

Yours respectfully,
John T. Metcalf, M.D.

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THE REUNION OF SEVERED DIGITS.

Burdett, N. Y., October 11th, 1886.

Mr. Editor,— In your Journal for October 7th, Dr. Souther reports a case of "Severed Digits Reunited."

As you ask for "any undoubted cases" I will give you one. In the early part of my professional career I was sent for to see a boy seven years old, who, the messenger said, had lost several fingers by a blow from an axe.

Being some distance from home I did not reach the patient till three or four hours after the accident occurred. I found that the first, second and third fingers had been completely severed. The wound was diagonal, beginning in the middle phalanx of the index finger near the second joint, and terminating in the last phalanx of the third finger near the root of the nail.

The direction of the wound left the bones of the several stumps with pointed extremities, each stump being longest on the side looking towards the little finger.

To give the stumps a comely appearance as well as to facilitate the healing of the wound, these points of bone should be removed. Having no bone-forceps with me, I was trying to improvise a substitute, when the grandmother of the boy entered the room, bringing the lost fingers, saying :— "After we had made the boy as comfortable as possible, I thought I would go to the wood-pile and see if I could find the fingers. I fished them out of the snow, but it took a good while to find them all." (It was in the month of March and a deep snow had just fallen), she added "I don't suppose they will grow fast, but I want you to try to save them." I consented to make the trial, to gratify her, at the same time insisting that I did not think there was the slightest chance of success.

I carefully adjusted each finger to its stump, and secured them with bits of whalebone for splints, adhesive straps and bandages. I went the next morning fully expecting to remove the dead fingers and give the parts a proper dressing. Removing one of the bandages, I found the finger much too warm for a dead one, and, moreover, there were slight indications of returning circulation in the severed extremity. I readjusted the dressings to that finger, leaving the others undisturbed.

The fingers all united and restoration was perfect except that about half of the last phalanx of the index finger proved to be too distant to get a blood-supply, and was lost. Apparently there was no loss of function, the boy, in later years, used those fingers for writing and other things requiring skilful manipulation.

Nelson Nivison, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 9, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infections Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	633	274	24.48	16 64	12.00	2.08	6.24
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	304	131	23.76	14.85	8.91	.99	9.02
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	191	65	19.08	20.14	6.26	3.71	6.36
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	149	53	18.09	21.44	4.02	2.68	5.36
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	108	48	13.80	13.80	2.76	2.76	1.84
Pittsburgh	190,000	74	38	37.80	9.45	5.40	6.75	13.50
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	16	6	31.25	18.75	18.75	—	—
Charleston	60,145	59	14	13.52	16.84	5.07	—	—
Worcester	68,383	22	10	13.55	13.55	—	4.55	—
Lowell	64,051	23	—	29.75	4 35	8 70	—	8.70
Cambridge	59,660	14	6	14.28	14.28	—	—	14.28
Fall River	56,863	21	12	33.33	4.76	14.28	4.76	—
Lynn	45,861	11	4	27.27	9.09	—	9.09	18.18
Lawrence	38,825	11	3	—	27.27	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	2	14.28	14.28	7.14	7.14	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	8.33	8.33	—	8.33	—
Holyoke	27,894	9	6	44.44	22.22	44.44	—	—
Chelsea	25,709	6	0	33.33	16.66	—	—	33.33
Taunton	23,674	7	3	28.56	14.28	14.28	14.28	—
Haverhill	21,795	9	5	44.44	—	22.22	—	22.22
Gloucester	21,713	10	4	20.00	20.00	10.00	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	—	—	—	—	—	—	—
Malden	16,407	5	2	60.00	20.00	40.00	20.00	—
Fitchburg	15,375	7	2	28.56	—	—	—	14.28
Waltham	14,609	8	0	—	37.50	—	—	—
Newburyport	13,716	2	2	50.00	—	—	—	50 00
Northampton	12,896	5	2	20.00	20.00	—	20.00	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,738: under five years of age 694: principal infections diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 388, consumption 279, lung diseases 131, diarrhœal diseases 151, diphtheria and croup 107, typhoid fever 43, whooping-cough 137, malarial fevers 24, scarlet fever 12, cerebro-spinal meningitis nine, measles eight, puerperal fever two. From whooping-cough, New York and Brooklyn eight each, Pittsburgh five, Baltimore four, District of Columbia three, Boston two, Charleston and Lowell one each. From malarial fevers, Brooklyn seven. New York and Baltimore five each, Charleston four, District of Columbia two, Nashville one. From scarlet fever, New York four, Brooklyn and Pittsburgh three each, Boston and District of Columbia one each. From cerebro-spinal meningitis, New York and Fall River three each, District of Columbia. Nashville and Fitchburg one each. From measles, New York six, Boston and Pittsburgh one each. From puerperal fever, Boston and Haverhill one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,007,635 (population of the State 1,941,465), the total death-rate for the week was 20.28 against 21.71 and 21.50 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending September 25th the death-rate was 21.0. Deaths reported 3,657: infants under one year of age 1,387: acute diseases of the respiratory organs (London) 154, diarrhœa 724, fever 63, scarlet fever 52, whooping-cough 37, measles 29, diphtheria 28.

The death-rates ranged from 16.0 in London to 43.7 in Norwich: Birmingham 19.7; Blackburn 25.9; Hull 25.9; Leeds 27.4; Leicester 20 6; Liverpool 27.5; Manchester 26.6: Nottingham 23.5; Portsmouth 31.8; Sheffield 28.4.

In Edinburgh 16.6; Glasgow 19.1; Dublin 24.7.

For the week ending September 25th, in the Swiss towns, there were 30 deaths from diarrhœal diseases, consumption 28, lung diseases seven, typhus two, whooping-cough, diphtheria and croup, one each.

The death-rates were: at Zurich 5.7; Geneva 12.1. Basle 19.2; Berne 12.8.

The meteorological record for week ending October 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Oct. 9, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 3	30.357	47.9	60.6	36.8	73.0	52.6	71.0	65.3	W.	S.	W.	8	7	10	C.	C.	C.	—	—
Monday,.. 4	30.040	56.5	69.9	43 2	83.0	35.0	72.0	63.3	W.	W.	W.	10	12	12	C.	C.	C.	—	—
Tuesday,.. 5	30 159	52.6	58.2	49.6	81.0	72.0	84.0	79.0	N.	E.	S.W.	10	11	5	C.	O.	C.	—	—
Wednes... 6	30.099	51.8	61.2	43.2	91.0	78.0	84.0	84.3	N.	S.E.	N.	4	8	4	C.	F.	C.	—	—
Thursday, 7	30.240	51.1	57.5	48.8	88.0	75.0	84.0	82.3	N.E.	E.	N.E.	14	20	5	C.	C.	O.	—	—
Friday, .. 8	30.207	51.5	57.3	40.5	97.0	85.0	81.0	87.7	N.W.	E.	W.	4	6	12	C.	C.	C.	—	—
Saturday,. 9	30.116	65.7	79.7	52.7	84.0	44.0	68.0	65.3	W.	W.	N.W.	14	10	4	C.	C.	C.	00.00	0.00
Mean, the Week.	30.174	53.9	66.3	44.9				75.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 9, 1886, TO OCTOBER 15, 1886.

Everts, Edward, first lieutenant and assistant surgeon. Ordered to proceed to Fort Grant, A. T., and there take station. S. O. 94, Department of Arizona, October 1, 1886.

Fisher, W. W. R., first lieutenant and assistant surgeon. Ordered, on the expiration of his leave of absence, to report to the commanding officer, Fort Bidwell, Cal., for duty as post-surgeon. S. O. 93, Department of California, October 4, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 16, 1886.

Woolverton, Theoron, surgeon. Detached from the United States Steamship "Shenandoah," proceed home and wait orders.

Means, V. C. B., assistant surgeon. Detached from the United States Steamship "Shenandoah," and ordered to Receiving Ship "Independence."

Parker, J. B., surgeon. Detached from the United States Steamship "Swatara," proceed home and wait orders.

Shafer, Joseph, assistant surgeon. Detached from the United States Steamship "Swatara," proceed home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING OCTOBER 9, 1886.

Beckham, C. T., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved, October 5, 1886.

Kalloch, P. C., passed assistant surgeon. Granted leave of absence for twenty-one days, to take effect when relieved, October 5, 1886.

Pettus, W. J., assistant surgeon. To proceed to Evansville, Ind. for temporary duty, October 8, 1886.

Kinyoun, J. J., assistant surgeon. Appointed an assistant surgeon, October 4, 1886. Assigned to temporary duty at New York, October 5, 1886.

SOCIETY NOTICES.

The Annual Meeting of the Massachusetts Medical Benevolent Society will be held in Room B of the Harvard Medical College on Boylston Street, on the 28th of October, at half-past four o'clock in the afternoon. The Council will meet at four o'clock previous to the annual meeting.

Robert Amory, M.D., *Secretary*.

Norfolk District Medical Society. — A stated meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, October 26th, at 2 o'clock, P.M. The Board of Censors will meet at 1 o'clock, P.M., for examination of candidates. Order of business: I. Reading of records. II. Reports from committees. III. Election of nominating committee. IV. Incidental business. V. Communications: (1) "Case of Typhoid Fever with Cerebral Complications," Harriet L. Harrington, M.D. The discussion will be opened by C. E. Stedman, M.D. (2) "A Case of Occlusion of the Upper Intestine," F. W. Vogel, M.D. (3) Exhibition of an Extempore Syringe-Pump and Aspirator, Edward T. Williams, M.D.

S. Allen Potter, M.D., *Secretary*.

APPOINTMENT.

The Executive Committee of the International Medical Congress have appointed Dr. H. O. Marcy, of Boston, President of the Section (V) of the Congress for Gynæcology.

BOOKS AND PAMPHLETS RECEIVED.

Sydenham and Hahnemann. By F. B. Stephenson, M.D., United States Navy. 1886. (Reprint.)

The Sanitary Condition of Harrisburg, (Pennsylvania.) By Hugh Hamilton, M.Sc., M.D. Harrisburg, Pa. 1886.

Announcement of the Regular Session of 1887 of the Hospital College of Medicine. Medical Department of Central University. Louisville, Ky. Wm. H. Bolling, M.D., President.

Annual Announcement of the Louisville College of Dentistry, Dental Department of Central University, Louisville, Ky., for the Regular Session of 1887. A. Wilkes Smith, M.D., D.D.S., Dean.

On Toxic Urine in Relation to Certain Surgical Operations on the Urinary Organs. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University. (Reprint.)

How we treat Wounds To-Day. A Treatise on the Subject of Antiseptic Surgery which can be understood by beginners. By Robert T. Morris, M.D. Second Edition. New York and London: G. P. Putnam's Sons. 1886.

Diseases and their Commencement. Lectures to Trained Nurses, Delivered at the West London Hospital. By Donald W. Charles Hood, M.D., Cantab. Philadelphia: P. Blakiston, Son & Co. 1886.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Philadelphia: P. Blakiston, Son & Co. 1886.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Whitthaus, A.M., M.D., Professor of Chemistry and Physics in the Medical Department, University of New York, etc. New York: Wm. Wood & Co. 1886.

Action of the Trustees of the Boston City Hospital, upon the Petitions for the Introduction of Homœopathic Treatment and for the Admission of Medical Students to Surgical Operations and Clinical Instruction. Boston: Rockwell & Churchill. 1886.

The Physiological Action of the Heavy Oil of Wine. By Hobart Amory Hare, M.D. (Univ. of Pa.), Physician to the Children's Dispensary of the University Hospital and to St. Clement's Dispensary; Assistant in Physical Diagnosis in the University. (Reprint.)

Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of Robert Wiedersheim, Professor of Anatomy in the University of Freiburg-in-Baden. By W. Newton Parker, Professor of Biology in the University College of South Wales and Monmouthshire. With additions by the author and translator. 270 woodcuts. London: Macmillan & Co. 1886.

Lecture.

ON TETANY AND TETANILLA.[1]

BY JULIUS ALTHAUS, M.D., M.R.C P. (LOND.),
Corresponding Member of the New York Academy of Medicine, Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park, London.

Amongst the convulsive diseases of the nervous system which we are in the habit of encountering in the practise of our profession, there are some which have, on account of the extreme severity of their symptoms, engrossed the attention of physicians almost from time immemorial. The principal representative of this class is epilepsy, which was for a long time believed to be a special infliction sent by the wrath of the Almighty, being termed morbus sacer by the classical writers. Tetanus arising from injury and exposure to cold, was likewise already well known to Hippocrates and Aretaeus, and has as well as epilepsy and chorea, engaged the attention of innumerable observers, while even at the present day all these diseases offer to those who are willing to investigate them patiently, points of interest that are still involved in obscurity. The complaint to which I intend to refer to-night, has no doubt always existed, like the more formidable diseases which I have just mentioned; but has only been recently recognized as a special entity, partly no doubt on account of its symptoms being habitually much less severe, and partly from having been confounded with other diseases, which although they resemble it in some particulars, are nevertheless totally distinct from the same.

Tetany is not frequent, but where it occurs, presents points of considerable physiological and pathological interest, and as it is occasionally so severe as to lead to a fatal result, it is also practically important for physicians to be familiar with its clinical features and its pathology and treatment.

There is another kindred complaint to which I have for many years past drawn attention at the hospital, and which I have termed tetanilla. I have, however, up to the present time never published my observations on this subject, and was in 1881, forestalled in this point by the late Professor Friedreich, of Heidelberg, to whom we owe such excellent work on muscular atrophy and hypertrophy, and who was also as you know the first to describe that peculiar and unusual form of locomotor ataxy which runs in families and habitually begins about the age of puberty, and which is now generally designated by the name of Friedreich's disease. This able pathologist, whose premature death from aneurism of the aorta we deplored not many months ago, gave to the complaint which I have just introduced to your notice as tetanilla, the somewhat barbarous name of paramyoclonus multiplex. Löwenfeld and Seeligmüller have more recently described cases of this affection; and I will make use of the opportunity which this meeting affords me, to speak of my own experience with regard to it. Of course, I do not in the slightest degree wish to interfere with Friedreich's unquestionable right of christening a disease of which he was the first to record his observations; but I confess that the name tetanilla which I had as it were privately given to the affection, sounds to me much more euphonious than paramyoclonus multiplex; while the fact that both appear to be functional disorders of the nervous system — showing their chief symptoms in closely allied muscular disorder — would seem to favor the idea of giving them somewhat analogous names, expressing at the same time in the word, tetanilla, the lesser degree of severity which the latter form is apt to assume in practice. It will, however, be for the profession to decide which name shall eventually be adopted.

I think I shall do best if I commence my remarks on tetany, of which I have seen altogether ten cases, four in males and six in females, with a short historical retrospect of the work which has been contributed by various authors who have had opportunities of investigating this complaint. I do so more particularly because recent French writers have claimed it as a peculiarly French disease, as one which has, according to them, "une paternité toute française"; the fact being that the first description was given by a German physician, Steinheim, in 1830, while the first French publication by Dance, appeared quite a twelvemonth later: namely, in the *Archives Générales de Médecine* for the year 1831. Of course, it is not to be supposed that Dance should have been acquainted with Steinheim's essay at the time he wrote; for the French have only commenced at a very much later period to read German publications; and when Dance wrote they were in the habit of looking upon everything German or English as only fit for barbarians, whose prescriptions might be good enough for horses, "*médecine de cheval*" being even now a not uncommon term with the French for any foreign system of treatment. At any rate this fact remains that Steinheim was a year in advance of any other writer on the subject, and it seems therefore hardly fair that Delcroix should in his recent thesis on the subject, moved no doubt by the noblest patriotic sentiments, have substituted the year 1830 for 1831, as the date of publication of Dance's paper. I have myself verified the reference, and while I am free to admit that Dance's publication is an unusually able one, have to state that in point of time it is unquestionably the second, not the first. Dance, who was then physician to the Hotel Dieu, at Paris, has given a detailed description of four cases of the affection, and pointed out with considerable minuteness its difference from simple cramps, muscular rheumatism, tetanus, hysteria, as well as certain affections of the spinal cord, nerves and muscles. He laid stress on the paroxysmal character of the spasm, and the favorable issue of all cases in spite of occasionally alarming appearances; and believed the disease to be a kind of intermittent and non-pernicious tetanic fever. I may here say at once that, although Dance's paper is more interesting than Steinheim's, nevertheless the French writer's view of the pathology of the complaint, namely, that it is owing to malaria, has not been confirmed by further experience; while the German author's statements that the rheumatic diathesis is at the bottom of the disease, has, at least for a certain number of cases, turned out to be correct.

The name tetany, which is universally used, originated with Corvisart, in 1851. Trousseau, who in his practice at the Hotel Dieu, in Paris, enjoyed unusual opportunities of studying the complaint, met with it at first only in nursing women, and called it rheumatic contracture of wet-nurses; but he soon perceived that it also arose from other causes than lactation, although he looked upon the latter as the most active and frequent causative influence. The complaint was subsequently studied by Moxom, who termed it remittent tetanus. by Wilks. Riegel, and more especially by Kussmaul, (in 1871). whose fine clinical instinct enabled him to draw such a striking picture of the complaint that he succeeded more than any previous writer in attracting general attention to it. Erb. Chvostek. and Weiss are amongst the later authors who have added their quota to the pathology of this disease.

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[1] Read before the New York Academy of Medicine, October 21st, 1886.

Tetany consists of a succession of attacks of tonic spasm or rigidity of certain groups of muscles, mostly symmetrical. which follow one another at somewhat irregular intervals, and are after a variable time being followed by relaxation. The attacks are not accompanied with loss of consciousness, but there is throughout the course of the complaint undue mechanical and electrical excitability of the motor nerves and muscles.

The chief causes which appear to give rise to tetany. are certain kinds of irritation acting on an otherwise predisposed or enfeebled nervous system. Thus it occurs after and in consequence of persistent diarrhœa. more especially in the underfed and half starved children of the poor. Kussmaul has described the case of a boy aged six. who had been brought up by hand in wretched surroundings, and had lately lived almost exclusively on small beers; indeed, during the first few days the little fellow was in the hospital he refused all food. excepting beer, and suffered from incessant diarrhœa. He eventually recovered from incessant diarrhœa as well as the tetany, but was three months afterwards seized with a violent attack of vomiting and purging, after which the tetany reappeared. The same cause I ascertained in the case of a little girl, aged three, whom I saw at the hospital in 1881, and who had been reduced almost to a skeleton by incessant diarrhœa. The attacks came on in her hands and feet every few hours, and lasted about twenty to thirty minutes, during which time she kept yelling in the most fearful manner. Her mother had suffered from hysterical fits, and a sister had had chorea. Obstinate constipation and entozoa in the intestines have likewise acted as existing causes.

A case is on record in which the ova of tænia medio-canellata and trichocephalus dispar caused tetany, which latter ceased after the parasites had been expelled from the bowels. The irritation of dentition has likewise been assumed to give rise to tetany, although the evidence supporting this point is not strong. Irritation in the sexual sphere of women. and occurring in connection with menstruation, pregnancy, the puerperal state and lactation, is however. an undoubted factor in the production of the complaint. It also occurs after small-pox, cholera. typhoid fever, and other acute diseases; indeed, Aran has seen it occurring in a dozen convalescents from typhoid fever who were in the hospital at the same time. Bauer has also seen it simultaneously in three women of the same family who had eaten unwholesome bread. This had been procured from a distance on account of its cheapness, and was so mouldy and nasty that the men of the family refused to touch it. None of them had tetany, and the three women recovered after discontinuing to eat of this particular bread. Bauer thinks that it may have contained ergot of rye, but could not procure a sample for analysis.

Another active agent in the production of the complaint, and which was chiefly dwelt upon by Steinheim and Trousseau, is the influence of wet and cold. The latter observer describes the case of a man who was found in the streets of Paris one morning in winter, having passed the night there in a state of intoxication, and being so stiff that he was believed to be in an epileptic fit; yet he had been quite conscious all the time. While under observation in the hospital, he was found to be subject to attacks which lasted from a few minutes to half an hour, and had such good use of his limbs in the intervals as to enable him to attend upon the other patients in the wards. On account of the undoubted influence of cold in its production, tetany has also been called intermittent rheumatic contracture. Sleeping habitually in damp rooms, or working in damp shops, appears to favor an outbreak; and exposure no doubt often acts concurrently with other influences. Thus one of the nursing women in whom Trousseau saw tetany, was found to have got out of bed in the night, and gone outside into the yard of the hospital, in order to fetch water from a pump, in midwinter. She died of asphyxia produced by tetany of the respiratory muscles shortly afterwards. In one of the cases which have fallen under my own observation, tetany came on quite suddenly in a young man aged eighteen who had, while skating in the Regent's Park in London, broken through the ice, and had been nearly five minutes in the water before he was rescued. An emotional influence, however, was probably likewise active in this case in addition to the chill; as the patient being unable to swim, underwent an agony of fear of drowning all the time he was in the water. It is not uncommon that there should be several influences at work in determining the outbreak of a nervous affection; I will only remind you of tabes spinalis, in cases of which we generally find a history of three causes, namely, syphilis, exposure to cold and wet, and over-exertion, whether physical or mental.

An emotional influence was likewise evidently at work in another case of tetany which was under my care in 1879, and which was that of a young lady, aged twenty-one, who had been engaged to be married, and in whom the disease appeared quite suddenly the day after she had had a quarrel with her lover, in consequence of which her engagement had been broken off.

Simon and Regnard have described what they call an epidemic of tetany, which occurred at Gentilly in France, where it went through a young ladies' school. At first the cases were very few; one girl was affected in July, and another in October; in November, however, quite an epidemic broke out, there being eight new cases on one day, and eleven on the next. The governess at first tried to arrest the progress of the disease amongst the girls, but eventually got it herself. The school was then broken up and all the girls recovered rapidly. Similar epidemics have been described as having occurred in some prisons and asylums in Belgium. It is, however, quite clear from the description given of the epidemic amongst the French schoolgirls that there was no real tetany present, but that it amounted to an endemic manifestation of hysteria which in its symptoms had a considerable resemblance with tetany. We know that hysteria may mimic most diseases, and need therefore not be surprised that it will occasionally mimic tetany. With regard to the cases observed in the public institutions in Belgium, it appears probable that they were in reality cases of epidemic spinal meningitis, as in some of them an inspection was obtained showing the pathological lesions of meningitis; and I shall presently in my remarks about the diagnosis of tetany, refer to the possibility of its being occasionally confounded with that disease. It is, however, a fact that cases of tetany do sometimes occur together; but the explanation of this would seem to be the influence of exposure to unusually severe cold prevalent at the time. Thus Weiss had twelve cases under his care in the severe winter of 1881, at Vienna, and Chvostek saw seven in the winter of 1880, in Austrian soldiers, who during target practice suffered considerably from exposure to the unusually intense cold which then prevailed.

In May last, Ord, of London, exhibited at the Medical Society of that city, the case of a woman who showed the usual symptoms of myxœdema, and, in addition to them, a peculiar symmetrical contracture of the flexor muscles of the hands and legs, strongly resembling tetany. In connection with this case, it is interesting to remember that Weiss should have seen four cases in which the excision of the enlarged thyroid body, by Professor Billroth, of Vienna, appeared to give rise to the affection. In one of these cases it appeared on the sixth day after the operation, in a second on the evening of the same day, and in two other instances immediately afterwards. One of these patients eventually died of it. In another case, this tetany lasted six days after the operation, then disappeared, but relapsed when an abscess had formed in the neck; it ceased finally after this had been opened and healed. Weiss does not assume any particular relation to the bronchocele, but thinks that it was only the irritation caused by the surgical operation *per se*, which caused the tetany; yet it seems a curious coincidence that four cases of tetany should have appeared in connection with thyroidectomy, while it is not known to have occurred after any other surgical operation; and in connection with this, Ord's case, which I have just mentioned, is of interest, as raising the question whether there may not be some more intimate connection between atrophy or absence of the thyroid gland and tetany than has hitherto been assumed. I would recommend this point to your attention, should similar cases present themselves to you in your practice.

Tetany has probably no connection at all with certain kinds of occupation, as has been assumed by some writers. Indeed, it has by some been termed cramp of tailors, cobblers, and seamstresses, or professional spasm generally; but the fact that it not uncommonly affects infants, as well as women who have no particular kind of manual labor to perform, and finally, in men addicted to all kinds of occupations, speaks strongly against this assumption. The age at which it is most frequent is the period between one and five years, and again, that between fifteen and thirty years. As to the influence of sex, females seem to be rather more liable to it than males.

On reviewing all the different determining influences which I have just mentioned, it is impossible not to be drawn to the conclusion that they can, one and all, only be looked upon as exciting causes, and that a constitutional neurotic disposition must be present in patients, in order that such causes as cold, diarrhœa, etc., may be effective in leading to the outbreak of tetany. As, however, this point has not as yet been very clearly made out, I have taken some trouble in gaining information upon it in those cases which have happened to come under my care. The result has been that in not a single case was there any direct heredity, for to all my patients and their friends and relations the disease was entirely new, and something they had never known or heard of. In five out of ten cases I have seen, however, such diseases as hysteria, migraine, epilepsy, and chorea had occurred in the parent, or other members of the same family. This would already give a proportion of fifty per cent., but I have to add to this a case of atavism, as the maternal grandfather of one of the patients had died insane; and another case, where the parents of the patient were first cousins, and where, therefore, a neurotic predisposition might be assumed to exist. It is, therefore, seen that only three cases out of ten were, or appeared to be entirely free from a neurotic taint, so that my contention of a constitutional tendency being at the base of the complaint, would appear to be well substantiated, more especially when we remember that either through ignorance or carelessness of the persons concerned, the family history given us in such cases is frequently far from complete.

The evolution of the symptoms of tetany may be somewhat rapid, or more gradual. In some cases, and according to my experience, more especially in those where a cause has acted very suddenly, the disease may appear at once fully developed, while in those where the power of resistance of the nervous system appears to have been more gradually undermined by various deteriorating influences, there is a progression in the symptoms, which goes from piano through the different degrees of crescendo up to forte, and eventually to fortissimo. Amongst the premonitory symptoms, where such are present, we find more particularly a general feeling of malaise, as of some impending illness, headache, dizziness, specks floating before the eyes, and a feeling of stiffness and awkwardness, or shooting pains in the limbs. Slight temporary rigidity of certain muscles may be combined with this, or there may be a few twitches, which subside again presently. These symptoms generally become aggravated, and eventually, tetany sets in. Both hands are then seen to have assumed a peculiar position, which is not always the same, but varies according to the several groups of muscles which may happen to be affected. In most instances, it is the muscles supplied by the ulnar nerve which suffer; in some, those under the control of the median nerve, while only very occasionally those which receive their motor impulses through the musculo-spiral nerve are affected.

In accordance with this, it is found that the common position of the hand in tetany is the conical one, resembling that which the accoucheur uses when introducing his hand into the vagina. In this the thumb is forcibly adducted, and the other fingers are flexed in the metacarpo-phalangeal joint, and pressed against the thumb, while the wrist is bent, and turned towards the ulnar side of the arm. The spasm may stop there, or proceed higher up, involving the forearms, which may be bent, and crossed over the epigastrium, and the arms, which may be strongly adducted to the body.

In some cases, again, the fingers are so strongly clenched that the nails enter the flesh, and produce eschars; the thumb may almost disappear underneath the other fingers, or it is squeezed between the first and second finger, so as to show the thumb-nail between their first phalanges. Where the interosseous and lumbrical muscles are rigid, the hand assumes the bird-claw position which was first described by Duchenne; or there may be spasm in the extensor muscles, the fingers and wrist being stretched out, and unable to be bent, and the fingers being wide apart from each other. A considerable variety of positions may thus be produced, and it is, therefore, important to remember that the position of the hand which was first mentioned is not absolutely pathognomonic of the disease. At the same time, there is in true cases of tetany always some degree of rigidity in the muscles supplied by the ulnar nerve, and when this is entirely wanting, the case is most probably not one of tetany.

In the lower limbs the spasm is generally seen to begin in the toes, which are held in plantar flexion, closely pressed against each other, but extended in the metatarso-phalangeal joint. The big toe is adducted and beneath the others the foot in the varo-equine position, with the heel drawn up, and the tendon Achilles strongly retracted; or again the toes may be stretched out, and each one be as wide apart from its neighbors as possible. The feet may be adducted, the knees extended, and the thighs stretched on the pelvis, while in other cases the legs are drawn up to the abdomen. Walking during the attack is thus rendered difficult or impossible; indeed, sometimes there is persistent contraction of the muscles of the calves, so that the patient is quite prevented from moving about, while in other cases the rigidity is so distributed that only the heel touches the ground, and the toes are raised up. The effect of this is the same, namely, to interfere altogether with walking.

In some cases only one side of the body, or only the upper limbs, or only the lower ones are affected, or they may suffer alternately, but mostly there is symmetrical affection in both sides of the body.

In the large majority of cases, only the muscles of the extremities are thus affected; but in some the rigidity also involves those of the head and body. The head may be pulled down on the chest, and the spine curved; the muscles of the neck may be so rigid as to stand out like tight cords, and to compress the jugular veins; the lips and tongue may be quite rigid; the eyes may be spasmodically closed, and through contraction of one or the other of the ocular muscles, the various forms of strabismus may be produced. The face may appear statuesque, and devoid of any mobility of features. The muscles of the lower jaw, and of the pharynx and larynx, likewise do not escape in some cases, and this leads to difficulty in masticating, swallowing and breathing. In extreme instances there is spasm of the glottis, with great dyspnœa and cyanosis. The diaphragm and the other muscles of inspiration then appear to be fixed, and if this condition is not speedily relieved death from apnœa is the result. Even the bladder may suffer, as shown by retention of the urine, together with frequent desire to micturate. A very bad attack, in which dyspnœa may be so severe as to threaten the life of the patient, sometimes ends with profuse perspiration, and as soon as this is well established, all symptoms are relieved. In one of Dance's cases, perspiration was so abundant as to form a regular cloud of steam around the patient.

The contraction of the muscles is sometimes very painful, and more especially so in children, who often scream and yell throughout the attack. In other cases there is rather a stiff and bruised feeling than actual pain, together with great tenderness on pressure. The degree of contraction may vary from one minute to another, and this occasionally leads to spasmodic jerkings of the muscles. Where there is much pain, the patient is restless and agitated during the night, and desires constant change of position, while another may lie still in bed like a statue. During the attack the muscles may be entirely withdrawn from the influence of volition; in other cases the rigidity is more moderate, and allows of some degree of movement. Habitually the muscles feel as hard as iron. In a severe case there is so much resistance to passive movements that a great deal of force is required to counteract the rigidity, and the instant we let go the contraction re-asserts itself. Attempts to overcome the rigidity are very painful. Friction often diminishes the rigidity, while pressure may increase it. A sudden impression of cold and heat may also arrest the spasm; thus, if the patient be made to stand with his naked feet on the bare floor, or if his hands be immersed into vessels filled with hot or cold water, the rigidity may relax, but only to re-appear again as soon as the influence of these agents is withdrawn. The duration of the attack is variable; it may last only five minutes, or as many hours, and may be repeated over and over again, but when the condition appears to have continued for days together, it is probable that, as in certain cases of epileptic fits, the intervals have been short, and remained unnoticed by the attendants. If this should not be the case, then I would say that the case was not one of tetany.

Trousseau was the first to notice that, as long as the diseased condition persists, we may, at a time when the patient is quite free from rigidity, produce it almost immediately by compressing the affected limbs, more especially at points where we can act on large nerves or vessels, so as to interfere with circulation. This discovery was made accidentally. He had ordered a woman suffering from tetany to be bled, and noticed that when the bandage was drawn round the arm, the muscles below tightened. He afterwards found that such an effect is produced, more especially with the upper limbs, where pressure on the brachial plexus above the collar-bone or the median nerve in the arm, will lead to it. In the lower limbs, pressure on the sciatic nerve or the femoral artery may do the same, but here the result is not so quick and certain as in the upper limbs. In one case, Trousseau found a very suggestive illustration of the well-known law of reflexes formulated by Pflüger, namely, that the effect of the stimulation is greatest at or near the spot where it is applied, and that an increase of stimulus is required for affecting more distant parts, which are then acted upon in a certain order. In that case, ligature of the right thigh produced first contraction in the toes of the right foot, then in those of the left foot, afterwards in both hands, and finally, a violent attack of hysteria.

Kussmaul was led by his observations on this symptom to the result that it is pressure on the arteries, rather than on the nerves, which causes these effects in the muscles. When he compressed the brachial artery of a patient during a free interval, he noticed that in twenty or thirty seconds the fingers began to twitch; in two or three minutes the flexion appeared to be increasing, and very soon afterwards the hand and forearm were spasmodically bent. The proceeding was not painful. When the pressure was withdrawn, the spasm disappeared, and pressure on the nerves did not cause the same effect.

My own observations have led me to the result that Trousseau's symptom is produced by pressure both on the nerves and on the bloodvessels, and that complete compression of the latter leads more quickly to the expected result than that of the former. This is more particularly seen in the lower extremities, where compression of the femoral artery in front of the os pubis brings about muscular twitches and rigidity much more rapidly than compression of the sciatic nerve in its notch.

My study of this point has also led me to a very singular observation, which is likely to prove of some importance in the diagnosis of tetany from hysterical contracture, as it tends to show that tetany and hysteria are two widely different conditions. I have seen cases of hysterical contracture closely resembling the habitual position of the hand in tetany, where the history of the case was obscure, and it was difficult to make out whether the muscular rigidity was paroxysmal, as it is in tetany, or continuous, as it is in hysteria. In these cases compression of the limbs by Esmarch's bandage enabled me to decide this question; for it appeared that while in tetany pressure increases the rigidity still further, on the contrary, in hysterical contracture the rigidity was relieved, and ceased after the bandage had been applied for some time, to return however again almost immediately after the pressure was withdrawn. This singular circumstance seems to show that the arterial anæmia and venous congestion which is produced in a limb by compression, may cause opposite effects according to the condition of the nervous system with which we may have to deal, leading in one case to contraction, and in another to relaxation of the muscles. This is a point which much requires further elucidation, and the study of which I would recommend to you in similar cases, as it may eventually throw light on the more intimate nature of the vaso-motor disturbance which is present in such conditions as hysteria and tetany, and of which we are as yet in almost complete ignorance.

(To be continued.)

Original Articles.

PANCREATIC HÆMORRHAGE AND SUDDEN DEATH.[1]

BY F. W. DRAPER, M.D., BOSTON,
Assistant Professor of Legal Medicine, Harvard University, Medical Examiner, Suffolk County, Mass.

SAFE in its secluded anatomical position, the pancreas rarely challenges attention as an organ of clinical or pathological interest. When compared with its neighbors among the abdominal viscera, it is content to hold a modest secondary rank. Ordinarily, it eludes the touch of the clinical observer's fingers, and it is too often neglected by the pathologist's eye and scalpel. The liver, the kidneys, the stomach, the intestines and, preëminently, the uterus, have abundant reasons for regarding their unobtrusive racemose associate as of slight relative consequence, if volumes, and pamphlets, and other medical writings can count as proof.

But although the pancreas does not pretend to merit distinguished attentions, or push itself into notice like the womb or the liver, although it does not enter into the title of thick volumes devoted to its study, it occasionally becomes the subject of clinical curiosity. Its privacy is invaded by neoplastic intruders or by the assaults of inflammation, and it is then that its right to be is demonstrated by the digestive disturbances which its impaired functions entail. Parenchymatous and interstitial fatty changes, purulent and fibrous processes of inflammatory origin, both acute and chronic, alterations due to syphilis and the presence of tumors, gummatous, tuberculous or carcinomatous (especially the last), amyloid degeneration and affections of the excretory ducts, retention-cysts either inflammatory or calculous,— these comprise the short list of diseases of the pancreas which modern pathology recognizes. How obscure and rare these affections are, the brief space devoted to them in the standard works of our best writers gives ample proof; their diagnosis, except at the autopsy, and their treatment are among the *opprobria medicinæ*, as all clinical masters admit.

But it is not with these truly recondite diseases that this note is concerned. The purpose of this brief paper is to illustrate a rare accident to which the pancreas is liable, and to place on record some observations relating to an unusual cause of sudden death in which this hidden organ plays an important part.

It is but recently that attention has been called to the fact that hæmorrhage within and around the pancreas quickly eventuates, in many cases, in the death of the patient, the fatal issue resulting either immediately after an interval to be measured by minutes, or, secondarily, after a few days. It is for the purpose of adding some new examples of the former of these two classes, the relation of pancreatic hæmorrhage to *sudden* death, that these notes are offered. They are intended as additions to the brief list already on record, and as a response to the suggestion of Friedreich who, commenting on Zenker's observations, writes: "Cases such as those related by Zenker merit great attention, and it must be an object with future workers to increase the statistical material by the addition of fresh cases."[2]

A single word is proper here relative to the instances of sudden death which are described. They are cases of persons found dead under circumstances requiring a medico-legal investigation. Under the system of inquests at present and for the past nine years in successful operation in Massachusetts, sudden and violent deaths become the subject of inquiry in a manner greatly in contrast with the antiquated and objectionable method of inquest by the coroner and his jury. Instead of the inverted and dilatory plan which first summons a coroner in a case of violent or sudden death and leaves to his often clumsy judgment the question of an autopsy, and who shall make it, for determining the cause of the death, the Massachusetts law places the case at once in the hands of a medical man commissioned by the State, and directs him to ascertain the cause and manner of the death, by autopsy if he deems it necessary, and to report the results of his examination to the proper judicial officers, if he is of opinion that the death resulted from the act or neglect of some person other than the deceased. An inquest then follows, the evidence being taken and properly sifted by a judge fully competent for such a duty, and the entire investigation becomes, in this way, in fact and in name, a truly medico-legal one, its different stages following in natural consecutive order. It thus happens that many sudden and mysterious deaths which are accounted for usually under the familiar and convenient formula "heart-disease" receive a truer and more scientific interpretation under a system which favors or requires well-ordered post-mortem examinations; and it was in this way that the writer, holding a commission as a medical examiner, came upon what may seem an unusual number of rare cases, which he now places on record.

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[1] Read by title at the meeting of the American Association of Physicians and Pathologists, June, 1886.

[2] Ziemssen's Cyclopædia of Medicine, vol. viii, p. 624.

Case I. Humphrey L., aged forty-five, a strong and rugged laboring man, lived alone in two rooms upon the ground floor of a tenement-house. He was found dead in his front room late in the afternoon of Monday, October 20th, 1884. He had not been seen during that day or the previous day (Sunday), but he was at work all day Saturday, and in the evening of that day appeared in his usual robust condition of health. He was not intemperate in the use of alcohol, and indulged to inebriety at long intervals only.

When discovered, his dead body, fully clothed, was in a sitting attitude in a chair, the hands resting naturally on the knees and the head dropped forward upon the breast. He had the posture and appearance of one asleep in his chair. The condition of the room gave no indication of illness or distress on the part of its occupant before his death; there was no vomitus or sign of an attempt to prepare or to take domestic or other remedies. When and in what manner death claimed its victim, could only be guessed; the body was cold and cadaveric rigidity was developed to an extreme degree. The only suggestion which the surroundings offered upon the matter of the time of the death was the fact that the bed-clothing was turned down away from the pillow, the natural act of one about to get into bed. The autopsy was made twenty hours after the discovery of the body. Rigidity continued in its fullest degree. There was moderate cadaveric lividity of the skin of the lower part of the back, the thighs and the legs. The lips and the ears were of a violet color. The tongue was in normal position. The corneæ were bright; the pupils measured three millimetres in diameter. The body presented no marks of violence, but was that of an exceptionally strong and muscular man, with little adipose. The heart was normal in every particular. The blood was dark in color and almost wholly fluid, only a few soft, dark clots appearing. The right auricle and ventricle were moderately filled, but not distended; the left ventricle was contracted and empty. The lungs were somewhat emphysematous. Quite general, firm pleuritic adhesions had obliterated the right pleural cavity. There was moderate gravitation injection of the lower parts of both lungs, with some œdema of the right lower lobe. The spleen, kidneys and liver showed nothing noteworthy beyond a very moderate degree of injection. The stomach contained a little less than a pint of thin, gruel-like material, having the gross appearances of oat-meal and milk recently ingested. The gastric mucous membrane was of a dull brown color at the fundus of the organ, especially marked at the summits of the rugæ; elsewhere it was normal. There was no odor of alcoholic liquor.

When the stomach and intestines were turned aside, before any of the abdominal organs were opened or disturbed, the region of the pancreas showed, beneath the peritoneum, the dull red color of extravasated blood in the sub-peritoneal tissues, extending over a space a hand's breadth in diameter. Upon section of this area and exposure of the pancreas, it was found that the organ lay in a mass of effused blood, and was itself infiltrated with blood throughout its extent, but more especially in its outer half, toward the tail, while the outer third was not only deeply stained with blood, but was softened to a marked degree.

The splenic artery was very tortuous, and somewhat enlarged. The intestines were normal in appearance, and contained normal fæcal matter. The brain gave no appearance of disease, or of abnormal blood-supply.

Case II. Mary E. H., aged forty-four, was found dead in her bed, at noon, November 3d. She lived in wretched squalor in an attic, getting a scanty income as a charwoman. She drank beer every day, her neighbors said, but was rarely intoxicated. She was seen at 6, p. m., the day before her death, and was apparently in perfect health. She went to bed with her boy, a lad of about ten years; the latter stated that nothing occurred in the night out of the usual course. The woman got up in the morning and dressed herself; presently, she complained a little of her head, and soon went to bed without undressing. The boy went to school, and on his return home found that his mother had died in his absence, and was lying where he had left her. Just when, or under what circumstances the woman died, no one knows. She made no complaint to her neighbors, and her statement to her boy that her head felt badly was the only suggestion that she was in any way ill. I saw her dead body at 2.20, p. m., and rigor mortis was then fully established, and the face showed marked lividity.

The autopsy was made twenty-four hours later. Post-mortem rigidity was as pronounced as at the first inspection, and the face, lips, tongue, and neck were livid. The tongue protruded as far as, but not outside the lips. The pupils were small; the body was emaciated.

The heart was normal in structure. It contained dark, clotted blood, the amount in the right cavities being relatively large. The lungs were much reddened in the dependent parts, but were of natural appearance in front and superiorly. They were crepitant everywhere.

In the depressions of the peritoneal cavity, about eight fluid ounces of thin, red fluid were found; there was no other sign of hæmorrhage within the peritoneum. The spleen was soft and deeply reddened. The kidneys were normal; the liver was healthy. The stomach was reddened somewhat at its cardiac end, but in other respects was normal in appearance. The intestines presented nothing abnormal; the mucosa was pale. The colon and rectum contained normal fæces.

The pancreas was infiltrated with blood throughout its extent, most markedly at its splenic end. There was a moderate amount of blood effused in the retroperitoneal tissue. The organ itself showed nothing remarkable on section, beyond the hæmorrhagic infiltration above noted. Its size was not increased.

The womb was healthy; the ovaries were atrophied. The vessels of the scalp, skull, and dura were injected. There was very moderate injection of the pia. The brain showed no change, in its gross appearance, from the healthy condition.

Case III. Catherine F., aged twenty-six, had many quarrels with her husband on account of her intemperate habits. A week before her death she came home one night fully intoxicated. Her neighbors heard the usual family dispute, but did not interfere to check it. Her husband stated that he put her to bed, but denied the use of any violence. Next day he left her, and did not see her again to speak to her until he was summoned to her, just before she died. During the week following the separation, Catherine stayed with friends, who lived at some distance from her home; she complained to them of the abuse which, she stated, she had received from her husband, and especially, accused him of kicking her in the abdomen, in proof of which accusation she showed an ecchymosis near the umbilicus. She seemed none the worse for the alleged assault, however, and went out repeatedly during the week in apparently her usual health. She was not intoxicated at any time in this interval. She was seen walking on the street the night before the symptoms developed which preceded her death. Twenty-four hours before she died she went to bed, complaining of great pain in her abdomen. There was no vomiting; she "spit up some blood." Her abdominal pain was relieved by brisk rubbing over its seat. Fourteen hours after the onset of the illness, a physician was called, who found the woman pulseless, with a pale, cold skin, covered with clammy perspiration. Her mind was clear. She complained of the abdominal pain, and of intense thirst. A hypodermic injection of morphia afforded partial and transitory relief, but the complaints of pain in the abdomen continued until death, the day after the seizure. Her reiterated charges of her husband's violence led to his arrest, and to a medico-legal investigation of the case.

The autopsy was made twenty-four hours after death. The body, which was very fat, had been in an ice-box; there was no sign of decomposition. There was a slight degree of rigor mortis, and moderate lividity of the depending parts. The lids of both eyes showed the changing colors of a retrograding ecchymosis. There was a faint bruise-discoloration on the outer side of the left shoulder, and another, an inch and three-quarters in diameter, three inches to the left of the umbilicus; the color of the latter ecchymosis was a dull brownish-red, and it was evidently several days old. The heart was normal, and the blood was not noteworthy. Both lungs were over-filled with blood, but were crepitant in every part. The bronchial mucous membrane was deeply reddened, and the trachea and bronchi contained frothy blood.

In the abdominal cavity were twenty-two fluid-ounces of thin, red fluid. Beneath the peritoneum of the mesentery, in the entire region behind and below the stomach, between the stomach and the colon, and the liver and the colon; also, along the right flank behind the ascending colon, and over the right kidney, the sub-peritoneal tissues were fully infiltrated with blood.

The pancreas were completely filled with effused blood throughout its extent, but the change was especially marked in its middle part and at its tail. The organ presented a sodden, soft, and slimy appearance, its structure being greatly obscured in the dark, bloody extravasation. Its volume was increased, and its middle part was so soft as apparently to be ready to break down upon the slightest roughness in handling. There was no sign of peritonitis. The bruise on the surface of the abdomen was found to be superficial. The spleen was normal. The kidneys were pale, of normal size, with free capsules. The liver presented the gross appearances of fatty changes; its weight was five pounds and ten ounces; its edges were round; on section, the edges of the incision were markedly everted, and a smear of fat was left on the knife-blade. The stomach, intestines, pelvic viscera, and brain and its membranes were normal.

Case IV. James T. S., aged fifty-five years, a pressman in a wholesale clothing house, was found dead on the floor of his bed-room. He was a man of exemplary habits and unstained reputation, taking an active interest in social and religious affairs. He went to his work as usual in the morning of the day of his death. At about ten o'clock on that morning, he complained of "cramps," which were so severe as to oblige him to desist from his work, and to lie down; presently, he left the store, saying that he would go home. No one saw him entering his house, or going to his room, but between six and half-past six that evening, a friend called to see him, and found him lying dead on the floor of his chamber. The carpet was wet all about him, and an empty tin dipper lay by his knees. The oil-stove was alight on his table, and a tea-cup containing extract of ginger, with water and sugar, was beside it. The body lay on its left side; it was cold when found, and rigor mortis was fully developed.

The autopsy was made at ten o'clock in the morning following the death. Cadaveric rigidity was fully developed, and there was marked lividity of the back and shoulders and sides of the neck. The outer side of the left leg was vesicated from the knee to the ankle, the cuticle being off in large patches.

The heart was normal. The blood was equally distributed in its cavities.

Both lungs were injected posteriorly and inferiorly, the left rather more than the right (post-mortem position). When the stomach and liver were lifted, the tissues outside the peritoneum, at each side of the pancreas, were seen to be fully filled with blood. The pancreas itself was larger than normal, and the entire organ was uniformly infiltrated, from its head to its tail, with recently effused blood; the hæmorrhage was most marked in the central parts. The extravasations extended about two inches on either side of the pancreas into the surrounding tissue. There was a small amount, not exceeding half an ounce, of red fluid in the peritoneal cavity. The spleen was healthy. The left kidney was injected, but showed no other change. Its fellow was healthy in appearance. The gastric mucous membrane presented a few limited patches of redness near the fundus. The stomach contained about four fluid-ounces of thin fluid, giving a strongly marked odor of ginger. The liver was moderately injected, but its structure was normal. None of the other organs or regions of the body gave indications of disease or injury.

To the foregoing cases, another which has come under the writer's observation is added, although it has appeared in another connection.[3] It is reproduced here, because its clinical features are especially interesting, and because a careful microscopical examination of the pancreas failed to reveal the fatty changes which some authors have declared to be a characteristic of this lesion.

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[3] Medical and Surgical Reports of Boston City Hospital. Third Series. 1882. p. 128

Case V. The patient in this case, a printer, thirty-one years old, of intemperate habits, was seized suddenly with pain which he referred to the epigastrium. Up to the time of this attack he had been in good health. At noon on the day of his death, he ate his usual hearty dinner. The pain of the attack, which began about six o'clock, P.M., was soon followed by nausea and an ineffectual attempt to vomit. Presently collapse supervened: the patient was scarcely able to speak; he fell from his chair to the floor; he was evidently in extreme distress. While in this condition he was seen by a physician who prescribed a stimulant (hot brandy) which seemed to produce a temporary reaction and relief. The patient died a few minutes later while in a carriage on his way to the hospital, in less than forty-five minutes after the seizure.

The autopsy was made nineteen hours post-mortem. The body was that of a man in apparently vigorous health at the time of his death, and showed no excess of adipose tissue. The heart was moderately enlarged and the left ventricle was dilated. The muscular tissue of the organ was of good color but was quite friable. The intima of the aorta showed the products of a former endarteritis. The blood was liquid and of dark color. Both lungs were injected and the upper portions were moderately œdematous. The bronchial mucous membrane was thickened and reddened and was covered with muco-purulent secretion. The kidneys and spleen were injected. The pancreas was normal in size, shape and position. The organ itself and the retro-peritoneal connective tissue adjacent to it were infiltrated with blood — not to a degree to form a free clot at any point, but involving nearly two-thirds of the body of the organ and spreading above and below to the distance of about an inch in each direction. The hæmorrhage was most abundant at about the centre of the pancreas; section of its substance found the interior deeply stained of a dark red color by the blood effused in the interlobular tissue. The splenic artery was enlarged and tortuous; its intima was rough and had a velvety or finely granular appearance. The muscular tissue outside the peritoneum and connective tissue was of healthy appearance and wholly free from blood-staining. The intestines and stomach were normal; the latter organ contained a quantity of half-digested food. A microscopical examination of the pancreas, made by Dr. W. F. Whitney, found the interlobular tissue infiltrated with blood which had permeated among the cells in many places; here the corpuscles were destroyed. The cells themselves were very granular, but osmic acid failed to show the presence of fat in them.

As already intimated, these notes have as their purpose the illustration of an unusual and hitherto rarely recognized form of sudden death. They do not pretend to demonstrate or sustain any particular theory of the actual cause of death in these cases, but rather they are offered as evidence of the fact that sudden death may and does occur with pancreatic hæmorrhage as the single important anatomical lesion revealed in the course of the pathologist's inspection. The true pathology of these hæmorrhages, why they occur, and how, when occurring, they kill their subject so quickly, — these are still unsettled questions; it is permitted to indulge in speculation touching this important part of the subject, but much more investigation and close anatomical study are needed before demonstration takes the place of guessing. It is clear that the fatal issue does not rest on the hæmorrhage alone, the amount of blood lost being generally insignificant; but whether, as Zenker suggests, the mortal blow comes through the sympathetic nerve, the semi-lunar ganglion receiving a sudden and violent shock in consequence of the outflow of blood in its immediate neighborhood; or the death is by general shock because of the rapid hæmorrhagic distention of an organ whose tissues are not readily distensible; or the hæmorrhage is simply an incidental accompaniment, or symptom, of some hitherto unrecognized lesion of the central nervous system; or nutrition is impaired in the pancreas, and its vessels are weakened, by the growth of fat-tissue and its pressure on the blood-vessels, causing at length a necrosis of the interlobular portions of the glands,— the writer does not undertake to be dogmatic in deciding. Each view has great obstacles in the way of its acceptance, because all cases observed do not harmonize with it. The histological condition of the pancreas incidental to such cases needs farther elucidation especially.

More cases, too, are needed for the study of the subject on its clinical side. At present, our knowledge of the symptoms is quite limited. They are comprehensively summarized by Prince as follows:[4] "The patient, who has previously been perfectly well, is suddenly taken with the illness which terminates his life. . . . When the hæmorrhage occurs, the patient may be quietly resting or pursuing his usual occupation. The pain which ushers in the attack is usually very severe and located in the upper part of the abdomen. It steadily increases in severity, is sharp or perhaps colicky in character. It is almost from the first accompanied by nausea and vomiting; the latter becomes frequent and obstinate, but gives no relief to the pain. The patient soon becomes anxious, restless and depressed; he tosses about and only with difficulty can be restrained in bed. The surface is cold, and the forehead is covered with a cold sweat. The pulse is weak, rapid, and sooner or later imperceptible. The abdomen becomes tender, the tenderness being located in the upper part of the abdomen or epigastrium. Tympanites is sometimes marked. The temperature in most cases is either normal or below normal. The bowels are apt to be constipated. These symptoms continue without relief; those which are most striking being the pain, vomiting, anxiousness, restlessness and the state of collapse into which the patient soon falls."

In this brief memorandum of an interesting and rare form of sudden death, no mention has been made or reference intended concerning any class of cases other than such as may properly come within the designation of pancreatic apoplexy. Other instances in which the patient survives the first shock of injury to the pancreas and dies as the result of secondary processes (gangrene, peritonitis), or in which there are well-marked organic changes, either in the pancreas or organs adjacent to it, to explain the hæmorrhage, are intentionally omitted from present consideration.

The English Journals are calling attention to the immorality associated with the practice of massage in many of the establishments for that purpose.

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[4] Boston Medical and Surgical Journal, vol. cvii, p. 55.

A CASE OF PNEUMOTHORAX.[1]

BY J. F. A. ADAMS, M.D., PITTSFIELD, MASS.

The interesting features of this case are that it was a simple pneumothorax, of peculiar origin, persisting for five years and terminating in spontaneous recovery.

A man, aged forty-six, of American birth and parentage, widower, carriage-painter by trade, was admitted to the Pittsfield House of Mercy as a patient, February 3d, 1881. The previous history of the case, as learned from his own statements, is as follows: Two years previously, having, up to that time enjoyed perfect health, he took a severe cold and was attacked with what was called by his physician "pleuro-pneumonia" of the left side. After being ill, as he thinks, about three days, while straining at stool, he was suddenly attacked with dyspnœa, which had continued without relief up to the time of admission. Two or three days after the dyspnœa commenced, he began to cough and had coughed ever since, usually without expectoration. He had lost appetite, flesh and strength, but had not been confined to bed. A few weeks before admission he was examined by Dr. F. K. Paddock, who found tympanitic resonance and absence of respiratory sounds on the left side. He then consulted Dr. Austin Flint, Sr., who, in a letter to Dr. Paddock, gave a guarded diagnosis, but suggested that the obstructed respiration might be due to pressure upon the left primary bronchus by an aneurism of the aorta; though no physical signs of aneurism were discoverable, and this diagnosis was made only by exclusion.

On admission, he came under the care of Dr. Vermilye, who found him feeble and haggard, with a small and compressible pulse of 86. No pain in the chest, but considerable dyspnœa, especially on exertion. Left chest tympanitic on percussion, with an entire absence of respiratory murmur. He was treated with potassium iodide in five-grain doses, with quinine and iron.

A month later, a faint vesicular murmur could be heard over a limited area of the upper portion and front of left chest, and pain was felt in the same region. Otherwise his condition was unchanged. The iodine was continued till June 1st, a period of four months, after which he took grindelia robusta for two months, neither remedy producing any apparent change in his condition.

On October 6th, eight months after admission, he was examined by myself, and the following record made:—

Left semi-circumference of chest 17 1-2 inches.
Right semi-circumference of chest 16 1-2 inches.
Extreme expansion 3-4 inch.
Expansion of left side 1-4 inch.
Expansion of right side 1-2 inch.

Intercostal spaces fuller on left side than right, and palpation shows left side nearly immobile during respiration. Left side of chest everywhere tympanitic, about equally so over all portions. The tympanitic resonance in front extends to the right margin of the sternum. Cardiac dulness entirely to right of sternum, extending from its right margin to a line one inch to right of the right nipple, and from the third to the sixth rib. Apex-beat close to the right edge of sternum at level of sixth rib. Vesicular murmur heard very faintly over a very small area on left side, at the level of axilla, both in front and behind. Elsewhere, on the left side no sound whatever can be detected. On the right side, respiration is normal. No aneurism or murmur can be detected. Patient still suffers with dyspnœa, which is constant, even when at rest, and excessive on exertion. He complains of a feeling of weight or oppression in the chest, especially at the upper part, amounting sometimes to pain. Pulse 80, soft and weak. Is still feeble and has not materially changed since admission. Has an occasional dry cough.

This patient became a permanent resident at the House of Mercy, remaining there for nearly four years. For three years there was but little change in his condition. He was examined from time to time by myself, as well as by several others of the attending physicians, and the physical signs were found unchanged. He was debilitated, but not confined to bed, went out in good weather and spent his time in reading and acquiring the art of stenography. For treatment he had only tonics and general good care. He left the Hospital for six weeks in February and March, 1883, thinking himself able to go to work, but returned with a severe attack of bronchitis on the right side. This soon passed off, and no change took place until about March 1st, 1884.

At this time he noticed that he could feel the heart beating at a point a little to the left of the position it had so long occupied; and thereafter he was conscious of a gradual progress of the apex-beat toward the left, until, by the latter part of May, he could feel it in its normal position, the change having taken place in something less than three months. As the heart moved, the dyspnœa gradually diminished, and he soon began to regain flesh and strength. I was away at the time the change occurred, and did not examine him until the 25th of the following September, when his condition was as follows:—

Resonance on percussion normal and equal over both sides of chest. Vesicular murmur is now heard in its normal situation, over both sides, the only difference being that it is not quite so loud and strong on the left, where it has also a slight tremulousness or cog wheel character. Apex-beat of heart is found one and one-half inches below and one inch to the left of the left nipple, being six inches in a direct line from its former position. Area of cardiac dulness somewhat greater than normal. He is now able to walk at a brisk pace without dyspnœa.

He remained at the House of Mercy till January 1, 1885, when he was discharged well. Since then he has enjoyed good health, and has been able to earn his living as a stenographer. His normal weight before this illness was one hundred and forty-five to one hundred and sixty pounds. While at the House of Mercy he weighed one hundred and twenty-five pounds, increasing to one hundred and forty before his discharge. His present weight is one hundred and eighty. He writes me that he has no cough, dyspnœa, nor pain in the chest. He still feels the apex-beat to the left of the nipple.

The diagnosis of pneumothorax in this case was based upon the following symptoms:

First. Uniform tympanitic resonance over the left chest.

Second. Distension of the affected side.

Third. Absence of all respiratory sounds.

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[1] Read before the Berkshire District Medical Society, September 29th, 1886.

Fourth. Displacement of the heart.

The only question could be between this and a unilateral pulmonary emphysema, but in emphysema we never get the absolute stillness which characterized the affected side in this case, but have, on the contrary, a prolonged and sibilant expiration. In emphysema, also, the tympanitic resonance varies in intensity over different portions of the chest; displacement of the heart, if it occurs, is not excessive, and the character of the dyspnœa is not the same, being distinguished by the long and laborious expiration. In this case the dyspnœa was simply a shortness of the breath, without laborious expiration; it was constant, and aggravated by exertion, while in emphysema there is a paroxysmal tendency.

In seeking for the cause of this attack, we have for a guide only the patient's statement that the dyspnœa came on suddenly, while straining at stool, after suffering for three days with what was called pleuro-pneumonia. This indicated that the pleura, ulcerated or softened by inflammation, was ruptured by the effort of straining, allowing air to escape into the pleural cavity. It is quite possible that the patient's memory was not accurate as to the number of days which elapsed between the onset of the inflammation and the appearance of dyspnœa. The long persistence of the difficulty indicated that the orifice remained open, for, had it closed, the air in the pleural cavity must soon have been absorbed, allowing the lung to expand, and the heart to return to the left side. It is also evident that the orifice was valvular, allowing air enough to escape into the pleural sac during inspiration to keep up the tension, and preventing its return during expiration. This is the reason that amphoric respiration was not heard, there being no free communication between the lung and the pleural cavity. The lung remained collapsed about its root, allowing a very faint vesicular murmur to be heard at the level of the axilla.

No effusion was found at any time while the patient was under observation at the House of Mercy. Had this occurred, it would have been recognized at once by dulness at the base, changing its location with change of position, and by the presence of metallic tinkling. Whether or not effusion had occurred at any time during the previous two years cannot be positively determined. The physician who attended him in the initial attack discovered none, so the patient thinks, but another, now deceased, who subsequently treated him for a time, told him he had hydrothorax. It is possible to question the correctness of this diagnosis, for it sometimes happens that the intensely tympanitic resonance is mistaken for dulness, and this doubt is strengthened by the subsequent existence for three years of air without fluid. As the attack was evidently inflammatory at the outset, it is very remarkable if the pneumothorax was unaccompanied by effusion; but it is no less remarkable if effusion took place, and the fluid was subsequently absorbed, leaving the cavity full of air, but one or the other of these phenomena must have occurred.

Although hydro-pneumothorax is by no means uncommon, ninety per cent. of the cases resulting from tuberculous ulceration, simple pneumothorax is rare. Flint relates one case in his own experience, and refers to another reported by Gairdner. In both these cases there was a rupture of the pleura by the strain, without previous inflammation. In Flint's case, the strain was due to carrying a pack on the back, the patient being a peddler. Another case without effusion has been reported by Dr. F. C. Shattuck, resulting from a stab in the chest. This was reported at a meeting of the Boston Society for Medical Improvement, on December 8, 1884, on which occasion Dr. Lyman exhibited three cases of hydro-pneumothorax — one traumatic, the second phthisical, and the third of pleuritic origin.

The duration of this case is exceeded by one reported by Laennec, which persisted for six years, but, with this exception, exceeds any which I have been been able to find.

As regards the treatment of this case, there is but little to say, for it received very little. The medicines which were administered during the first few months he was in the hospital had no appreciable effect, and he afterwards took none but tonics. Every effort was made to improve his general health, and an exception to the rules of the house was made in his case by permitting him to remain for so long a time, in order that he might avoid work and exposure. The propriety of removing the effused air by paracentesis was considered at various times, but was not resorted to, because it was believed that removing the pressure from the lung would only tend to delay the healing of the orifice, and it was not thought worth while, for the sake of a very temporary relief, to postpone the recovery.

The position habitually assumed by the patient during the fifteen months prior to his recovery may have perhaps exerted some beneficial influence. As already mentioned, he occupied himself with acquiring the art of stenography, and, during these latter months, spent ten or twelve hours a day in writing. While so engaged, the left foot was placed upon a stool, which raised it about eight inches from the floor, and the left elbow rested on the left thigh. This position would tend to reduce the action of the respiratory muscles of the left chest to a minimum, and thereby prevent the forcible suction of air into the pleural sac. This would keep the valve of the pleural orifice at rest, and give its edges an opportunity to unite. The position was assumed by the patient because he found it very comfortable and restful, and very likely it answered the same purpose to some extent, as strapping the affected side, or fixing it with a plaster bandage, both of which have been recommended in such cases, the latter by Dr. F. T. Roberts, who has employed it with much benefit at the Brompton Consumptive Hospital.

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REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.[1]

BY E. H. BRADFORD, M.D., AND R. W. LOVETT, M.D.

DIRECT SURGICAL INTERFERENCE IN CERVICAL CARIES.[2]

Podres, in a case of severe cervical caries occurring in a child eleven years old, with evidence of deep abscess, made an incision two inches long, parallel to the posterior border of the sterno-cleido mastoid through the skin and fascia, and using a blunt instrument followed up the brachial plexus; pus was found on the sixth and seventh cervical vertebra, which were superficially ulcerated. The abscess wall and diseased bone were curetted and iodoform rubbed in, an antiseptic dressing applied with an extension for the head.

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[1] Concluded from page 376.

[2] Centralblatt f. Chirurgie, No. 38, 1886.

After six months the patient had improved to a marked degree, but a fistula remained, which was dilated and the diseased bodies again curetted, after which the patient improved rapidly and remained at date apparently entirely well.

DEVIATION OF THE NASAL SEPTUM.[3]

This distortion is very common. Cozzolino found a straight septum only in twenty-one per cent. of all skulls examined. In a majority of cases the left cavity was narrowed by the projection of the septum. If the deviation is slight no trouble is occasioned, but in severe cases chronic rhinitis results. Correction can be effected by dilators, by ivory or hard-rubber plugs, worn for some time. Cotton tampons (in traumatic cases). Bony projections should, according to Hubert, be cut off by the galvano cautery, the turbinated bones partially separated from the septum and flattened down by cotton tampons and a specially devised compressor.[4]

INFECTIOUS OSTEOMYELITIS.[5]

Rodet claims to have identified the specific virus and demonstrated it by experiments on animals — injecting in the peritoneum, under the skin and in the veins — orange-colored coccus and osteomyelitis pus. Intra-venous injections gave the most marked results, causing two days after injection into the jugular, swellings in the different bones and joints, which on subsequent examination was found to be occasioned by a rarefying osteitis with suppuration, the formation of sequestra and in some instances separation of the epiphysis. The bones, as a rule, were the only tissues affected, though exceptionally the kidneys were found diseased. The bones most frequently affected were in the following order: the lower end of the femur, the upper end of the humerus of the femur and tibia.

SHOULDER-JOINT DISEASE.

The question of the treatment of this affection was discussed by Dr. Gibney before the New York Orthopædic Society. He first quotes from various authors to show the consensus of opinion as to the advisability of passive motion to the rigid joint either with or without the use of ether. He then relates two cases of false anchylosis after ostitis where restiffening took place after the application of force and where harm seemed to have been done. He closes by asserting that passive motion is not called for in chronic ostitis of the shoulder or chronic rheumatic periarthritis where the adhesions are extensive.[6]

SPINA BIFIDA.

The cure of a case of spina bifida by extirpation of the sac is described. There was a nut-sized tumor in the lumbar region, and although the child was two years old it had never walked and had double club-foot from spastic muscular contraction, as well as incontinence of urine and fæces. Tapping relieved these symptoms but caused inflammation of the sac, and a radical operation was decided on. The sac was slit and freed from its attachments around the hole in the vertebræ. It was sutured and put back into the canal and the transverse processes of the vertebræ opposite the cleft were broken, bent in, and sutured in the median line. The child recovered at once from its incontinence and its club-foot, and now runs about all day. The cicatrix is hard and firm.[7]

Morton [8] announces two more cures of spina bifida by his injection method. In one of them by Dr. Strain of Rio Janiero, three operations were necessary; at the third there was no fluid, and in fifteen months there was a firm cicatrix.

HOME-MADE APPARATUS FOR POTT'S DISEASE.

Under this title Dr. C. F. Taylor [9] describes a new and very cheap supporting brace which can be manufactured in any house and which accomplishes very much the same ends as the steel brace which bears his name. A piece of ordinary blotting-paper about the size and shape of the muslin part of a vest is impregnated with shellac and moulded, to the back of the patient. It dries and is removed and on it is built up a shell of alternate layers of linen prepared with glue and blotting-paper with shellac. The completed shell is light, firm, and very durable. Buckles are added and the apparatus is used with the ordinary Taylor apron. Its chief use will lie, of course, among people unable to afford a steel brace and in places where it is impossible to have access to a surgical instrument-maker.

ENGLISH ORTHOPEDICS.

A very good idea of the English orthopedic surgery of to-day may be gleaned by reading the article of Mr. Fisher [10] on that subject in the last volume of "Ashurst's International Encyclopædia." He first takes up the subject of club-foot, discusses its ætiology, and accepts the view that it is the result of a disordered nervous influence resulting in "a spastic muscular contraction." The treatment advised for all forms of club-foot is tenotomy followed by the use of the clumsy Scarpa's shoe. The author seems wholly ignorant of the existence of American ideas or American apparatus.

In the treatment of the deformities in rachitis he advises that manipulation should first be tried, to be followed by mechanical support and operation in the order named.

Lateral curvature is fully and clearly discussed, and the author expresses his belief in faulty positions as the ætiological factor in most cases. The first pathological change he believes to be in the ligaments and intervertebral discs. The treatment should be hygienic, gymnastic, and mechanical, for which purpose the very clumsy apparatus of Mr. Adams is advocated.

BONE DRAINAGE IN HIP JOINT DISEASE.

Mr. Stoker [11] comes forward as a very warm advocate of this method of treatment, originally proposed some twenty years ago by Kirkpatrick. His classification of hip disease is into three varieties, femoral, acetabular, and arthritic. He asserts his ability to diagnosticate between these three forms, and advocates the use of bone drainage only for the kind which begins in the femur. An incision is made down to the great trochanter, and a half inch trephine hole is bored as deep as the trephine will go. The site of the hole is at the lower anterior part of the exposed surface of the trochanter. He claims that such a proceeding is calculated to afford drainage and to remove the products of disintegration. He advocates the earliest possible operation, and considers rest to the limb as an important adjunct to the treatment. He would apply it as routine treatment to every case of femoral hip disease coming in his way, even after disintegration of the joint.

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[3] Centralblatt f. Chirurgie, p 631, No. 37, 1886.

[4] Also Centralblatt f. Chirurgie, 1882, p. 243.

[5] Revue de Chir., 1885, Nos. 4 and 8.

[6] Philadelphia Medical News, 1886, xlviii, 479.

[7] Wien Med. Wochenschrift, 1886, 7, p. 66.

[8] Lancet, July 17, 1886, p. 147.

[9] New York Medical Journal, September 4, 1886.

[10] International Encyclopædia of Surgery, Vol. vi, 1001.

[11] Dublin Journal, 1886, s. 3, p. 81, 385.

EXPERIMENTAL TUBERCULOSIS OF BONE.

Müller contributes some most interesting experimental results on the production of bone tuberculosis in animals. Starting with the assumption that the blood current was the channel of infection he injected tubercle bacilli into the femoral artery in sixteen rabbits; no available results followed. Then he repeated the injection, this time into the crural artery, from which the nutrient arteries of the bone arise. In ten rabbits killed from six to eight weeks later two showed localized tubercular disease, one a deposit in the marrow of the shaft, the other, miliary tubercles in the tibia and femur and a small cheesy deposit in the tibia. Next the nutrient artery was alone injected by means of a subcutaneous syringe needle. Two dogs, five sheep, and twenty goats were injected in this way. The dogs and sheep gave no positive results, whereas the goats were affected with bone lesions much like those in man. Alterations in the shafts of the bones were commonest; a circumscribed cheesy or granular deposit in the marrow or cortex, on more or less diffuse tubercular osteomyelitis with or without sequestration, also typical foci without perforation of the joint.

One goat lived fifteen months, the wound healed in eight days; in four months he began to limp, and swelling of the knee-joint began. After thirteen months he was killed and the knee showed a typical tubercular fungus disease of the joint, a large tubercular focus in the condyle of the femur, and a wedge-shaped sequestrum near it. There were also three other deposits in the lower end of the femur. Except in the popliteal glands no other tubercular deposit was found.

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REPORT ON THE PROGRESS OF DERMATOLOGY.

BY G. H. TILDEN, M.D.

Physician to the City Hospital, Department of Diseases of the Skin.

SYMMETRICAL GANGRENE.[1]

THE forms of gangrene designated by the term "symmetrical" are to be considered as definite varieties of spontaneous gangrene. Spontaneous gangrene or necrosis of tissue due to internal, as distinguished from external causes, is dependent either upon pathological changes in the bloodvessels, upon disturbance of the nervous system, or upon defective constitution of the blood itself. The opinion of most authors is that so-called symmetrical gangrene is usually due to changes in the nervous system. The writer attempts to show, however, that although in most of these cases disturbance of the nervous system constitutes one factor in the production of gangrene, there occur instances in which some defect in the constitution of the blood can not be excluded as a cause. "Symmetrical gangrene," therefore, is to be regarded merely as a symptom which may be due to very different pathological conditions. Most of the concomitant symptoms in cases of "symmetrical gangrene" are caused by the pathological conditions which lie at the root of the matter, and this accounts for the various pictures presented by different examples of this disease. The writer groups the various possible causes of symmetrical gangrene as follows:

(1) Various disturbances in the general nutrition of the body. To this class belong those cases in which symmetrical gangrene appears after excessive bodily exertion, or in young persons of chlorotic and chloro-anæmic tendencies, or after chronic inflammatory processes and acute febrile infectious diseases.

(2) In not a few cases of symmetrical gangrene, hysteria is to be regarded as a cause.

(3) Symmetrical gangrene can also be a symptom of neuritis. Causes of the latter condition are injuries and "catching cold."

(4) Finally, disease of the brain and spinal cord may be the cause of the development of symmetrical gangrene.

Necrosis of tissue dependent upon temporary disturbance of nutrition or caused by acute neuritis, offer the best chances of recovery. Much more desperate is the outlook in those cases which are due to degenerative changes in some part of the nervous system.

The local treatment of tissues threatened or invaded by gangrene, consists in the application of dry warmth, electricity and irritating salves. After necrosis has been established it is to be treated on general surgical principles. The general treatment, of course, varies in each case, being determined by the pathological condition to which the gangrene is supposed to be due.

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[1] Hochenegg. Wiener Med. Jahrb, 1885.

ACUTE MULTIPLE GANGRENE OF THE SKIN.

Doutrelepont[2] gives the account of an interesting and unique example of this affection. A strong and healthy unmarried girl, twenty-one years of age, who had never before suffered from any cutaneous disease, ran a needle under the nail of the left thumb, which was allowed to remain several days before being removed. On the day after the infliction of this injury there appeared the first symptoms of a subsequent and long-continued illness in the shape of small gangrenous spots in the skin. The back of the left hand was the first region affected in this way, but afterward the forearm and shoulder, then the upper arm and back, of the same side became also involved. It was a little over two months from the beginning of the disease before it overstepped in its distribution the middle line of the body. Within eight months from this time, however, the sacral region, the breast, the abdomen, both lower extremities and the right arm were all invaded by the gangrenous process which ultimately, over a year after it first appeared on the left hand, showed itself also on the face and head. During all this time the progress of the disease was not an uninterrupted one, but there occurred periods of a month or two, during which no cutaneous manifestations were developed. Each new outbreak of the eruption was generally preceded by an evening rise in temperature, which ceased only with the full development of the eruption.

The symptoms of the disease were as follows:

Either with or without the previous development of temporary cutaneous hyperæmia and with a sensation of painful pricking in the affected regions, there appeared oblong or rounded patches of a whitish-gray color and obscure contour, each patch being apparently composed of a group of smaller sized and rounded lesions. These patches varied from one to four centimetres in diameter, were not raised above the cutaneous level, and neither vesicles, papules nor pustules were ever developed in connection with them. Shortly after the appearance of these patches there was formed at their edges a line of demarcation separating them from normal skin, and surrounded in its turn by a narrow band of encircling hyperæmia. These gangrenous islets of skin then assumed a greenish-yellow color and were gradually cast off, leaving behind a shallow ulceration which presented small anæmic granulations and healed but slowly. Occasionally and more especially toward the end of the disease, healing took place underneath the necrosed tissue before the latter was cast off. The pathological process was confined to the skin, and at no time involved the subcutaneous tissues. Most of the cicatrices resulting from these losses of cutaneous tissue became keloidal, and it was only during the later periods of the affection that this tendency to the formation of false keloid disappeared. During the whole course of the malady, the patient, with the exception of the febrile attacks above mentioned, was in good general condition, the appetite and powers of digestion being unimpaired. The menses, however, were irregular and intermittent. Her only complaints were directed against the localized pains which preceded and accompanied the cutaneous manifestations and the chronicity of the latter. The sensitiveness of the skin and the tendon reflexes were always found to be normal, and there was never any enlargement of the lymphatic glands.

None of the various drugs administered, among which were arsenic, iron, salicylate of sodium, corrosive sublimate and quinine, appeared to have the slightest influence upon the course of the malady. The use of antipyrin, however, was found to control the evening rises of temperature, while the external application of a solution of corrosive sublimate 1‰ in strength, seemed to prevent the development of keloid, which did not take place after its use.

Examination of blood taken from these cutaneous lesions and cultivation experiments with the same and with bits of diseased tissue, demonstrated the absence of micro-organisms. Histological examination of portions of skin taken from the diseased regions, confirmed the clinical assumption that these cutaneous lesions, namely, the gangrenous patches, were composed of small, round efflorescences which were surrounded by normal skin. The initial pathological process was found to be an early stage of inflammatory vesicle formation, which by reason of quickly occurring cutaneous necrosis, did not reach a grade of development sufficient to render it clinically evident as such. These vesicles were always in circumscribed groups and were developed "en bloc," that is, all of the vesicles included in any given group were formed at once, there being no successive development of vesicles in any group. These are among the clinical characteristics of herpes, and the disease in this instance is regarded by the author as multiple, bilateral, and chronic herpes zoster, its full clinical development being prevented by the rapidity with which the gangrenous supervened upon the herpetic process, the case presenting many analogies with the variety of zoster described by Kaposi[3] as herpes zoster gangrenosus recedivus.

TROPHONEUROSES OF THE SKIN.

Kopp[4] gives the following conclusions as the result of a careful study of the "relations of the nervous system to diseases of the skin":

(1) It may be regarded as proven that the nervous system, under normal conditions, exercises a controlling influence over the nutrition of the various tissues which go to make up the skin, and that organic and functional alteration of the central and peripheral nervous system may have, as a result, disturbance in the normal nutrition of tissue, irrespective of any vasomotor disturbance. Our knowledge with regard to the minute details of these processes is incomplete, but in general, it may be assumed that mere cessation of innervation gives rise to atrophic processes, while irritation of the nervous system is more apt to cause dysprophic processes in the tissues affected.

(2) Reasoning by analogy from processes of innervation, as exhibited in other parts of the nervous system, it is most probable that this trophic influence is exercised by certain ganglion cells, and groups of ganglion cells situated in the central nervous system, a normal condition of these cells being necessary to the normal production of nutrition. Nothing positive, however, is known concerning the exact situation of these trophic centres. Those which govern cutaneous

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[2] Vierteljahresschrift für Derm. u. Syph., 1886, 2 Heft, p. 178.

[3] Wiener Med. Wochenschrift, 1874, Nos. 25, 26 and 38, 1876; Nos. 1 and 2, 1877; Nos. 25 and 26, and Vierteljahresschrift f. Derm. and Syph., 1882, s. 542.

[4] Die Trophoneurosen der Haut, etc., von Dr. Carl Kopp. Wien., 1886, Verlag v. Wilhelm Braumüller.

nutrition are probably situated in the posterior regions of the spinal cord, although there is also some reason for assuming that they may exist in the ganglia of the posterior nerve-roots.

(3) There are not sufficient grounds for assuming the existence of special nerve fibres devoted to the transmission of trophic influence, and it is more probable that this peculiar influence is transmitted by means of the ordinary nerve-fibres.

(4) There are but few affections of the skin which can be regarded as uncomplicated tropheneuroses. There are hemiatrophia facialis progressiva, atrophia cutis circumscripta neurotica, possibly vitiligo, herpes zoster, pemphigus, scleroderma, and the anomalies of cutaneous secretion.

(5) Most of the other cutaneous affections usually regarded as trophoneurotic in origin are to be regarded rather as the result of several different processes, among which trophic disturbance plays a more or less important part. In general, as a consequence of disturbed trophic influence, is to be assumed a diminished capacity of tissues to resist insult and pathological changes; nevertheless, there also occur instances in which the trophic influence seems to be stimulated, and thereby the capacity for resistance and growth of tissue is temporarily, at least, increased.

(6) The essential reasons for the assumption of a trophic influence which resides in the nervous system are derived from clinical observation; efforts to induce uncomplicated trophoneurosis of tissue by means of experimental pathology have hitherto been fruitless, and anatomical knowledge with regard to the subject is scanty, and requires further investigation.

UNILATERAL CUTANEOUS PRURITUS OCCURRING AFTER EMBOLISM OF THE BRAIN.

Professor Köbner[5] exhibited in his clinic an unusual case, in which intense pruritus and complete anidrosis ensued after hemiplegia, caused by embolism of the brain. The pruritus and anidrosis were confined in their distribution to the left side of the body, which was paralyzed. The skin was entirely normal in appearance, showing no evidence of disease, except the mechanical injuries inflicted by the nails of the patient in her endeavors to relieve the itching, which was continual, and so severe as to deprive her of sleep.

Köbner said that he had never met with a similar case, either in his own experience or in literature, and confessed his inability to offer any satisfactory explanation. The usual causes of pruritus not due to pathological changes in the skin, that is, of so-called nervous origin, exist either in the skin itself, as in pruritus senilis, where, by reason of senile atrophy of the cutaneous tissues and glands, there ensues cutaneous irritation; or in the internal organs, such as disturbances in the female generative apparatus, and in the alimentary canal; or else in abnormal changes in the constitution of the blood, such as occurs more especially in cases of icterus, diabetes, and Bright's disease, where, by reason of the presence of foreign materials in the blood, there occurs irritation of the cutaneous nerves. Nothing of the kind was found to exist in this case, the skin being entirely normal, with the exception of the diminished secretion of the sweat-glands. The pruritus seemed to be due to trouble in the central nervous system, being somewhat analogous to those cases of general pruritus occasionally met with in connection with various forms of insanity. The treatment, which was found quite efficacious in modifying the violence of the pruritus in this instance, was the inunction, twice a day, of a salve composed as follows: chloral hydrat., camphor. trit. aa 5.00, and vaseline 50.00.

Clinical Memorandum.

TWO CASES OF OBSTETRIC INTEREST.

BY ALFRED HOSMER, M.D., OF WATERTOWN.

CAN UTERINE HÆMORRHAGE BE PRODUCED BY RENAL DISEASE?

Mrs. —— died late in the month of January, 1886, at the age of fifty-seven. An autopsy was made within forty-eight hours. The external bulk of the heart was found to be very much increased. The walls were very thin, and the cavities much dilated. The muscular substance was tolerably firm. The kidneys were in the second stage of Bright's disease. The body of the uterus presented nothing very striking in its general form and size, or in the quality of its tissue. Its special abnormal features were as follows: the cervix showed considerable cicatrical tissue, and scarcely projected into the vagina. The os was a small circular opening, with quite a sharp edge, resembling a hole punched in a thin membrane. It did not represent the termination of a cylindrical canal, but rather the entrance into a cavity of very irregular shape. Two or three small patches of capillary hæmorrhage were found on the internal uterine surface. Within the wall of the organ, high up on the right side, there was a fibroid, measuring almost two cm. in diameter. There were also two very small subperitoneal fibroids low down near the cervix. The diseases of the heart and kidneys had been fully recognized before death; but the condition of the womb, with the exception of the loss of the vaginal cervix, had always been an unsolved question. This was due in part to the fact that the conformation of the patient rendered it absolutely impossible to obtain a satisfactory touch or exploration with the sound. Even firm pressure made upon the hypogastrium, failed to depress the uterus appreciably. The tonic conformation is not intended to suggest any pelvic deformity. Physically, the patient was a large woman, with decided tendency to corpulence; hence the difficulty of pelvic examination. Her circumstances were entirely comfortable. She had borne two children; the younger one a son, born in 1866. Through life she had suffered much from malarial disease, but otherwise had been pretty well. Menstruation had always been a regular function, and when it ceased is quite uncertain. In the early part of 1884, she had suffered for some time from severe pain in the lower portion of the trunk, and had also been subject to copious uterine flow. Her attendant, a female practitioner, advised that a trial of electricity be made in New York city. A very brief experience demonstrated the utter unfitness of that method of treatment, and it was abandoned. The patient then made her way to Philadelphia, where she placed herself under the care of an eminent gynæcologist. By him some operation was performed upon the cervix uteri. It is supposed to have been intended for the relief of an old laceration; although upon this point no definite information was ever obtained. Having fairly recovered from the artificial illness produced by the operation, assurance was given that, with the exception of some cardiac trouble, she had no organic disease. Her haste to reach home probably induced her to depart somewhat prematurely, and thus to lose an advantage that might have been derived from medical supervision continued a little longer.

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[5] Berliner Klin. Wochenschrift, July 27, 1885.

My personal acquaintance with the patient commenced with my professional attendance in April, 1884, and the latter continued, with some interruptions, until her death. There were two periods, one of six months, from August, 1884, until February, 1885, and one of five months, from March, 1885, until the following August, during which the patient made no request for medical advice. The history of the case, as I observed it, may be given as follows: Excepting the cardiac disease, which even then was well pronounced, I could discover in the patient, at the time of my early attendance, only an enfeebled condition, for which there seemed to be sufficient reason. Her mind was infected with the theory of "biliousness," and by unwise exertion she was striving to regain the strength she had lost. Before long she was overtaken by a uterine flow, which, together with its repetitions, formed such a puzzling subject of study during the remainder of her life. The interval which separated any two successive hæmorrhages varied from a few weeks to some months. Their duration was never short, and sometimes exceeded a fortnight. The attacks gradually became worse, and the worst of all was the last one, and came on about two months before death. The color of the blood was dark, as I observed it more than once through the speculum, while it issued from the os uteri in a stream of surprising size and velocity.

This recurring symptom of hæmorrhage was treated with rest and precaution, and all the various astringents that therapeutics can suggest, not omitting one of the latest remedies, the rhus aromaticus, of the efficiency of which, in certain cases, I am fully convinced.

As I look back upon the case, with a single glance at the whole of it, I am inclined to believe that, notwithstanding the faithful use of proper drugs by internal administration, the cessation of the hæmorrhage was due every time largely to the principle of self-limitation. Hæmostatics seemed to be false to their names, excepting as they were used locally. If a piece of alum or a wad of absorbent cotton saturated with alcohol were placed high in the vagina against the stump of the cervix, the flow would cease for a while, and be essentially modified for two, three or four days. If during a free hæmorrhage the uterine cavity were wiped out with alcohol, or a small quantity of the liquid were injected into it, the stream of blood would cease for some minutes. There was another effect produced by the alcohol placed in the vagina, and which deserves notice. The passage was contracted and puckered as by an astringent; so that a speculum which was introduced with perfect ease before the use of the alcohol, was inadmissible afterwards. In her latter days the patient suffered extremely from the characteristic nausea and vomiting, and from neuralgia, in the form of severe hemicrania.

I have selected a question for the title of this communication for two reasons: (1) The hæmorrhage was largely in excess of anything that could be expected from, or explained by, the pathological changes found in the uterus. (2) Certain it is that, associated with renal disease, there may be changes in the vascular walls which allow and determine serious hæmorrhages in the cerebral tissue, and copious, even dangerous, epistaxis. May not similar results be observed in other portions of the system?

A FATAL CASE OF URÆMIC CONVULSIONS, OCCURRING AT THE SEVENTH MONTH OF PREGNANCY; THE PATIENT DYING UNDELIVERED.

Late one evening, by a message which failed to imply any urgency, I was summoned to a stranger, then a guest at the house of her sister, and intending to return home on the following day. The case was reported to me as one of indigestion, produced by an apple that had been eaten in the afternoon. Her family had not the least suspicion of the crisis that was rapidly approaching. A very brief inquiry discovered pregnancy in a primipara advanced to the seventh month; headache, defective vision, general œdema, and severe gastralgia. Of course nothing was known of the method of the renal function. The statement that convulsions would soon occur caused much surprise. A nurse was ordered, a full dose of bromide and chloral was administered, but the necessary preparations for the treatment of a grave case were hardly completed when the patient had her first seizure, and that was very far from being a slight one. This was just twenty-six hours before her death. During the first fourteen hours of this period, she had seventeen convulsions; the remainder of the time she lay in a state of complete unconsciousness. Immediately after the first fit I drew the urine, and this was almost at midnight. Although in its general appearance, this urine looked sufficiently well, it contained a large proportion of albumen. During the next six hours, that is, until six o'clock, the quantity of urine secreted was just about one-half of what it ought to have been, and the degree of albuminuria was increased. During the next period of six hours, terminating at noon, the renal function seemed to undergo an almost complete abolition. The urine was extremely small in quantity, and as thick and turbid as chocolate. This brief account includes all the essential features of the case, so far as concerns the course of the disease, and its modes of manifestation. Before detailing the treatment, it should be stated that uterine action existed only as it was induced. There was no sign of spontaneous labor. Bromide and chloral showing no good results, morphine, used subcutaneously, was substituted, with ether upon the approach of a fit. Still later the ether was used by itself, and with great freedom and persistency. When the kidneys were found to have failed so signally in their function, jaborandi was administered by the rectum. It very promptly produced copious diaphoresis, but had not the slightest diuretic effect.

Very soon after assuming the care of the case, and in view of its unusual severity, I attempted, but unsuccessfully, by the method of digital dilatation, to produce labor and to effect delivery. The difficulty reminded me of what I have encountered in the case of tonic spasm of the internal os, and may have depended upon the fact that the cervix, which includes the os, was not in that ripe and mature condition that commonly requires nine months for its full development. My efforts at dilatation covered a period of many hours; they were hopeful and persevering, and sufficiently energetic. All I accomplished was to force into the os, at once, the fore, middle and third fingers, and not even these in their entire length. When they were finally withdrawn, they were marked with a sharp circular indentation, such as would have been produced by a string tightly drawn. As an adjuvant to this mechanical treatment, a useless attempt was made to soften and relax the unyielding tissue of the obstinate cervix, by throwing upon it a stream of tepid water. At a late stage the difficulty of dilatation was much increased by the condition of the vagina, which became so dry, so hot, and so swollen as to almost refuse admission to the hand.

As a result of the change enforced in the cervix and os, uterine action came on, and the contractions in their force and regularity, were quite satisfactory for a time. For the purpose of maintaining them ergot was used by the rectum. The moribund stage was of unusual length, and many hours before death it became necessary to confess, for this case, the insufficiency of the obstetric art.

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Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

June 12, 1886, the President, Dr. A. D. Sinclair, in the chair.

Dr. Hosmer reported two cases,[1] the first bearing upon the question,

CAN UTERINE HÆMORRHAGE BE PRODUCED BY RENAL DISEASE?

Dr. Strong thought the uterine hæmorrhage was more likely due to the dilated condition of the heart and the consequent passive congestions, than to the kidney: the uterine mucosa becoming hyperæmic, moderate hæmorrhage is the frequent result.

Dr. Richardson had noticed that there was more flowing *post partum* in women affected with Bright's disease.

Dr. L. R. Stone had also observed the phenomenon.

Dr. Hosmer said there was no constitutional cause for the hæmorrhage in his case, that he had discovered. He then reported

A FATAL CASE OF URÆMIC CONVULSIONS OCCURRING AT THE SEVENTH MONTH OF PREGNANCY, THE PATIENT DYING UNDELIVERED.

Dr. Blake said that in such cases he induced profound anæsthesia with ether, and dilated the cervix with the fingers and delivered: he did not believe in the use of morphia.

Dr. Sinclair agreed with Dr. Blake, and had never failed in following the method of digital dilatation under surgical anæsthesia. In some cases he would also give calomel and jalap; and would use emollients, when the vagina was hot and dry. He never gave morphia.

Dr. Hodgdon thought chloroform the best anæsthetic, because it acted more quickly.

Dr. C. H. Cook advocated free catharsis.

Dr. A. H. Johnson spoke of the case of a patient affected with nephritis, who, when near full term, was seized with headache and epigastric pain. Labor soon set in and speedy delivery followed: she then had a convulsion. He used no ether, but gave chloral and bromides, and also a quarter of a grain of morphia. There was no subsequent convulsion. He had carefully considered the question of using morphia in Bright's disease, and was in favor of its use: morphia was said to increase the secretion of urine.

Dr. F. W. Goss was interested in the rapid increase of the renal affection: he had seen cases in which the morbid changes were very rapid.

Dr. Richardson spoke of the propriety of bleeding in cases of eclampsia: he had bled in but one case. Dr. Fordyce Barker approved this treatment, however, and bled very frequently. In the cases of post-partum eclampsia which he had seen, he had noticed that there was a greater amount of flowing, and this would of course make further bleeding unnecessary.

Dr. Ingalls, in a case of post-partum eclampsia, had bled the patient, and she had but two convulsions afterwards, and recovered: he noticed no undue flowing.

Dr. Wellington had seen two cases of hæmorrhage after convulsions.

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QUARTERLY MEETING OF THE ESSEX NORTH DISTRICT MEDICAL SOCIETY.

MAURICE D. CLARKE, CORRESPONDING SECRETARY.

The quarterly meeting of this Society was held at the Brown Square Hotel, Newburyport, October 6th, the President, Dr. E. P. Hurd, of Newburyport, in the Chair.

The records of the last meeting were read by the Secretary, Dr. George W. Snow, of Newburyport, and approved.

By invitation, Dr. S. K. Towle, formerly of Haverhill, but now surgeon at the Soldier's Home, Hampton, Va., addressed the Fellows. He said, among other things, that he missed, in his present practice, the quacks. All his chronic and incurable cases remained with him, and did not give him a desired rest by betaking themselves, as was their habit in private practice, to the quacks. He humorously deprecated, therefore, a possible subsidence of quackery for the sake of the profession.

After a brief discussion upon various phases of the fashionable quackery of the day, Dr. A. Stabler, of Lawrence, read the paper of the session, upon

A NEW PORTABLE BATTERY, AND SOME DETAILS OF ITS APPLICATION.

Dr. Stabler exhibited a very ingeniously constructed battery of his own devising, and made some remarks upon electro-therapeutics, citing illustrative cases from his own experience, especially in the field of gynæcology. Dr. Stabler's paper was succeeded by a general discussion upon the use of electricity in medicine, and later, upon a variety of subjects.

Dr. Enoch Cross, of Newburyport, the oldest member of Essex North, now eighty-six years old, and retired from the practice of medicine, was introduced to the Fellows present, and made a few remarks expressive of his gratification at meeting them again.

Dr. Edwin Warren Bullock, of Haverhill, and

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[1] See page 402 of the Journal.

Dr. Arthur Ambrose Sweeney, of Lawrence, passed the requisite examination, and were admitted as Fellows of the Society.

Voted, to hold the next meeting at Haverhill, on the first Wednesday in January, and, after dinner, adjourned.

THE NEW YORK ACADEMY OF MEDICINE.
SECTION IN NEUROLOGY.

Stated meeting, October 8, 1886.

Julius Althaus, M.D., M.R.C.P., of London, read a paper on

SOME POINTS IN THE PATHOLOGY AND TREATMENT OF PARAPLEGIA DEPENDENT ON POTT'S DISEASE,

in which he first gave the detailed history of a case. The patient was a florid-looking girl of twenty, who was employed as a domestic. She had enjoyed good health from early childhood. She had never had any scrofulous trouble, and there was no phthisis in her family. Moreover, so far as she knew, she had never received any injury to the spine. Two years before she came under observation she suffered from an attack of rheumatic fever; but, on recovering from this, she went back to service. Nine months later, however, she began to suffer from severe pain in the right foot, which was soon followed by marked loss of power in the right leg. Eventually this was followed by pain and paralysis in the left leg also. She then became confined to bed, and for a considerable time was treated in a provincial hospital, without any benefit.

When she came under Dr. Althaus's care an examination showed that there was almost complete paralysis from the hip-joint down, on the right side, and less marked paralysis in the left limb. On applying the faradic and galvanic currents, responses were obtained with unusual facility. The superficial reflexes were also unusually brisk; and the same was true of the deeper reflexes, as well. There was no history whatever of spontaneous cramps or of muscular rigidity. There was more or less coldness, lividity and clamminess about the foot and instep. The different forms of sensation in the entire limb were perfectly normal. The left side was in all respects less seriously affected than the right.

A distinct prominence of two of the dorsal vertebræ was clearly recognizable. There was no pain in the spine, and no increase of temperature; but the mobility of the spinal cord was much impaired. The commencement of the deformity, it was ascertained, had been coincident with that of the pain and paralysis fifteen months before. It seemed evident that there was more or less thickening of the spinal dura mater, and that in the cord itself there was interstitial myelitis present. The posterior columns were also implicated, as shown by the neuralgia that had existed for so long; but it was probable that the central portion of the cord still remained normal. She was placed on the iodide of potassium and cod-liver oil, with complete rest, and frictions with liniments, etc.; but at the end of three months no improvement whatever was noted.

At the request of Dr. Althaus, Mr. A. Pearce Gould then made an application of the actual cautery to the side of the spine, and within a few days the patient was perceptibly better. The application was made four times in all, and she continued to rapidly improve. In a short time she was able to walk as well as ever, and the vaso-motor disturbances, shown by the coldness, lividity and perspiration about the ankle, disappeared. The patient was then discharged practically cured, and entered a convalescent home for a time.

Patients suffering from paralysis due to Pott's disease, Dr. Althaus went on to say, had sometimes recovered by the opening of an abscess, and it could not be doubted that the powerful counter-irritation resorted to in this instance had brought about a cure by its effect upon the diseased structures involved. While the pain in the foot and leg had been very marked, there had never been any pain in the back. The former appeared to have resembled the lightning pains of locomotor ataxia. He believed that this pain was due, not to pressure on nerves or inflammation of the dura mater, but to irritation of the posterior columns of the spinal cord. The symptoms of coldness, lividity and perspiration of the foot and instep, showed that there was present some degree of vaso-motor paralysis, and it was plainly caused by central disturbance.

Formerly, it was supposed that paralysis occurring in Pott's disease was due to an actual destruction of the substance of the spinal cord; but if this were the case, recovery, which is so often noted, would be impossible. In many cases, however, the entire cord suffered some amount of pressure, which gave rise to paralysis. Vulpian had shown by experiments on animals that paraplegia could be produced and removed at will by setting up and withdrawing pressure upon the cord; the paralysis being motor in character, with no loss of sensation. But this simple form of paralysis was not all. Charcot and others had shown that there was habitually inflammation of the external layers of the spinal cord. Interstitial myelitis seemed to be always present also. In the case related there could be little doubt that the coarser pyramidal fibres were affected by either myelitis or degeneration, probably the former.

How, continued Dr. Althaus, shall we explain the fact that while there was almost complete motor paralysis, especially on the right side, there was no loss of sensibility? This was a point which had not been hitherto satisfactorily accounted for, and was worthy of careful study. There were three different degrees of pressure upon the cord met with in Pott's disease. In the first there was no pressure exerted upon the actual structures themselves; and all had seen cases in which, while there was considerable deformity, there was no paralysis. The reason for this was, that the pressure was just sufficient to displace the spinal fluid, but it did not extend to the cord itself.

The second degree was that which existed in the case under consideration. Here there was not only displacement of the spinal fluid, but also interstitial myelitis. In those cases of paralysis resulting from Pott's disease, motion was more easily lost than sensation. There was not a single case of the disease on record in which there had been paralysis of sensation without that of motion; while we constantly meet with the reverse of this, paralysis of motion without that of sensation.

The third degree was met with in those cases in which we had to do with complete transverse myelitis, implicating not only the columns, but the gray matter of the centre of the cord as well. In connection with this there was found anæsthesia and analgesia, with paralysis of the bladder and rectum and a tendency to bed-sores. In such cases, on account of the profound organic changes which had resulted from the pressure, recovery was impossible. It was important, therefore, that we should resort to the actual cautery at an early period in cases of Pott's disease in which paralysis results, in order to prevent the pathological process in the cord from going on to this advanced stage.

The conclusion of the paper was devoted to some consideration of the actual cautery. Having referred to its history in the past, Dr. Althaus said that personally he now never thought of resorting to it in spastic spinal paralysis, tabes dorsalis, or other disease of the cord proper; but that he had always found it of the greatest service in disease of the membranes.

Dr. V. P. Gibney said that he had been much pleased with the clinical picture which the distinguished writer had presented, and also with the admirable manner in which he had connected the various symptoms with the pathological conditions present in the case, which was one of great interest. As to the actual cautery, this was not the only means at our command for securing relief to the patient. He had seen a large number of similar cases perfectly relieved within a week, by the simple application of a jury-mast. Some time ago, Dr. Charles J. Poore read a paper in which he related a number of cases in which he was able to report very good results in the treatment of Pott's disease, by the actual cautery. Afterwards, however, he was much disappointed in its use, as the results in other cases were entirely unsatisfactory.

The author of the paper had cited but a single case, and though, in this particular instance, the method was completely efficient, he did not think this was enough to prove it applicable in general. Personally, he believed that the actual cautery was objectionable, and particularly in the case of children. Although it was the present custom to use it very lightly, it was impossible to persuade patients that it would not hurt, and both the mothers and the children objected very strongly to its use. Of course, this objection applied principally to private practice. He thought that, as Dr. Althaus had pointed out, the cases which improved did not belong to the third stage. He had a number of times applied the actual cautery when the very first symptoms of paralysis appeared, however, but without securing any good resuls. When, on the other hand, he had stopped its use, and had resorted to suspension and the application of a jacket, the patients got well. In these cases he was strongly in favor of giving large doses of iodide of potassium — sixty, seventy, or eighty grains, three times a day. The objections to the use of the iodide in adults did not hold good in regard to children, with whom it almost always agreed perfectly, and who often grew fat upon it. With the iodide, and a good jacket to support the spine, he had obtained better results than in employing any other treatment.

Dr. Sachs said that he agreed with the author of the paper that interference with motion was much more common than with sensibility. With regard to the treatment, he had no doubt that the actual cautery was efficient in certain cases, and yet in the one related by Dr. Althaus, he was inclined to doubt whether the credit for the cure should be given to this procedure entirely. Thus, in addition, the patient was given complete rest, and treated with cod-liver oil and other tonics. He had seen some cases cured by complete rest alone. The same was true of many cases of chronic myelitis, and he called to mind particularly one case of post-puerperal paraplegia. He did not wish to discredit the treatment of the actual cautery, but it seemed to him that the other measures adopted were of considerable importance in bringing about the satisfactory result noted.

The Chairman, Dr. L. Putzel, said he had had a few cases, in which the results were similar to those obtained by Dr. Althaus in the case reported in the paper. In these instances, the improvement was so rapid after the application of the actual cautery, that no reasonable doubt could be entertained as to its efficient agency. In the large number of cases, however, this procedure was entirely without beneficial results. As to large doses of iodide of potassium, as recommended by Dr. Gibney last year, he had found, in his experience, that these also were without effect. He agreed with the last speaker that, after all, time and rest were the most successful remedies. Good feeding, however, was a matter of great importance also. With regard to the absence of anæsthesia in these cases, it seemed to him that the explanation presented in the paper was a very plausible one. It certainly seemed to him to be a fact that there was some quality about sensory fibre which made it resist pressure much more efficiently than motor fibre.

In closing the discussion, Dr. Althaus said that the good effect produced by very large doses of iodide of potassium, as claimed by Dr. Gibney, was a very interesting matter, and that on his return to England, it would give him great pleasure to practically test the efficacy of the treatment. It had been assumed that the rest and other treatment, beside the application of the actual cautery, had had much to do with securing the good results noted in the case which he had narrated. But this he believed to be a mistake. For four months in the provincial hospital, and for three months after she came under his own care, the patient had been treated with complete rest in bed, and, in addition, she had been taking cod-liver oil and iodide of potassium, the latter in thirty-grain doses, three times a day. And yet no effect whatever was produced — the patient remained precisely in the same condition. As soon, however, as the first application of the actual cautery was made, a marked improvement in the paralysis commenced, and this rapidly became more and more marked under the repeated use of the cautery. Before resorting to this measure, he had wished to give the rest treatment a thorough test, and as it was attended with no improvement, while from the first the improvement was positive under the use of the cautery, he thought he was fully justified in attributing the cure to this particular agent. There was, no doubt, cases in which the cautery had failed, but it seemed to him that in these instances the disease was probably more advanced. He would like to inquire if there was not some loss of sensibility, as well as motion, in such cases. In conclusion, he said that his reason for bringing this subject before the Section was to induce surgeons to resort to the actual cautery at as early a period as possible.

Dr. Graeme M. Hammond read a paper on

ATHETOSIS, WITH REMARKS ON ITS PATHOLOGY.

In speaking of the treatment, he said that this affection, being dependent on certain irremediable organic changes in the brain, it was impossible even to produce a cure. At the same time, there were certain measures which, in some instances at least, had been attended with marked relief, and sometimes had succeeded in abolishing all symptoms of the trouble for a considerable period. He referred in detail to four cases, one of which. reported by Gowers in 1876, had been treated with galvanism, and the remaining three of which had been treated by nerve-stretching. The most interesting of these was the original case of Dr. Wm. A. Hammond, upon which his description of the disease (which is mainly characterized by an inability to retain the fingers and toes in any position in which they may be placed, and by their continual motion), published in 1871, was based. This patient was also a confirmed epileptic. In 1882 Dr. G. M. Hammond stretched the median nerve very forcibly; after which both the epilepsy and athetosis disappeared for three months. At the end of five months, however, they were as bad as ever. At the time of the operation the nerve was in an apparently perfectly healthy condition. In 1884 the same operation was repeated, and the nerve still appeared normal. After this the patient remained well for about four months, but in eight months was again as bad as ever.

In 1885 the operation was again repeated, and this time the nerve appeared to have lost its healthy character, and after the stretching, instead of promptly rebounding to its position, it hung in a loop outside the wound. The result of the operation, however, has been more satisfactory than either of the others. A year and four months has now elapsed since it was performed, and there has been no return whatever of the athetoid symptoms: the muscles of the hand, arm and foot all being perfectly under the perfect control of the will. The patient, however, still has an occasional epileptic seizure (perhaps once a month), and he is the subject of that interesting feature sometimes characterizing epilepsy, double consciousness. This state of oblivion respecting former events sometimes lasts for four days at a time.

Dr. Hammond said that he believed that nerve-stretching yielded better results than electricity or any other method of treatment in athetosis. He was unable to say precisely how stretching of the median nerve in the arm affected the leg also; but such appeared to be the fact. Such a procedure could, of course, have no effect on the organic changes in the brain giving rise to the athetosis; but he thought that it might perhaps have some effect upon the *corpus striatum*. Dr. Dana had shown that stretching of the sciatic nerve actually stretched the spinal cord as high up as the cervical vertebræ.

Dr. Hammond was able to present the reports of nine autopsies, made by various neurological authorities, in cases in which athetosis had been present during life. In three of these there were well-marked lesions of the corpus striatum, in three, of the optic thalamus, in one or more, of both the corpus striatum and optic thalamus, and in two, of the cortex cerebri. He also referred to a number of authentic autopsies in cases of allied affections, in which the same portions of the brain were the seat of organic disease. His conclusion was, that athetosis and allied affections are due to lesions of the corpus striatum, optic thalamus, and cortex cerebri, and of these parts alone.

Dr. Birdsall said that in order to show that athetosis and allied clonic movements were dependent alone on lesions of the gray matter of the brain, it was necessary to prove that in the condition found at the autopsies referred to the internal capsule was not at all implicated. Athetosis so frequently followed hemiplegia, and especially in children, that it seemed reasonable to suppose that the motor fibres were affected in it.

Dr. Putzel mentioned two autopsies he had seen which bore upon the subject, and which seemed to confirm the position taken by the author of the paper. One was in a very marked case of chorea, of twenty years standing, and the autopsy revealed pronounced atrophy of the central convolutions, with descending degeneration down the cord. The other was in a case of pre-hemiplegic chorea. He was glad to find that the author of the paper had not treated athetosis as a distinct disease, but as an affection allied to chorea, hemi-chorea, etc.

Dr. Hammond explained that the greater number of the autopsies referred to were described with the greatest accuracy, many of them being accompanied with diagrams representing the seat of disease, and that in none of them were motor fibres implicated in the slightest degree.

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Recent Literature.

Handbook for the Instruction of Attendants on the Insane. Prepared by a sub-committee of the British Medico-Psychological Society. Boston: Cupples, Upham & Co. pp. 137. 1886.

How to Care for the Insane. A Manual for attendants in Insane Asylums, by William D. Granger, M.D., first Assistant Physician, Buffalo Asylum for the Insane, N. Y. New York and London: G. P. Putnam's Sons. pp. 96. 1886.

If the knowledge and treatment of diseases of the mind had kept pace with that of bodily disorders, the systematic instruction of attendants by special training and by manuals, would have long since been inaugurated. The advance in the care and treatment of the insane has, to be sure, been rapid since the days of Pinel and Conolly, but the early years of ignorance and neglect in this direction remain to be compensated for, before the gains in other branches of medicine can be counterbalanced, and diseases of mind and body placed upon an equal therapeutic footing.

The books before us are nevertheless welcome as harbingers, though late ones, of a happier lot for the insane through the thorough instruction of those upon whom their well-being so largely depends.

The Handbook for the Instruction of Attendants is an attractive reprint from the English publication, a systematically arranged and useful manual. A good deal of ground is covered, including not only the care of the insane, general duties of the attendants and nursing of the sick, but considerable mental and bodily physiology and pathology necessarily of a most elementary kind.

"How to Care for the Insane," goes over the same ground but in more detail, and though the style is of the plainest, the matter is particularly clear and readable, and well calculated to attract and hold an attendant's interest. Exception must be taken, however, to the introduction of matters purely of asylum administration, such as whether patients shall "sleep in large dormitories or move about in big parties."

There is much in these manuals relating to psychology and physiology that might be omitted. Attendants care most for and remember best the instructions which immediately relate to the details of the care and management of their charges. This information when clearly and fully presented, they read with profit and an eagerness which shows how great has been the need of it. But as we question how far the average hospital nurse is guided in her duties by a knowledge of physiology and pathology, we decidedly doubt the ability of attendants, particularly those in our large public asylums, to understand, to properly apply and to remember the chapters on the nervous system, and mental processes and states in health and disease. This applies with less force to those who have the advantages of special instruction, as in the pioneer training schools of the McLean and Buffalo Asylums.

Advice about dealing with that most difficult class, hysterical patients, of which every asylum has its representatives, might well find a place among instructions to attendants.

Nevertheless, taken as they are, these manuals ought to be carefully read, not only by attendants everywhere, but by nurses generally. A suitable book of this sort might be profitably recommended to nurses in general training schools, so frequently does it happen that nurses without any experience in such cases are put in charge of insane patients at their homes.

The Sixth Massachusetts Health Supplement.[1]

We are glad to receive the last health supplement to a report of a board of health, lunacy and charity. It embraces the following topics: "Malaria in Eastern Massachusetts," by Dr. Z. B. Adams, of Framingham. "Weekly Mortality Reports of Cities and Towns, for 1885." "Report upon Food and Drug Inspection." "Disposal of Sewage at Massachusetts Reformatory," by Wm. Wheeler, C. E. "Case of Lead Poisoning," by Dr. F. W. Jones. "Reports of Water Boards and Companies." "General Index of Health Supplements and Chapters on Public Health in Annual Reports."

Nearly two hundred cases of intermittent fever, generally tertian, rarely quotidian, more rarely still quartan, were observed in Framingham during the summer of 1885. The course of the disease and the surrounding conditions are described in a paper on this same subject read by Dr. Adams before the Massachusetts Medical Society and published in this Journal, (vol. cxv, p. 173.)

For nine years the three factors of heat, moisture, and vegetable decay were present in the greatest activity in Framingham, while none, or rare and doubtful, cases of intermittent fever have arisen, until 1885; and then during an epidemic of the disease, few, if any, cases appeared in the vicinity of the great reservoirs and dams, where the three factors had been present in the highest degree.

Dr. Adams gives, appended to his paper, a very useful tabular statement of outbreaks of malarial fever in New England.

Under the law providing for the inspection of food and drugs, from January 1, 1885, to May 31, 1886, there were examined 6,029 samples of food, of which 2,433 were found adulterated or not conforming to the statutes; 3,664 of milk, of which 1,463 were below the standard; 1,607 of drugs, of which 729 were adulterated. Warning notices to retailers were sent in 1,031 cases. The number of prosecutions conducted and complaints entered were for milk 68, butter 32, other articles of food 18, drugs 1.

The disposal of sewage at the Concord Reformatory by irrigation is described; a case of lead poisoning is reported; a chemical examination of 88 specimens of wall-paper showed 34 to contain much arsenic; 9 considerable, and 17 a trace; sixty-six pages are devoted to a statement of statistical returns of water-boards required by law, but most of which has its chief value to persons interested in water companies rather than to sanitarians.

As we have often felt it our duty to differ with the executive of the State, and the Legislature, in the struggle to separate the board of health from its lunatic and charity combination, we take great pleasure in giving Governor Robinson the highest praise for his recommendations to the Legislature in the matter, and especially for the high character of the new board of health which he has appointed.

— Sir Andrew Clarke, the celebrated English physician, is reported to have declared that one-half the population of London is permanently ill. He defines health as "that state in which the body is not consciously present to us; the state in which work is easy, and duty not over great a trial; the state in which it is a joy to see, to think, to feel, and to be." With such a definition of health, we suspect that his statement is well within bounds.

— "'Pears to me," said old Uncle Pete, as he leaned his hoe against the corn-crib and abstracted a pebble from his shoe, "'pears to me like dar war some kin' o' misdecomposishun in all dis talk about babies cuttin' teef. De way I'se cum to look at it, hit's de teef cuttin' de baby. Leas'wise dat's de way hit looks in de case ob culled chilen." — *Archives of Pediatrics.*

— The *Northwestern Lancet* says: Last year an attempt at the cultivation of opium was made at New Ulm, Minnesota, by Mr. Emil Heschke. Several kinds of poppies were experimented with, and specimens of the *Papaver somniferum* were raised, whose unripe capsules yielded opium containing fifteen and two-tenths per cent. of morphine. The Pharmacopœia requires that opium shall contain ten per cent. of morphine, so that the Minnesota production came fully up to the standard. But, for some reason, it was concluded that the production of opium would not be profitable, and it is not likely that this industry will be added to the resources of that State, at least at present.

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[1] Seventh Annual Report of the State Board of Health, Lunacy, and Charity of Massachusetts. Supplement containing the Reports and Papers on Public Health, with a General Index. Boston: Wright & Potter. 1886.

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PERFORATING INFLAMMATION OF THE VERMIFORM APPENDIX.

It is not always easy to know just what advantage there may be in the publication of cases which present no very unusual features or new facts in pathology or therapeutics, though the cases are just unusual enough to occur but once or twice in the lifetime of a practitioner. But occasionally there appears a man who gathers together the clinical reports of such isolated cases and tabulates and analyses and studies them in connection with his own experience till he succeeds in showing the natural history of the somewhat rare affection, points out the particular direction in which danger lies and the proper method of interference.

A noteworthy example of such a study is to be found in a paper read at the Association of American Physicians at its first annual meeting at Washington, June last, in which Dr. R. H. Fitz discusses the perforating inflammation of the vermiform appendix with special reference to its early diagnosis and treatment, and published as the leading article of the October number of the *American Journal of Medical Sciences*. It is by no means easy to condense into the space these columns afford an article which is at once long and remarkable for the absence of superfluous words; but we wish to give our readers the results of Dr. Fitz's conclusions and at the same time to illustrate the advantage of reporting unusual cases with care.

Recognizing the lack of agreement in the use of the terms typhlitis and perityphlitis, Dr. Fitz has made a collection of 257 cases of perforating inflammation of the appendix. By limiting the attention to the essential features of these cases it was thought possible to recognize the characteristics of this sharply defined affection, by means of which it might be differentiated from all others occurring in this region. At the same time 209 cases of typhlitis and perityphlitis have been collected.

From the consideration of these cases it is apparent that perforating appendicitis is a disease most frequently occurring among healthy youths and young adults, especially males, and that attacks of indigestion and acts of violence, particularly from lifting, jumping and falling are exciting causes in one-fifth of the cases. A local cause is to be found in more than three-fifths of the cases in the retention in the appendix of more or less inspissated fæces, or in the presence there of a foreign body. The retention of fæces may be promoted by a constipated habit, but congenital or acquired irregularities in the position and attachments of the appendix frequently act as favoring causes. A fact in support of the last-mentioned statement is to be found in the frequency of successive attacks of inflammation of the appendix.

The course and results of the inflammatory process show extreme variations. A simple catarrhal appendicitis is to be recognized anatomically but its clinical appreciation is doubtful. This appendicitis may progress toward ulceration, even to a peritonitis which may result fatally, an event not unlikely in the presence of a foreign body. When the peritonitis represents the extension of the inflammation through the walls without perforation, adhesions will take place; when the appendicular peritonitis is associated with necrosis of the wall the inflammation of the peritoneal coat tends to become diffused and productive of serous and cellular exudations. The adherence of coils of intestine to each other and to the abdominal wall favors the accumulation of the exudation in a limited space and thus the formation of the tumor. At this stage the anatomical condition is a circumscribed peritonitis.

The peritoneal abscess may become absorbed or its contents may escape into the general peritoneal cavity through ruptured or softened adhesions, when as a rule death rapidly follows; or the tumor may suddenly diminish in size with the discharge of pus from a hollow organ, as the intestine, bladder or vagina. The anterior abdominal wall may be perforated and a sinus be established opening in the groin, lumbar region or at the umbilicus. The more protracted the course of the disease the greater is the probability of the destruction of the peritoneum which forms the wall of the abscess.

With the perforation of the parietal peritoneum may occur extensive necrosis, with purulent and fæcal infiltration of the abdominal walls. The primary appendicular peritonitis may in like manner be continued into the tissues behind the cæcum and thus a paratyphlitis or perityphlitic abscess be occasioned. So various are these possibilities that every case of so-called perityphlitic abscess must be regarded as primarily one of perforating appendicitis unless proven to be the contrary. The results of post-mortem examinations show that the attacks of inflammation of the appendix frequently occur without giving rise to characteristic symptoms. The latency of the symptoms in certain cases is such that the eventual diagnosis is obscured and the desirable method of treatment postponed. There can be but little doubt that a diagnosis of bilious attack, colic, gastritis, enteritis, gravel, ovaritis, congestion of the womb and the like may not unfrequently conceal the existence of an inflamed appendix.

Sudden severe abdominal pain is the most constant decided initial symptom of perforating appendicitis. Sometimes it follows an attack of diarrhœa. It is usually intense and is occasionally accompanied by a chill, or nausea and vomiting. Though usually limited to the fossa the pain sometimes extends upward as far as the liver or downward to the rectum, testicle, perineum or thigh. Great nervous anxiety, followed by a temporary prostration, is occasionally associated with the attack. This sudden intense pain is probably due not to the actual beginning of the disease but to the separation of the fresh adhesions of an acute appendicitis, and often, perhaps usually, to the perforation of the inflamed appendix. It generally represents the beginning of a more extensive peritonitis.

The abdominal pain is followed by fever as the next constant symptom. The temperature is rarely very high and the accompanying constitutional disturbances are frequently slight if not absent. During the first three days following the outset of the pain micturition is occasionally disturbed, and the use of the catheter may be necessary. The abundant use of opium at this stage of the disease explains this feature. The right testicle may be swollen and retracted, the course of the pain being towards this gland. The circumscribed swelling in the right iliac fossa when present is evidently of the utmost value in diagnosis. Its usual seat is below a line extending from the anterior superior spine of the ilium to the navel, nearer the former and two fingers' breadth above Poupart's ligament. It may lie nearer the median line or may approximate the iliac crest. Its exact seat may vary with the anatomical peculiarity of the appendix. The early products of peritonitis are obviously not to be recognized by physical signs. As the exudation increases dulness becomes apparent, but this sign may be obscured by intervening coils of intestine or the gaseous character of the contents of the abscess. A circumscribed resistance is felt on palpation though an anæsthetic may be required because of the tension of the abdominal muscles and the extreme sensitiveness. Rectal examination not infrequently permits the recognition of the tumor when abdominal palpation fails to disclose it. A sense of fluctuation is rarely perceived until later in the case; as a rule its appearance is so late as to be of little diagnostic value. Dr. Fitz does not believe that too great stress should be laid upon the diagnostic use of the aspirator. "If the aspirator fails to show the presence of pus even after repeated punctures in divers spots it by no means follows that pus is absent."

Errors in the diagnosis of appendicitis have been numerous, chiefly because the cardinal symptoms of localized pain, general heat, and circumscribed swelling have not been duly appreciated in their defined sequence. Of all the conditions with which perforating appendicitis may be confounded, stercoral cæcitis is perhaps the most common and the most important to distinguish. The history of this affection usually makes evident a period of protracted constipation in a person not especially young and vigorous and who may have had similar attacks. The pain is trifling for a long time and the sensitiveness slight. Fever is absent or of late occurrence. The tumor is present at the beginning as a distinct nodular or doughy mass, elongated and in the lumbar region. It is unnecessary to say that from a stercoral cæcitis may arise a perforative appendicitis.

The chief danger from the appendicular peritonitis is a tendency to become general. The beginning of general peritonitis occurred on the second, third, and fourth days in sixty per cent. of the cases as inferred from the nature of the pain, and in nearly ninety per cent. as suggested by tympanites.

Perforating inflammation of the appendix sometimes proves fatal from shock, though death usually follows the production of a general peritonitis from direct extension of the appendicular peritonitis or the rupture of adhesions. In the protracted cases death may result from exhaustion. Shock proves fatal within the first two days, death from an extended peritonitis within the first week and from a secondary general peritonitis as a rule during the first two weeks. The termination in resolution undoubtedly occurs, but no absolute evidence of the proportion of this class of cases is at present attainable. The possibility of a termination by resolution must be recognized and the earliest therapeutic efforts should have this result in view, especially as these efforts also tend towards localizing the peritonitis. But, as Pepper states, "the unjustifiable delay permitted in many cases of typhlitis, whilst hoping day after day for the more definite detection of suppuration, is the direct cause of many avoidable deaths."

To keep the bowels quiet should be the first and last thought and it should be obtained by absolute rest in bed, liquid diet, and above all, a sufficient quantity of opium to neutralize pain. A cathartic may be demanded by the patient and an enema be thought desirable as an aid to diagnosis, but it must be remembered that these may be the means of exciting a fatal general peritonitis. If after the first twenty-four hours the peritonitis is evidently spreading and the condition of the patient is grave the question should be entertained of an immediate operation for exposing the appendix and determining its condition with reference to its removal. If any good results are to arise from such treatment it must be applied early. Willard Parker considers an incision made between the fifth and twelfth day practicable, safe and justifiable, but it appears from Dr. Fitz's tables that thirty-four per cent. died during the first five days; it is thus evident that the date fixed by Dr. Parker is too late.

The conclusions to which the consideration of the subject leads the author are as follows: The vital importance of the early recognition of perforating appendicitis is unmistakable. Its diagnosis, in most cases, is comparatively easy. Its eventual treatment by laparotomy is generally indispensable. Urgent symptoms demand immediate exposure of the perforated appendix, after recovery from the shock, and its treatment according to surgical principle. If delay seems warranted, the resulting abscess, as a rule intraperitoneal, should be incised as soon as it becomes evident. This is usually on the third day after the appearance of the first characteristic symptoms of the disease.

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MEDICAL SECTS AND CLINICAL INSTRUCTION IN PUBLIC HOSPITALS.

Six or eight months ago petitions, upon which hearings were given, were presented to the trustees of the Boston City Hospital, asking that "homœopathic treatment may be furnished at the hospital for those who prefer it:" that, "all clinical advantages and privileges of the hospital be made equally available to all students pursuing the study of medicine in Boston;" that, "all medical students and physicians be allowed to visit the hospital for purposes of medical study and observation, on equal terms and subject to the same conditions."

The trustees, having during the intervening months, consulted with many gentlemen acquainted with hospital management, having examined the systems of hospital administration in other cities, having addressed inquiries to all the principal hospitals of the country as to their position and practice in these matters, and having received official answers from nearly one hundred hospitals, have at length, through their secretary, given an answer to the several petitions, after what must be admitted to be mature and careful consideration, involving much self-imposed labor.[1]

The introduction of homœopathic treatment for a portion of the patients would involve, it is stated, a change in the administration of the hospital which must be accomplished, if at all, in one of three ways: By introducing another and independent body of physicians and surgeons, side by side with the present staff; by setting apart separate existing wards with a separate staff; by building new wards for the homœopathic treatment.

Having kept constantly in view the cardinal principle, that the primary object of a public hospital should be the welfare of the sick; finding by their investigations that the introduction of medical sectarianism has only been attempted in two out of all the public hospitals communicated with, and not, as it would seem, successfully in either of those; believing that if one medical sect be provided for others should in justice be equally considered; encountering many practical difficulties, some of which are enumerated and others not, the trustees conclude that the desire of the homœopathic petitioners under the first petition can be fairly or satisfactorily gained only by new and separate buildings under a distinct management, and that the city government. not the trustees of the hospital, is the proper body to determine how and when the city shall provide treatment specially homœopathic, or specially anything, to such of its citizens as shall desire such special treatment when compelled to seek assistance at a public institution.

The question of instruction to students was considered:— 1st. As to surgical operations and clinical instruction in the amphitheatre or other public room; 2d. As to instruction in the wards or in the out-patient rooms; 3d. As to the admission of female students to the various privileges.

An instructive abstract is given of the practices prevailing upon these points at the leading hospitals of the great centres of medical education in this country, and, in addition, the answers from ninety-one hospitals are tabulated. In all the *public* hospitals, except two, the staff is composed of regular physicians, and of these two, one has both regular and homœopathic members, and the other has no visiting staff proper, but a head or superintendent (regular) assisted more or less by members of "all the schools, regular, irregular, and defective." Of all the hospitals answering the inquiries, five were homœopathic, the remainder were regular.

As a result of their consideration of the question of instruction to students — keeping always carefully in mind the welfare of the patients — the trustees have concluded to extend somewhat the previously existing regulations with reference to clinical instruction (medical and surgical) and surgical operations in the amphitheatre, and to contract somewhat the regulations with reference to clinical instruction, and visits by students in the wards of the hospital. In future, members of the surgical visiting staff may, on regularly appointed days, perform operations in the amphitheatre, and members of both medical and surgical visiting staff may likewise give instruction there in their respective departments. When the amphitheatre is so opened for operations and instruction, physicians having received a degree of doctor of medicine, and students, of one year's standing, of any duly incorporated college or school of medicine or surgery, may be admitted in such numbers and on such regulations as the trustees may from time to time determine. Whenever the operating surgeon or the physician shall deem a case improper for consideration, in the presence of students of both sexes, he may reserve such case for the close of his operation or lecture, and require the withdrawal of all male or female students, as the case may be. No female patient shall be taken into the amphitheatre without the attendance of a nurse (female), and no operation upon a female patient requiring the exposure of the genital organs shall be performed in the presence of male visiting students.

Female patients in the amphitheatre would seem, therefore, to enjoy a certain amount of protection not accorded to male patients in so far as the clause concerning a class of operations requiring exposure is mandatory as regards them, but only permissive as regards the modesty of male patients.

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[1] Action of the Trustees of the Boston City Hospital, upon the Petitions for the Introduction of Homœopathic Treatment, and for the Admission of Medical Students to Surgical Operations and Clinical Instruction.

In respect to ward visits it is determined that, physicians and medical students accompanying, on his invitation, a member of the staff in his hospital visit or examinations, shall be limited to such numbers, not exceeding twenty, and shall conform to such regulations as the trustees may from time determine, and shall further observe all such requests as to order and propriety as the attending physician or surgeon, or the Superintendent, may make. This change, we think, is likely in the long run to prove advantageous to students and certainly to some patients.

This report is an able, a careful and a laborious one. It reflects credit upon the faithfulness, the intelligence and good judgment of those who make it, and can hardly fail to give general satisfaction. It will doubtless prove a useful guide to others who may have to consider similar questions. The portion devoted to the practicability of introducing medical sects into public hospitals is in accordance with the views of the best authorities upon hospital administration.

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THE SERPENT-MAN.

We have been treated to such large doses of mental stimulants in the way of advertisements, especially by dime museums, that the announcement simply of "the earth's eighth wonder," the "serpent-man," etc., etc., would hardly whet the mental appetite to an extent the real worth of this meritorious phenomenon with the above fanciful designations would justify, even though his pictures, pasted on the bill-boards in our streets, in attitudes not at all "stained-glass," give evidence of something more unusual than the common run of contortionists.

A man that can wind himself up so that his head appears to be the radiating centre of arms and legs, in short, to be where the umbilicus ought to be, like the curious, carved monster on the celebrated Aztec stone, is sure to commend himself to the curious public, but the medical man can find an interest in the exhibition entirely apart from curiosity.

Herr or Signor Marinelli is a small man, of twenty-three years of age, with a good figure, who has devoted himself to increasing the flexibility of his back since he was nine years old, being led to it by a natural aptitude for tumbling, as exhibited among his comrades. An inspection of his figure shows an increase of the normal lumbar lordosis, and in place of the physiological curve between the shoulders, with the convexity backward, a complete dorsal lordosis is to be noticed, that is, the spinal column is slightly curved in. This is unaccompanied by the protuberant abdomen usually seen in lordosis, as the abdominal muscles are unusually strong, and hold back the intestines, which are probably not loaded with any superfluous fat in the mesentery and omentum. The ribs are prominent forward, as if the chest were large — an appearance due to a change in the thorax from the unusual shape of the thoracic spine. The pectoral muscles are not large, but the trapezius, the scapulæ, and the back muscles are well developed, and in excellent condition.

The mobility of the spinal column is increased in all its extent, but chiefly in the lower dorsal vertebræ; the backward motion of the spine is noticeably increased, but this contortionist illustrates remarkably well the physiological fact that the chief motion of the human spine is in the lower dorsal and cervical regions, and the increase in the flexibility of the spine is chiefly an unusual increase in the physiological mobility, and not a special anatomical freak.

It is, of course, impossible to determine how much of the present condition is a natural aptitude, and how much is acquired; but in the absence of any evidence of abnormality of structure, it is fair to infer that the natural flexibility in a nimble boy has been largely increased by painstaking and continued exercise. The curves in the back to be seen at present have been in all probability acquired. Instead of growing round-shouldered from his occupation, he has become the reverse, being probably the best living example of the kind of man "who stands up so straight that he leans over backwards," as well as an example for the encouragement of those who attempt to rectify spinal curvature by systematic exercises.

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MEDICAL NOTES.

— The active principle of cod-liver oil, of which it forms one and a half to six per cent., is said to have been obtained by Mr. Lafarge, of Paris, and to have given excellent results when used in place of the crude oil. The substance is called morrhuol, and contains twelve times as much iodine, bromine, and phosphorus as the original oil, with none of the fat.

— An interesting contribution to the study of consanguinous marriages occurs in the paper of Dr. Baelz on the Japanese, referred to in another column. He says: "Near the bathing resort, Atami, there is situated a small island, named Hatsushima. The inhabitants of that island, nearly three hundred in number, have for more than two hundred years exclusively married amongst themselves; strange blood has never entered the island. Those people live by fishing, and from the proceeds of a small trade with the neighboring coast. They are physically and mentally quite normally developed, and their statistics show a larger number of births, and a smaller number of deaths in proportion than any other part of the Japanese empire."

NEW YORK.

— Health Commissioner Otterson, of Brooklyn, has submitted to Mayor Whitney a report in regard to the disposal of the city's garbage, in which he favors the system of burning now in use in Toronto and other Canadian cities. Retorts for this purpose cost about $5,000 each, and Dr. Otterson thought that two would be sufficient for Brooklyn's wants in this respect.

— At a dime museum on the Bowery, the "Princess Lucy," nineteen years old, twenty-seven inches in height, and weighing twenty-three pounds, was recently married to "General Rheinbeck," who is twenty-one years of age, thirty-six inches in height, and weighs forty pounds. The fat woman of the museum acted as bridesmaid, and the fair bride is said to have blushed becomingly when the officiating clergyman, who was of Teutonic extraction, told her that she should bring up her children as "goot rebublican citizens of the United States." We extend our sympathies to the accoucheur!

— The annual meeting of the Board of Trustees of St. Luke's Hospital was held October 18th. The report of the Superintendent showed that the past year had been one of the most prosperous in the history of the institution. About $65,000 was received during the year from bequests and for endowments of free beds — an amount greatly in advance of the usual receipts of this character. The $100,000 left the hospital by the will of Wm. H. Vanderbilt is being used in part to erect a building for the Superintendent and other officers, and this, when completed, will leave a considerable portion of the hospital building hitherto occupied for this purpose vacant for patients. An upper story, which has not before been used, is also to be utilized during the coming year, so that the capacity of the hospital will be nearly doubled.

— A case of peculiar moral obliquity or ignorance in an individual having in charge the care and instruction of the young, has come to light in Westchester County, if the facts of the case are correctly reported. For a long time a very offensive odor, it seems, has been noticed at Lake Mohigan, and the attention of the Board of Health having at length been directed to the matter, an investigation showed that it was due to a sewer running directly from the Lake Mohigan Academy into the water of the lake. Not only has the principal of the academy permitted this disgraceful state of affairs to continue for an unknown period; but now that he has been requested by the sanitary authorities to remedy the evil, he flatly refuses to do this, and denying their authority to enforce an abatement of the nuisance, threatens a legal fight if they attempt it.

— At the last meeting of the New York Board of Education, the special committee on education presented a report recommending the tentative introduction of industrial education in the public schools. It stated that they believed manual training to be an important branch of education, and that it would be a great relief to the scholar, whose mind is burdened with ordinary lessons, enabling him to acquire such lessons with greater facility, on account of the variety thus afforded in his work. It would open new fields of employment to thousands of pupils, many of whom, in order to earn a living, are now compelled to leave school before completing the first grade of the grammar department. Technical education could be introduced either by establishing separate schools for manual training, or by teaching it in the present school buildings. The report went on to say:

"Your Committee are of the opinion that we should go to work tentatively. Any theoretical programme which might now be laid out would not do. Practical experience is needed. The Superintendent of School Buildings informs us that there are vacant rooms in various schools. In some or all of these we might teach mechanical or constructive drawing, modelling in clay, word-working by means of hand-tools, etc. If it should be found inexpedient to introduce power into any of our present buildings. some lofts might be rented for that purpose. In view of what we have stated, we unanimously recommend that $50,000 be asked from the Board of Estimate and Apportionment, in order to begin the experiment for the male grammar schools. The girls in our schools should also receive the benefit of a more practical education. Elementary cooking could be taught to a large number of the girls at a comparatively small expense. Your Committee are of opinion that twelve lessons, of two hours each, would suffice. We would also advocate that sewing be made compulsory in some classes of the grammar schools. At present it is made compulsory only in the primary department for one hour each week." The Committee also thought that some lectures on general housekeeping ought to be delivered to the girls in grammar schools, and recommended that an appropriation of $10,000 be asked for to introduce the subjects mentioned experimentally in the girls' schools.

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Miscellany.

RESECTION OF LUNG AND REMOVAL OF A KIDNEY.

M. Demons read an interesting note at a recent meeting of the Paris Surgical Society.[1] An adult was stabbed between the ninth and tenth rib. A portion of the lung-tissue protruded, and formed a mass about as large as an apple; the same day the patient passed blood with his urine, indicating a wound of the kidney. M. Demons resected, by means of the écraseur the hernial portion of lung, and applied the thermo-cautery to the surface. Some days after the operation, there was purulent effusion on the left side of the thorax; chemical analysis of the fluid proved it to be principally urine. It was decided to remove the kidney. Nephrectomy was performed in the lumbar region; the twelfth rib made the operation more difficult; but M. Demons, remembering M. le Dentu's opinions, carefully avoided cutting it. The pedicle of the kidney was divided, and carefully ligated. The wound was sutured with metallic threads; reunion took place by first intention, but two months subsequently a mass of cellular tissue sloughed away and opened the cicatrix. It is now six months since the operation was performed, and recovery appears to be perfectly established.

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[1] London Medical Record, August 16.

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THE PHYSIOLOGY OF THE EYE OBLIQUITY OF THE JAPANESE.

Dr. E. Baelz, in a communication to the German Anthropological Society, 1885, No. 10, gives some interesting contributions to the ethnography of the Japanese. From his paper, as published in the *Sei-I-Kwai*, we extract the following:

"The *eye* of East Asiatics, as is well known, is oblique, but this obliquity is exclusively based upon the position of the lids; the apple of the eye has nothing to do with it, and perhaps not the orbit. It is essentially caused by an arched fold descending from the upper lid over the inner angle of the eye, covering it, and extending inward and downward; and this fold, on account of its direction upwards and outwards, makes the eye appear more oblique than it really is. An exact measurement of the difference of height between the inner and outer angle of the eye shows that, in most cases, that difference is not considerable. The said fold is more or less present in the eyes of European children, so that one can get an idea of it by examining their eyes. It frequently extends over the whole length of the upper lid, so that it entirely covers the free edge of the lid, and with it the roots of the eye-lashes, which appear very short on that account. Since the inner angle of the eye is rounded off by the fold, and the outer angle is very sharp, the Japanese eye frequently very much resembles a button-hole. I believe it is caused through the skin, which, in the European, covers the upper part of the bridge of the nose; for the peculiarity disappears if the skin between the eyes of a Japanese is raised to the height of a European bridge of the nose, and in the case of a European, it can be produced by pushing the skin of the bridge of the nose towards the eye. There are, however, peoples with flat bridges of the nose without this fold.

"Of further importance as to the appearance of the Japanese eye, is the great distance between the eyebrow and the free edge of the eye-lid, and the bolster-like appearance of the skin between them. In the Ayrian, almost without exception, there is an indentation under the eye-brow; in the Japanese, the upper lid, seen from the side, mostly is only the continuation of the skin of the forehead, interrupted by no indentation. The orbs project more than those of Europeans, and frequently so much, that seen from the side, they project further than the bridge of the nose."

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SCARLATINA *SINE* EXANTHEMA.

A review of a carefully-prepared series of observations by Robert, in the *Revista de Ciencias Méd.*, which we find in the *Archives of Pediatrics* for August, shows that the author's experience in a number of carefully-observed cases revealed the following: The patients which were seen were all between the ages of two and nine years, suggesting the idea that the first and second infancy had something to do with this anomaly as to the exanthema. Fever was present, as in the ordinary form of the disease, but did not go beyond 39° C. Angina also was manifest in connection with a rapid and febrile pulse. The angina was of a catarrhal or hyperæmic type, however, and was not attended with enlarged tonsils, nor with pultaceous nor diphtheritic deposits. The tongue was red at the commencement of the disease, but there were no decided symptoms during the first few days of any grave internal disorder. The fever was of an intermittent character, of either the single or double quotidian variety. After these phenomena of the first stage of the disease have disappeared, a very important sign may be observed, namely, the presence of albumen in the urine. It may not be in large quantity at first, and may require the more delicate tests to discover it, such as picric acid, or the acid nitrate of mercury. Albuminous nephritis, whether medullary or cortical, with all its usual symptoms, constitutes the second stage of this disease, which is called the *white* form of the disease, as the skin is not colored red at any time during its progress — the renal lesion from the first appearance of albumen in the urine. This may happen within a few days of the first symptoms of the disease, or it may be deferred for a longer period, as in ordinary scarlatina. If the fever has remitted, it may appear, together with the other symptoms of acute parenchymatous nephritis, reaching 40° C., or even a higher point. The urine is usually scanty as to quantity, dense, contains blood, much albumen, many epithelial cells, and epithelial casts. The quantity of urea is diminished, ansarca is quite general, and the serous cavities, and especially the peritoneal, contain much fluid. In addition, there are visceral disorders which are common to uræmia, and which vary, as the lesions are in the nervous centres, the retina, the respiratory apparatus, the heart, or the gastro-intestinal tube. These symptoms, though serious, are not necessarily fatal, but the prognosis is less favorable when they occur in connection with a relapse which has made its appearance fifteen or twenty days after the appearance of the eruption. The treatment should consist of vapor baths, jaborandi, pilocarpin, and opium. The diet should be composed mainly of milk. Acetate of potash and quiniæ are useful for their diuretic and tonic effects.

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THE POPE'S CHOLERA HOSPITAL IN ROME.

A correspondent of one of the London papers gives an interesting account of the "model cholera hospital" which the Pope has caused to be erected in Rome for the accommodation of cholera patients in case of an epidemic. Contact with the outer world is carefully guarded against by grated windows, telephones, and by a revolving barrel with half its circumference open, by which provisions are taken into the hospital. The water-supply is drawn from a well, and is quite separate from the city supply. The drain is formed of an iron tube sixteen inches in diameter, the joints being hermetically sealed with lead. There is a disinfecting boiler in which corrosive sublimate is placed. There is a room called the "chamber of observation," which has a staircase leading up to the first floor. In this room dead bodies are placed for a given time, as it is well known that cholera patients often show signs of being quite dead when really only apparently so. The room is, by means of an electric apparatus, in communication with the director's office. The body being laid on a bed, both hands are put into a sort of copper muff; between the hands is put an instrument so sensitive that, should there be the slightest movement of the hands or any other part of the body, this instrument would instantly close the electric circuit, and the bell in the director's office would be set ringing; at the same moment another instrument registers the number corresponding to the bed upon which the body is lying. The chamber is warmed by steam so as to facilitate resuscitation. The laboratory is provided with a gasometer for the storage of oxygen, which is taken to the wards for administration in gas bags. On the ground floor are four wards for doubtful cases; should they get worse they are sent up in the lift to the cholera wards above, their clothes and bed-linen being immediately burned. Another room is set apart for women in childbirth, and there are two more for undressing patients, so that the infected clothes may be destroyed, the Pope furnishing new clothing for all recovered cases. The cubic space allowed for each bed is thirty-six cubic metres. The ventilation is carried on by means of funnels with gas jets below. The chapel is in communication with the sacristy of St. Peter's, so as to form an easy access for the Pope should he wish to visit the hospital; but before returning into the sacristy his Holiness and suite would have to go into a room near it for disinfection. In the event of there being more cases than the hospital can hold, provision has been made for building large sheds in the garden. This hospital was begun in October, 1884, and finished in April, 1885. When the cholera was raging with such violence in Naples, Leo XIII determined upon making preparations should the scourge visit Rome. It has never been necessary to use it, but it is always ready in the event of an outbreak, and should prove of much use in extirpating it.

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A BALD AND TOOTHLESS FUTURE.

Under the above somewhat startling caption a writer in the *Popular Science Monthly* gives some interesting facts gleaned by him while in the exercise of his duties as a reporter in some assemblies of Boston and other American cities. He says, under the subject of baldness, that in most of the Eastern cities, fully thirty per cent. of the men over thirty years of age show unmistakable signs of baldness, while nearly twenty per cent. have spots on their heads that are not only bald, but actually polished with the gloss that is supposed to belong to extreme old age alone. "I have been in the majority of the churches and theatres," he continues, "in all the large Eastern cities, as well as in Chicago, St. Louis, and other places of the West, and have verified my assertion by actual count. From my observation I find that bald-headed men are most plentiful in New York and Boston. After these come Philadelphia, Washington, and the Western towns. I say 'men,' for two reasons: (1) Because women usually wear their hats or bonnets on such occasions, thus covering their crowns. (2) In case their hats are removed, the hair is combed up so as to cover any possible bald spot, or else there is an artificial "switch" to hide the defects of nature. So, without indulging in any speculations regarding what may be, I will confine myself to what is to be seen.

"Here are a few observations taken in Boston. Trinity Church: 243 men: 71 actually bald, 46 indications of baldness. King's Chapel: 86 men; 38 actually bald, 14 indications of baldness. Hollis Street Theatre, orchestra at performance of the "Mikado": 63 men; 27 actually bald, 10 indications. Boston Theatre — Judic: 126 men; 51 actually bald, 43 indications.

"These observations were taken from the more cultivated classes of society, and do not give a fair representation of the Boston head, as repeated calls at the dime museums and cheaper variety performances demonstrated. For instance, of the 30 men seen in the seats of the World's Museum in Washington Street, but 8 were bald, while only 5 others had thin hair, showing that baldness was simply a question of a very few years. Again, of 40 men at Austin and Stone's Museum, 22 had their heads well covered; and at the Windsor Theatre (variety) I found less than twenty-five per cent. who had thin hair.

"On the other hand, at shows and entertainments of more refinement, the bald-headed element was considerably larger. Of two nights when Patti sang at the Boston Theatre there were forty-six per cent. of bald heads on one occasion and forty-two on the other. When De Lussan appeared in "Fra Diavolo" I discovered thirty-eight per cent. of baldness, and at one of Matthew Arnold's lectures there were forty-six per cent. In fact, out of hundreds of observations, extending over several years, I have found that the higher the price of admission, and presumably the more refining nature of the performance, the larger the per cent. of bald heads. One night I counted the occupants of a few settees in my immediate vicinity at an exhibition which John L. Sullivan gave at the Mechanic's Fair Building, and was surprised to find that less than twelve per cent. of the men were bald. As this was a show where the spectators had the privilege of retaining or discarding their hats at pleasure, I think it was not a fair test."

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Correspondence.

TO ABORT A FELON.

Roxbury, Oct. 23, 1886.

Mr. Editor.— Some one asked how to abort a felon. I will tell him how I have aborted a great many, though of course this cannot be done except in the earliest stage. Tie a rag loosely around the finger and keep it constantly wet with cold water. It cures often; but probably some more fantastic appliance will better please most patients, and give them a higher opinion of the surgeon's skill.

Yours respectfully Edward T. Williams, M.D.

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BOYLSTON PRIZE ESSAY.

Boston, Oct. 19, 1886.

Mr. Editor.— Would you kindly inform me through your columns if the subject for the next Boylston Essay has been announced yet, and if so, what the subject is, and greatly oblige A Reader.

["A reader" is referred to page 9 of advertisements in the issue of this *Journal* for Oct. 21st, the current year. — Ed.]

OBITUARY. J. C. HOADLEY, ESQ.

In the death of Mr. J. C. Hoadley the State has lost one of its best citizens. A man of sterling integrity, uncompromising honesty and unwavering patriotism, he combined the strictest sense of personal and public duty with a kindness of feeling and courtesy of manner that made him one of the finest types of New England character.

As a member of the State Board of Health of Massachusetts, the earliest in this country, the community, and especially the medical profession, has great cause of indebtedness to him for the ability, zeal, and wisdom with which he performed his duties as a member of that board. In the early struggles of the board, when its continued existence was doubtful, in the prolonged contests which closed nearly fifty slaughter-houses in Brighton and freed the State from the nuisances of noxious trades, during the years when the board was threatened on many sides and when its maintenance, through its delicate and difficult duties, was due only to the wisdom of its management, Mr. Hoadley's close devotion to his work, his patience and thoroughness in investigation, his quick conception of the truth, his unyielding adherence to the right, not listening for a moment to a time-serving policy or to the behest of politicians, his fairmindedness, good judgment and strict sense of justice, and withal his modesty, kindliness and consideration of the feelings of others, make him one in whom his associates could place the most absolute confidence, and upon whom they could depend in every emergency They always felt that the final success of the board was largely due to him. He was a valued and devoted friend in whose friendship they rested. and in whose death they have suffered a deep personal loss. In his official work, as in his relations to his fellow citizen, and in his professional capacity as a civil engineer, he devoted a highly cultivated and scientific mind, with rare faithfulness, to the exact fulfilment of the least, as well as the great, duties which came before him.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 16, 1886, TO OCTOBER 22, 1886.

Wissel, Daniel, captain and assistant surgeon. Relieved from duty at Fort Fred Steele, Wyo., and ordered to proceed to and take station at Fort McKinney, Wyo., reporting to the commanding officer of that post for duty. S. O. 135, Department of Platte, October 15, 1886.

Edie, Guy L., first lieutenant and assistant surgeon. Having returned from detached service in Department of Arizona, will join his station at Fort McIntosh, Texas. S. O. 144, Department of Texas, October, 13, 1886.

Chapin, Alonzo R., first lieutenant and assistant surgeon. Relieved from duty at Fort Laramie, Wyo., and ordered to Fort Washakis, Wyo. S. O. 137, Department of Platte, October 19, 1886.

Ives, Francis J., first lieutenant and assistant surgeon. In obedience to instruction received from the Division Commander, ordered to report in person at headquarters, Department of the Platte, for duty. S. O. 146, Department of Texas, October 16, 1886.

Kendall, Wm. P., first lieutenant and assistant surgeon. Leave of absence extended fifteen days. S. O. 229, A. G. O. October 14, 1886.

Banister, W B., first lieutenant and assistant surgeon. Assigned to duty at Fort Wingate, N. M. F. O. 97, Department of Arizona, September 29, 1886.

Mason, Chas. F., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Verde, A. T., and ordered for duty at Fort Huashuca, A. T. S. O. 99, Department of Arizona, October 12, 1886.

BOSTON CITY HOSPITAL.

EXAMINATION OF CANDIDATES FOR HOUSE OFFICERS.

The semi-annual competitive examination of candidates for appointment to the positions of House-Officers at the Boston City Hospital, for the term of service beginning on the first Monday of January next, will be held at the Hospital at three o'clock, P.M., on Thursday, November 11, 1886. See advertisement, p. 2.

SOCIETY NOTICES.

Boston Society for Medical Observation. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, November 1st, 1886, at eight o'clock. Readers: Dr. George W. Gay, "A Case of Laparotomy for Acute Peritoneal Adhesions: Recovery." Dr J. H. McCollom, "Injuries of the Shoulder."

37 Charles St. **Charles P. Strong, M.D.**, *Secretary.*

Suffolk District Medical Society. Surgical Section.— The first meeting of the season will be held at 17 Boylston Place, on Wednesday evening, November 3d, at eight o'clock. Communications: Dr. Maurice H. Richardson, "A Case of Gastrotomy for the Removal of a Plate of Teeth lodged in the Œsophagus behind the Heart: Recovery." Dr. Royal Whitman, "A Report of Four Cases of Excision of the Hip performed in 1882."

Samuel J. Mixter, M.D., *Secretary.*

180 Marlborough St.

Suffolk District Medical Society. — There will be a stated meeting on Saturday, October 30, 1886, at eight o'clock, P.M., at 19 Boylston Place. Dr G. H. Monks, "A Case of unusual Deformity of both Hip Joints: Exhibition of Patient." Dr. O. K. Newell, "The Male Urethra, some Observations on the Anatomy of, in Relation to Endoscopy, Litholapaxy, and Catheterization." Incidental Business: Action on a proposed Amendment to By-Law XV, by the addition of the following clause; "In making nominations for the officers of the Society in 1887 and each subsequent year until otherwise ordered, the Nominating Committee shall not nominate any member who has held any office in this Society for two consecutive years immediately preceding the year for which such nomination is made. Nominations for Treasurer, Secretary and Librarian are excepted from this restriction."

Choice of a committee of five to prepare a list of candidates for officers of the Society. Supper after the meeting. Members are requested to notify the Secretary of any change of address.

200 Dartmouth St. **Herbert L. Burrell**, *Secretary.*

DEATH.

Died in Cambridge, Mass., October 18, 1886, Alley Talbot Wakefield, M.D., M.M.S.S., aged thirty-one years.

BOOKS AND PAMPHLETS RECEIVED.

Diphtheria and its Treatment, an Essay. By J. Pirnat, of Evansville, Ind. 1886.

Report of Two Successful Cases of Trephining for Traumatic Epilepsy. Carlos F. MacDonald, M.D. (Reprint.)

The Human Color-Sense Considered as the Organic Response to Natural Stimuli. By L. Webster Fox, M.D., Philadelphia, and George M. Gould, A.B. 1886. (Reprint.)

Is Electrolysis a Failure in the Treatment of Urethral Strictures. By Robert Newman, M.D., New York. New York: 1886. (Reprint.)

Transactions of the Medical Association of the State of Missouri at its Twenty-Ninth Annual Session. Held at St. Louis, Mo., May 3, 1886.

Therapeutische Notizen aus Dr. Letzel's Policlinic für Haut Krankheiten und Syphilis in München. III Das Oleum Santalum ostindic. Als Anti-Blennorrhagicum.

Method in Medical Study. By Charles H. May, M.D., Instructor in Ophthalmology, New York Polyclinic; Clinical Assistant in the Department of Diseases of the Eye and Ear in the College of Physicians and Surgeons, New York. New York: 1886. (Reprint.)

The Mechanism of Indirect Fractures of the Skull. By Charles W. Dulles, M.D., Fellow of the College of Physicians and of the Academy of Surgery of Philadelphia; Surgeon to the Out-Patient Department of the Hospital of the University of Pennsylvania and of the Presbyterian Hospital in Philadelphia. (Reprint.)

Hémorrhagies Utérines Etiologie, Diagnostic, Traitement. Par Le Docteur Sneguireff, Professeur de Gynécologie à l'Université impériale de Moscou. Edition Française Rédigée par M. H. Varnier, Interne des Hôpitaux de Paris, sous la Direction de M. le Docteur Pinard, Professeur Agrégé à la Faculté de Paris, Accoucheur de l'Hôspital Lariboisère. Paris. 1886.

Outlines of the Pathology and Treatment of Syphilis and Allied Venereal Diseases. By Hermann von Zeissl, M.D., Late Professor at the Imperial-Royal University of Vienna. Second Edition, Revised by Maximilian von Zeisel, M.D., authorized edition translated, with notes by H. Raphael, M.D., Attending Physician for Diseases of the Genito-Urinary Organs and Syphilis, Bellevue Hospital, Out-Patient Department, etc. New York: D. Appleton & Co. 1886.

Forty-Fourth Report to the Legislature of Massachusetts Relating to the Registry and Return of Births, Marriages and Deaths in the Commonwealth for the Year ending December 31. 1885. Together with the Report Relating to the Returns of Libels for Divorce and to the Returns of Deaths investigated by the Medical Examiners for the Year 1885. Prepared by the Secretary of the Commonwealth, with Editorial Remarks by Frank Wells, M.D. Boston: State Printers. 1886.

Lecture.

ON TETANY AND TETANILLA.[1]

BY JULIUS ALTHAUS, M.D., M.R.C.P. (LOND.),
Corresponding Member of the New York Academy of Medicine, Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park, London.

Another important feature of tetany upon which I must dwell now, is an alteration in the electrical and mechanical excitability of the affected nerves and muscles, which occurs habitually in the cases now under consideration. Indeed, the faradic and galvanic excitability of the affected nerves, which was first examined by Benedict, and afterwards by Chvostek, Erb and others, is generally found to be much increased. A feeble constant current causes with the cathode not only the ordinary closing contraction much more readily than in the average healthy subject, but also tetanus of the muscles, which continues for some time; and what is rare in man, although not uncommon in the experimentalized frog, tetanus with opening at anode; and likewise with opening at the cathode. Ready responses are also elicited with a very gentle faradic current; and this ensemble of phenomena constitutes the reaction of convulsibility.

These signs are chiefly marked when the disease is at its acme, become less striking as the patient improves, and disappears altogether when he is well. They occur, however, only in the nerves and muscles which are actually suffering from tetany, not in all the muscles of the body; and this easily explains the apparent discrepancy in the results obtained by the different observers. Erb saw no reaction of convulsibility in the portio dura, while Chvostek found it very marked there in a case in which the muscles of the face were suffering from tetany. The electric tests are not only of diagnostic, but also of prognostic importance, as they sometimes persist when the patient is apparently quite well in other respects. They then show us that the disease, although in abeyance, is not actually conquered, and that there is a liability to a fresh outbreak of the other symptoms. When on the contrary, these tests have become normal, we may consider with certainty that the patient has recovered. They are. therefore, even a finer test than Trousseau's symptom, which may have disappeared at a time when the electricial reactions are still abnormal.

The mechanical excitability of the nerves and muscles is likewise habitually increased. A tap with the fingers or the percussion hammer on the nerves causes a sudden contraction in the muscles supplied by the same. This is more particularly noticeable in the sphere of the portio dura, where a slight blow in the region of the stylomastoid foramen, or the pes anserinus, or even the smaller branches of the nerve, effects sudden contractions of the facial muscles; and that not only during the attack, but also in the free intervals. A good way of producing the phenomena in question is that recommended by Schultze, namely, to pass the fingernail rapidly down one side of the face, from the temple to the cheek and jaw, when all the facial muscles are seen to contract. The reflex excitability of the skin is not exalted, and has indeed nothing to do with the appearances observed; for when the skin is taken up in a fold, and then strongly squeezed or pinched, no effect takes place. This increased mechanical excitability occurs in the portio dura habitually, even where that nerve has otherwise apparently escaped the influence of tetany; and it is therefore a very important diagnostic help. We must, however, remember that it is not invariably present. Moreover I have seen it in fresh cases of paralysis of the portio dura, concurrently with the increased voltaic excitability of the muscles; and also in some patients suffering from neurasthenia and hysteria. This shows that it will not do, in this as in other diseases. to rely on a single symptom for our diagnosis, but that we have to judge from the entire evidence which the aspect of the case offers to us.

Another symptom which exists during the free intervals, is a decided loss of coarse muscular power. This can be shown with the dynamometer, which I have found to register habitually 30° or 40° less than we should expect from the general build of the patient; and this loss is made up when they recover. There is also subjectively a feeling of lassitude, and fatigue is easily induced by slight muscular exertion.

While, therefore, tetany shows us a great variety of symptoms in the motor sphere, these are much less conspicuous in that of sensibility. I have already mentioned that much pain is sometimes experienced during the attack, more especially by sensitive children, who are at the same time reduced in their general health; but some patients say that the pain is insignificant. There is, however, generally tenderness to pressure and percussion over the affected nerves and muscles, more especially during the attack; and the same is found in the spine, particularly at that decisive point, the seventh cervical vertebra. Feelings of cold or heat, pins and needles, and other forms of paræsthesia, are occasionally present, but as frequently absent. Sometimes, however, the sense of touch is blunt, so that the patient feels objects as if padded, and imagines that he is walking on a carpet when on a bare floor. The muscular sense is habitually not impaired.

There are few other symptoms to mention. Sometimes there is redness and œdematous swelling, more especially in the smaller joints of the fingers and toes, but also in the wrist and about the ankle, leading us to suspect an attack of acute rheumatism or rheumatic fever. The temperature is mostly normal, but rises to 100° or 101° and even more in very severe or acute cases; and the pulse is thus accelerated, although habitually normal. There may also be headace, dizziness, flushing of the face, buzzing in the ears, impaired sight with large and sluggish pupils, rapid breathing, loss of appetite, obstinate constipation, and either unnatural dryness of skin or excessive perspiration.

In the majority of cases, however, the secretions do not appear to undergo any morbid change. It is true that Delpech has described albuminuric tetany; but these cases belong to a different class from those which we are now considering.

The duration of the individual attack of rigidity varies from a few minutes to half an hour and more; and the number of attacks during the day is even more variable. Sometimes there are only two or three, at other times there is an almost constant succession of them, reminding one of the status epilepticus, and going on night as well as day. The entire duration of the disease is rarely less than a month, and more commonly two or three months.

A few cases of tetany have ended fatally; but in spite of this, morbid anatomy has not furnished us with any precise data concerning the nature of any pathological change. One of Trousseau's patients died eventually of phthisis, and the upper portion of the cord appeared to be somewhat softened.

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[1] Concluded from page 393.

Kussmaul discovered myelitis in a young man who had been seized with paraplegia some weeks after having recovered from tetany; but the occurrence of paraplegia shows that the case was a complex one, and it therefore proves nothing. Laughans has microscopically examined the cord of a child which had died of tetany; he found the nerve-cells and fibres, as well as the interstitial connective tissue unchanged, but the arterioles showed thickening of the adventitia by deposition of cells, granules and pigment; and this was, in accordance with the symptoms observed during life, more marked in the upper than in the lower region of the cord, and more particularly about the anterior commissure. Such changes, however, which must have had a very slow origin, cannot account for a complaint which often originates suddenly, and ceases almost as quickly. I fear that just as little can be learned from a case of Weiss' where death took place from œdema of the lungs, following lobular pneumonia at the left base, and in which Zemann found the brain and membranes slightly œdematous, but otherwise normal; the capillaries of the gray centre of the cord appeared distended, and in parts there were very small capillary hæmorrhages, while the coats of the bloodvessels appeared normal. Such changes are probably rather effect than cause. In other instances hyperæmia of the dura mater, of the pia on the base of the brain, of the pons, bulb and upper portion of the spinal cord, and of the peripheral nerves which had more especially suffered during life, have been found; and must likewise be looked upon as secondary consequence rather than primary cause. Indeed, the great diversity and variety of these changes is in itself a proof that we have not as yet discovered the lesion of tetany; while other considerations lead us to think that, if there is a lesion, it is likely to be molecular rather than coarse, and that tetany belongs indeed to that large class of functional nervous affections which still awaits the application of finer tests than we command at present, before we can have a clear insight into their nature.

Nevertheless, some speculation seems to be allowed and even called for, more especially with regard to the localization of the trouble which is present in these cases. That it must be seated in some portion of the motor sphere, is quite evident from the symptoms we have to deal with, in which the affection of motility overshadows everything else. We have a large choice from the central convolutions of Rolando at one end of the tract, to the striped muscular fibres at the other. Which is primarily affected? DeLa Berge has pronounced himself for the muscular substance itself; Delpech, Hasse and others for the peripheral nerves; Kussmaul, Erb, and Berger for the spinal cord; Weiss for the sympathetic nerve, which he believes to be in a state of irritation or disturbance which is constant, but periodically increased, and while causing irritation of the gray matter of the cord and medulla oblongata, is itself caused by irritation in the bowel, womb, thyroid body, and other viscera. No one seems to have suspected the pons, crura cerebri, the central ganglia, the white internal capsule, and the central convolutions; and this appears quite intelligible if we consider that the symptoms are habitually symmetrical, while the usual affections of the parts just named are, on the contrary, unilateral. A great medical philosopher, Hughlings Jackson, considers tetany to be due to perverted cerebellar influence. He looks upon the brain as the centre for the ordinary voluntary movements of the limbs, and the cerebellum as the centre for continuous or automatic movements in the body. Now supposing the cerebral influence to be temporarily removed, the cerebellar influence would be unimpeded, and lead to rigidity of those muscles which during health are chiefly innervated by the cerebrum. I confess that this theory seems to me very far-fetched. Most physiologists consider not the cerebellum, but the medulla oblongata and the pons varolii to be the centres for automatic movements, while the cerebellum is credited chiefly with being the centre for the equilibration of the body. This latter function is, however, in no way disturbed in tetany, and this appears to me a sufficient reason for rejecting Jackson's hypothesis. It appears to me that some light may be gained by comparing tetany with another disease, in which we have likewise hardly any symptoms excepting in the muscles, and of which we know by dissection the true morbid anatomy. This is infantile paralysis, as caused by poliomyelitis of the anterior gray matter of the cord. In such cases we have not infrequently symmetrical paralysis of certain groups of muscles, just as in tetany we have the opposite condition, namely, rigidity which is most frequently symmetrical, and which affects with preference certain groups of muscles, leaving others intact. In infantile paralysis, which is a structural disease, we have chiefly paralysis of extensors and abductors, while in tetany, which I believe to be a functional disease, we have rather affection of the flexors and adductors. The nutritive centres of these groups of muscles we know to be the giant cells in the anterior cornua of the cord; and it is to an undue and exalted state of excitability of these cells that it seems to me most reasonable to refer the symptoms of tetany, just as we refer to destruction of these cells the opposite symptoms of paralysis in the groups of muscles for which we know them to be the centres. The localization of the trouble in the gray cells of the anterior cornua would then have to be sought in the lumbar, dorsal, or cervical region of the cord, or in the motor nuclei of the medulla oblongata, in accordance with the localization of the symptoms in the muscles of the lower extremities, the body, the upper extremities, the neck, head, face, eyes, pharynx and larynx. I confess that this seems to me the most natural explanation of the symptoms of tetany as they are seen clinically. Why irritation should in these cases affect more particularly the anterior gray cells of the cord and bulb, is, of course, quite as inexplicable as why it should affect certain gray centres in the brain in cases of epilepsy; but all these final reasons escape for the present our grasp, altogether, and we shall have to wait for a future period when in the natural course of evolution men's brains will have become much heavier and more finely organized than they are at the present day.

The diagnosis of tetany is not always easy, except in very pronounced or typical cases. Buzzard, a careful observer, has recorded a case as one of tetany, which was evidently, from his own description, one of hysterical contracture. The patient was a Jewish girl, aged ten, who had suffered for three weeks from tonic, persistent contraction of the flexor muscles of the upper and lower extremity; there was some œdematous swelling, and over the knuckles a slight flush of redness, which made the case look like one of acute rheumatism. No intermission of symptoms was observed, nor did the muscles become relaxed during sleep. In a day or two, however, she began to improve, and had no return of the spasm. The chief feature of tetany, therefore, namely, the intermittent or paroxysmal nature of the muscular spasm, was absent, and the case can, therefore, not be said to be one of tetany. We have, indeed, in the diagnosis of this disease, to rely chiefly upon the paroxysmal occurrence of the spasms, the peculiarity that they spread in a direction from the periphery to the centre, on Trousseau's symptom of potentiality of spasm, which is elicited by compression, and on the electrical and mechanical convulsibility of the nerves and the muscles.

It is not likely that tetany should ever be confounded with epilepsy, as there is never any loss of consciousness in the former, and the whole group of symptoms of the epileptic fit is totally different from that of tetany. In Jacksonian epilepsy the symptoms are likewise widely different, and I should not refer to it if I had not known of a case in which this mistake was made by a practitioner. I will, therefore, say that in Jacksonian epilepsy there are tonic or clonic spasms, which generally affect not symmetrical parts, but one upper or one lower extremity; that they begin most frequently in the fingers, and travel from there upwards to the face, and sometimes end in general convulsions; that after the fit there is paresis in those parts which have been convulsed, and that this paresis eventually merges into paralysis; that, where general convulsions occur, consciousness is lost; and that after the parts have become paralyzed, they are still liable to be convulsed. In addition to these symptoms, we generally find also headache, optic neuritis, and vomiting, pointing to the formation of a tumor in the brain, or some allied structural disease of that organ.

Spinal meningitis has also been occasionally mistaken for tetany, yet the difference between the two conditions is likewise very striking. In meningitis we have fever, severe pains in the back; no such periodical remissions of the muscular spasms as in tetany; no Trousseau's symptom, and no increased excitability of the nerves to electrical and mechanical tests; and frequently, headache, vomiting, and a small and often slow pulse. Some forms of *acute rheumatism* have been confounded with tetany, but attention to the points which I have repeatedly named as characteristic for tetany will settle the question. In some forms of *ergotism*, spasms have been observed which resemble those of tetany, but ergotism is habitually endemic; it is generally connected with symptoms of spinal degeneration, such as loss of knee-jerk, lightning pains, impaired coördination, and not unfrequently, with epileptiform convulsions. Localized convulsions, such as histrionic spasm, torticollis, and convulsions in some individual muscles of the extremities, have also been occasionally described as tetany, but only from ignorance. Lastly, *tetanus* affects more especially the muscles of the jaw, tongue, pharynx, larynx, the neck, body, and the abdomen; reflex excitability is increased throughout the system; when the extremities are affected, it is chiefly the extensors; and the fingers and hands, which suffer more particularly in tetany, are spared in tetanus.

This seems to be the most fitting opportunity to speak of tetanilla, or Friedreich's paramyoclonus multiplex, as another form of muscular spasm which is not very uncommon in practice. I have seen the complaint, especially in neurotic subjects, frequently with a history of masturbation and inherited nervous affections, and between the ages of fourteen and fifty-four. All the patients were males, and no particular exciting cause could be discovered. It differs from tetany chiefly by the convulsions being clonic, and by the absence of prolonged muscular rigidity, and of Trousseau's symptom. The convulsions are, moreover, generally symmetrical; they cease during sleep, and do not impair motor power or coördination. The nutrition and electrical reactions of the muscles are normal, but their reflex excitability is increased, the knee-jerk, more especially, being greatly exaggerated.

The degree of spasm varies considerably, being in some cases slight, and in others of considerable severity; in some temporary, and in others almost incessant. All the muscles of the body may be affected, either simultaneously or successively. The spasm very commonly affects the adductor of the thumb, and the interosseous of the first finger, so that a movement as that of holding the pen for writing is produced, and the bellies of these two muscles are distinctly seen to contract under the skin. Each contraction lasts five or six seconds, is entirely painless, and is presently succeeded by a variable number of other contractions, of which, however, there are rarely more than six or seven. After this there is an interval of rest, and then a further similar set of contractions. Other muscles which suffer frequently are the deltoid, the rectus femoris, the flexor muscles of the legs, the orbicularis of the lips and eyes. Of the latter muscles, generally, only small portions are affected; for instance, the parts immediately adjoining the commissure of the lips, which are spasmodically contracted for a few seconds, then relax, and repeat this performance five or six times consecutively, after which the muscle is quiet for a few minutes, and then begins to play again.

In other cases the spasm is much more violent, and spreads over a much larger number of muscles. There may be a more or less constant clonic convulsion in the muscles of the face, neck, chest, and abdomen, as well as of the limbs, and which is occasionally intensified by more powerful contractions of individual muscles, by which the head may be suddenly pulled to the side or backwards, the eyelids closed, a sudden inspiration, like singultus, may be caused, and arms and legs thrown about. Perfect rest generally eases the spasms, while walking, using the hands, etc., is apt to increase them, and the patient may, therefore, be more or less disabled from following his occupation.

In one of my cases, that of a cabinet-maker, aged twenty-six, the right upper extremity was the exclusive seat of these clonic convulsions, which were quite sufficiently strong to throw the limb about in all directions, generally lasted two or three minutes at a time, were succeeded by four or five minutes' rest, and then began again. This man was utterly unable to earn his living through this most annoying affection. But it is chiefly the influence which the recurrence of such symptoms has on the mind of the sufferer that is of importance. One of my patients who suffered in this way had been told that it was a sign of beginning progressive muscular atrophy, and as he had suffered from syphilis, and was in a low state of health, this prediction made him quite hypochondriacal. Another patient, a medical man, who had read about Jacksonian epilepsy without having ever seen a case of it, believed that these clonic spasms were the first symptoms of tumor of the brain, and that he was on the high road to become blind, epileptic, and imbecile. A third patient, likewise a medical man, had given up a large practice on this account, and gone abroad, being convinced that he was suffering from brain disease.

It is, therefore, important to know the differences which exist between the muscular twitches seen in progressive muscular atrophy, the spasms observed in Jacksonian epilepsy, and the clonic spasms of tetanilla or paramyoclonus multiplex.

The twitches or fibrillary motions of muscular fibres which are seen in patients suffering from progressive muscular atrophy are generally of a sluggish and worm-like description. There is nothing sudden or actually spasmodic about them, and as they affect more or less individual fibres only, they are not in general sufficiently powerful to cause movements of the limbs or any parts of them. They come and go, are easily excited by passing the finger-nail over the affected limb, or by exposure to cold, and are essentially diffuse in character. They must be considered as a sign that degeneration has been set up in the muscular fibres, and have, in general, a bad prognostic significance, showing that the disease is progressing. I need not further dilate upon the complete difference which exists between them, Jacksonian epilepsy, and tetanilla. The spasms of the latter are certainly not forerunners of any serious cerebral or spinal disease, for in one case which I have seen, they first occurred at sixteen years of age, and subsequently at various times; at fifty-four years, however, the patient was still in good health, although occasionally subject to attacks of this kind, which sometimes lasted for a few weeks, and then ceased. All my other cases have recovered. These spasms I believe to be owing to a similar, although much slighter degree of irritation in the giant cells of the anterior gray matter of the cord than those of tetany.

The *prognosis* of tetany is generally not serious, except in very young children, who have no power of resistance, and where spasm of the glottis, or general convulsions are often so easily induced.

It is also not favorable in persons who are extremely cachectic and reduced in strength. In most cases, however, tetany is not a dangerous complaint, and the patients recover in two or three months, more especially if placed in favorable circumstances.

For the *treatment* of tetany, Trousseau recommended bleeding and cupping of the spine; yet he mentions a case in which, by bleeding, the affection was made much worse and more general. At first the patient only suffered in his hands, so that the fingers were clenched and useless; but after the bleeding, the other parts of the limbs, as well as the muscles of the body, became affected, so that he sat quite motionless, and could hardly speak or breathe. In the present day bleeding is not likely to be resorted to, more especially as these patients are habitually in a state of exhaustion through persistent diarrhœa, or when convalescent from acute diseases. Just on the contrary, it should be our endeavor to build up the constitution of the patient, by removing him, if possible, from his habitual injurious surroundings, by giving him nutritious and easily-digested food, and such remedies as cod-liver oil, phosphorus, and arsenic. In recent cases, where exposure to cold and wet appears to have been the cause, the Turkish bath, or a wet pack, ammonia, and opium should be used. Where diarrhœa is present, astringents, more especially opium and aromatic sulphuric acid, are to be given. Where worms are suspected, the usual anthelminthic remedies find their appropriate sphere of action.

As direct sedatives, hydrate of chloral and urethan act better than hypodermic injections of morphia. Those highly popular remedies, iodide and bromide of potassium, have also been called in to our aid, and have proved useful in some cases. Electricity has frequently been employed without success, when applied to the affected nerves and muscles, while the application of a large anode to the spine, with the cathode at a distance, seems to be much more useful, as having a sedative effect on the unduly excitable gray cells. For cutting short an individual attack of tetany, which threatens life through involving the larynx and diaphragm, I know nothing equal to a subcutaneous injection of pilocarpine, which seems to act like magic. As soon as profuse perspiration is established, the spasm ceases, and the patient is rendered comfortable.

The treatment of tetanilla should be chiefly mental. The patient must be assured that there is nothing serious the matter with him, and that his brain is unaffected. Electricity used in the way just described, and Paquelin's cautery are other appropriate remedies, and rarely fail to cure an affection, which, while it is apparently insignificant, yet suffices to make life utterly wretched for these patients, and has driven some of them close to committing suicide. Indeed, there is nothing really insignificant in the practice of our profession, as slight causes may lead to grave results, often through the agency of the imagination.

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Original Articles.

ON THE EXACT MEASUREMENT OF THE ELECTRIC-CURRENT AND OTHER PRACTICAL POINTS IN THE DESTRUCTION OF HAIR BY ELECTROLYSIS, WITH ESPECIAL REFERENCE TO THE USE OF THE ABSOLUTE GALVANOMETER.

BY MORTON PRINCE, M.D.,
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To remove hair by electrolysis is a very easy operation, but it is not so easy to do it without leaving behind disfigurements, either temporary or permanent. One of the disadvantages connected with the process is the dermatitis which is apt to follow the operation, to say nothing of the more severe papular inflammations, and not infrequent ulceration of the hair-follicles. Worse still, because permanent, are the scars. The latter, to be sure, even on a woman's face, are a small disfigurement, excepting when the process has been badly done, compared to that caused by unsightly hairs; still, they are scars. The dermatitis, to be sure, is only temporary, lasting only a few days, but while it lasts the skin is sore, and the face decidedly disfigured. The small ulcerations of the hair-follicles, small as they are, are of more importance, as they lead to comparatively large scars, instead of the almost invisible cicatrices left, if any at all develop, by the process when properly done. It should be stated, however, that even minute cicatrices are not a necessary result.

It is generally stated by those having experience with the operation, that these ill effects are dependent upon the peculiarities of the individual skin, some skins bearing the operation without any bad after-effects, while others are easily inflamed. While there is considerable truth in this, and there is even a difference in the capacity of different parts of the skin of the same face to bear electrical currents without inflammatory reaction, still I have long suspected that the greater part of the difficulty is due to the intentional or unintentional use of excessively strong currents, and that such unintentional use is due partly to the fact that no proper means are employed to measure the strength of the current, and partly to the fact that a current from a given number of cells varies immensely in strength during the course of a single sitting, owing to the varying resistance offered by the skin. To overcome the undesirable effects which are consequences of these difficulties, I have hitherto advocated using the weakest currents possible, preferring to have more hairs come back to be operated upon again, rather than run the risks of pustules and disfiguring scars. Though secondary inflammation and cicatrices have in this way been mostly avoided, still the operation has been beset with great annoyances, such as the sudden weakening of the current below the strength practically necessary for the destruction of the hair papilla, with consequent imperfect results, necessitating tedious fussing with the battery, while again, the strength of the current may suddenly rise, for various reasons, above the required point, etc., etc. It was not till I began using the *absolute* galvanometer that I found a practical method of gauging the strength of the current, nor till then did I appreciate the extent of the fluctuations that may occur in the current strength in the course of a single sitting. Nothing is more uncertain and useless than the methods usually recommended by those who practise the operation for determining the strength of the current. Every writer on the operation, that I have seen, directs either that so many cells be used, or that a current sufficient to produce effervescence at the needle be employed.

Now, for reasons that will be presently explained, a most powerful current — one sufficient to produce severe destruction of tissue — may be unwittingly used without effervescence occurring, and in the second place, with the same number of cells, the current may vary five-fold, at least. It has been long known to electro-therapeutists that the number of cells, even aside from the difference in strength of the cells of different forms of batteries, is no guide whatever to the strength of the current. Another factor, besides the electro-motive force of the cells, must be taken into consideration, namely, the resistance to be overcome. This varies immensely, according to the size and construction of the electrodes, the degree of pressure with which they are applied to the body, the condition of the skin, its dryness or moistness, the portion of the body to which the electrode is applied, etc., etc. That these are no theoretical difficulties, but practical ones, may be seen by the results obtained in the following experiment: A current from the same number of cells was applied through the same electrodes, thoroughly wet at each application. The resistance of the skin over the spine had previously been reduced to a minimum by prolonged applications.

1. One electrode over palm, other over back of hand.	Current =	2	Milliampères.
2. One over spine, other over palm.	"	2	"
3. One over spine, other over back of hand.	"	6	"
4. One over each lateral half of back.	"	8	"
5. One over spine, other over forearm (front)	"	9	"
6. One over front, other over back of forearm	"	9	"
7. One over spine, other over back of forearm	"	10	"
8. Both ever spine.	"	10	"
9. One behind each trochanter.	"	11	"

Or, in other words, with the same given number of cells and the same electrodes, the current may be increased from two to five times, according to the different location of the electrodes in the same individual.

Again, with the positive electrode over the back or front of the forearm, negative on some part of the face, the current frequently varies, in the experience of the writer, between one and three milliampères, though the same number of cells be used, according as the needle is inserted in different parts of the same face.

The same thing happens, as would naturally be expected, with a current from the same number of cells applied to different persons, though the conditions be made as far as possible alike. I have found that after taking all possible precautions to apply the poles to the same regions, and after reducing the resistance of the skin to the minimum, that from twice to three times as strong a current may pass through one person as through another, though the same number of cells be used. Again, the fluctuations in the current strength dependent upon the size of electrodes may be seen from the following experiment:

The same number of cells were used in each case, and the electrodes applied to the same region of the body, namely, the thighs. The electrodes were of five sizes, No. 1 being the smallest, and about the size of the top of a slate pencil. The largest. No. 5. measured 3 × 6 inches, but the whole surface was not in complete contrast.

With electrodes	No. 2	and	No. 1,	current	= 3	Milliampères.
"	No. 2	"	No. 3,	"	= 6	"
"	No. 2	"	No. 4,	"	= 7	"
"	No. 2	"	No. 5,	"	= 9	"
"	No. 5	"	No. 5,	"	= 14	"
"	No. 5	"	No. 1,	"	= 6	"

To show how useless is effervescence as a guide, the following experience (of frequent occurrence) jotted down at the time, will show. The writer was removing from the neck some fine hairs, which grew at a very acute angle with the skin, and, therefore. somewhat difficult to destroy. After applying the current for the usual length of time, the hairs were found to be still firmly attached and no effervescence had occurred. The natural impulse would have been to increase the current, but a glance at the galvanometer showed that a current of three milliampères was passing — three times as strong as was necessary. The fault lay in an inaccurate direction given to the needle, and the inability of the gases to escape to cause effervescence.

Furthermore, effervescence is not necessary for the destruction of the hair bulb. Hairs can be destroyed, as I have repeatedly demonstrated. without the slightest appearance of effervescence.

The variations in the current-strength caused, even, by different modes of applying the electrodes to the skin may be seen from the following:

Twelve cells were used. A large electrode, 3¼ × 6¼ inches, was applied to the forearm, while a small electrode, 1½ inches in diameter was successively applied, first, to the centre of palm of hand so that only one surface was in contact with skin; second, between the thumb and palm so as to be held by pressure of the thumb; and third, to the centre of palm but grasped by the fingers. In this way the amount of surface in contact was successively increased. The strength of current obtained was as follows:

1st Method	¼ Milliamp.
2d "	½ "
3d "	1 "

The following experiment was undertaken to show the variations in current-strength due to variations in size of the positive electrode in conjunction with a needle inserted into a hair follicle for electrolytic purposes.

1. Small electrode. (1½ inch) to palm	¼ Milliamp.
2. " " " grasped	¾ "
3. " " " to forearm	1¼ "
4. Large electrodes, (3¼×6¼ in.) to palm	1½ "
5. " " " " to forearm	2 "

In other words, the large electrode applied to palm gave six times as strong a current as the small electrode, etc.

One more experiment shows the different results obtained by electrodes of different sizes, construction and conditions of moisture used in conjunction with the electrolytic needle.

	Electrode covered with cotton. 1 in. diam.	Electrode covered with sponge. 2 in. diam.
1. To palm	½ Milliamp.	1 Milliamp.
2. To forearm	1 "	2–3 "
3. To palm	sponge allowed to become comparatively dry.	½ "

Here it will be seen that the current obtained with a sponge electrode, after the water had been squeezed out, as always happens after a few minutes use, was reduced one-half.

It should be stated that the smaller electrode was a polished copper disc covered with absorbent cotton, one of the best conductors. While the large one was covered with chamois-skin, and its metallic surface, as I afterwards discovered, was corroded and covered with verdigris, consequently its conducting power must have been greatly impaired. I suspect that if it had been constructed like the smaller one the differences would have been still more marked. It should be mentioned that the resistance of the skin in these experiments was reduced to a minimum by the usual methods.

A variation in the strength of the current may even be produced by the needle not being inserted to the same depth in the skin. I have seen the current doubled from this cause.

Under these conditions, then, it cannot be wondered at that the effects of electrolysis are uncertain, sometimes resulting in dermatitis and scars, and sometimes in destruction of the hair alone, without the slightest disfigurement. It must be apparent to any one that, to get the best results from electrolysis, we must have some accurate method of measuring and regulating the strength of the current. This can be done by means of the *absolute* galvanometer, which, I have found, answers every purpose, and which I now always use. By its means the current can be accurately and easily regulated, and any fluctuation in its strength immediately detected. Discovering the fluctuation, it is easy to determine the cause, and to guard against its reoccurrence. The practical results obtained I have found to be far better than formerly. Pustules can be wholly and cicatrices almost entirely, even if not absolutely, avoided. When one has once used such an instrument, providing he has a reliable one, he will be loth to give it up. No small advantage is that one learns the conditions essential for a steady current, and is thus able to prevent variations. An increase of one milliampère in ordinary electro-therapeutics is of no consequence, but in such delicate operations as electrolysis, it is of the greatest consequence. A case in point will illustrate these advantages.

It is that of a young girl who had a very abundant growth of hair upon her face, necessitating repeated operations, extending on and off over a space of two years. It so happened that the skin under her jaw was very sensitive to electricity, so that electrolysis was always followed there by more or less inflammation and scars, be as careful as I would. In contrast, to this, on the sides of her face, she could bear comparatively strong and repeated currents with immunity. Under the jaw, on the other hand, only very few hairs could be done at a sitting, and that with very mild currents. Pustules, dermatitis and fine scars were frequent effects. Since using the absolute galvanometer all this has changed. I can now do what remains to be done without any secondary inflammation, and so far as I can see without any scars whatever. And I believe it to be *theoretically* possible to always remove hairs without scars. Practically it is difficult because the requisites are absolute care and great physical endurance on the part of the operator. The endeavor should be to direct the action of the current, as far as possible, to the hair bulb and follicle alone. This can only be approximated by accurately inserting the needle and using the weakest currents for the shortest period compatible with effective practical results.

But supposing an absolute galvanometer is to be employed, what rules should be observed in performing the operation; what strength of current should be employed, and for what length of time? The directions laid down by most writers are most indefinite, and do not show an intimate knowledge of either theoretical or applied principles of electricity. A late English writer, whose article lies before me and whom I quote merely to bring out the points I wish to enforce, gives the following directions: a battery of from ten to fifteen cells is to be used; the current is to pass from ten to thirty seconds until slight frothing is produced or a wheal appears around the mouth of the follicle. It is also stated that it is not absolutely necessary that the needle should be inserted directly into the follicle, as the requisite destruction occurs if the instrument be in its immediate neighborhood, and that papules and pustules result, which remain visible for some weeks.

That papules and pustules result under these circumstances can scarcely be wondered at. There can scarcely be any better way of producing them, as well as scars, than some such method as this.

The danger of relying upon the number of cells to determine the strength of the current has already been shown. Ten to thirty seconds is altogether too long for any current generated by ten to fifteen cells of a good working battery, unless a great resistance is offered by the circuit, which cannot be known without an absolute galvanometer; and, according to the experience of the writer, a wheal should never be produced. Any current which produces a wheal, especially one that is white and sharply circumscribed, is too strong. Furthermore, I believe it to be absolutely essential that the needle should be inserted directly into the follicle and through the papilla, but not beyond if possible, if cicatrices are to be avoided.

The writer has made numerous experiments to determine what strength and duration of current gives the best results. Before stating the specific conclusions arrived at, the following general principles may be laid down. The weakest possible current of the shortest possible duration compatible with efficiency in the time at the operator's disposal should be used. If there is much work to be done, less time can be given to each individual hair. But the stronger the current and the longer its duration, the greater certainty of after inflammation and scars. On the other hand, with very weak currents, say under one-half milliampère, the time requisite to destroy the hair-bulb is too long for practical purposes, especially if there is much to be done; for the stronger the current the shorter the time needed, and *vice versa*. As a matter of experience, and as the result of numerous observations, I have found that a current of one milliampère, passing from two to three seconds, is the best. It should be not less than one-half nor more than two milliampères. With one-half milliampère it can be easily done, but takes longer. Such a current is, perhaps, to be preferred if only a few hairs are to be destroyed. With more than two milliampères pustules and scars are almost sure to result. It must be understood that the stronger the current, the shorter time must it be allowed to pass, and the greater the pain.

My plan is always to watch the needle of the galvanometer, and if it swings towards two milliampères, to shorten the duration, and if it goes beyond two milliampères to immediately break the current. I do not mean to say that it is impossible to use stronger currents without causing bad after-effects, but it is very difficult to do so, and the current must be broken almost immediately after being made. With a current of one milliampère, three seconds is amply long enough for the current to flow. This I have repeatedly determined with watch in hand. If the hair be not destroyed in that time, the reason therefor will almost always be found to be that the needle has not been accurately introduced within the hair follicle so as to hit the bulb.

Of course the stronger the current and the longer it be allowed to act the easier it is for the operator to successfully work, and hence there is always an inducement to use strong currents. If a current of one milliampère acting for three seconds will decompose the tissue within a radius of, say, 1-50 inch, for example, a current of three milliampères will decompose all the tissue within 3-50 inch, or thereabouts; and therefore with the latter current much less care need be employed in introducing the needle, as it has only to be placed somewhere near the hair, and all the neighboring tissue must succumb, hair and all, hence cicatrices.

For this reason the needle should be accurately inserted into the follicle and papilla. If it is placed simply in the neighborhood of the latter, all the intervening tissue must necessarily be exposed to the electrolytic action. Greater destruction of tissue than necessary will then be occasioned, and pustules and scars must result.

Sponge electrodes are very undesirable, as their conducting power rapidly changes as the water becomes squeezed out.

There is one more practical point which should be mentioned. The patient should never be allowed to hold the positive electrode in the hand, as is usually advised. What between the great resistance offered by the palm of the hand involving the necessity of keeping the thick dry, skin, thoroughly soaked with water, and the unevenness with which a patient presses with the electrode, it is impossible to maintain anything like a steady current. If the current hurts, the patient is sure to let up on the electrode. Under such conditions I have sometimes found it impossible to do the operation at all, the galvanometer at times marking no current and then again jumping to three and four milliampères. A large electrode, covered either with chamois-skin or a thin layer of absorbent cotton, not sponge, should be fastened to the forearm, as the most convenient place. It is hardly necessary to refer to the danger of using the positive instead of the negative pole in connection with the needle or destroying at one sitting hairs situated close together, as these points have been referred to by other writers.

The powerful electrolytic action of electricity on tissue, and the possible disastrous effects of strong and long continued currents may be seen from the following experiments, out of a number of others made by Dr. T. D. Davis,[1] some time ago, in connection with another operation. The first experiment was made with a 30 cell Grenet battery, the second with a 15 cell Bunsen battery.

(1) Two steel needles, thickness of knitting needles, were introduced into the tissue of a healthy liver within half an inch of each other. Immediately afterwards bubbles of gas commenced to issue from the cut surface of the liver, which was nearer to the points of the needles than the place of their introduction. In four minutes the needle connected with the negative pole became very loose, and bubbles of gas escaped around its point of entrance. In five minutes the needles were withdrawn, the negative one coming away easily, while the positive one, which was blackened and roughened, was firmly adherent. On cutting across the track of the negative needle, a cavity, one quarter by an eighth of an inch in diameter, was discovered, surrounded by a darkened gelatinous tissue, one-eighth of an inch in thickness. Extending from this to the point where most of the gas escaped was a mass resembling that surrounding the cavity, looking more like softened glue than healthy tissue. The track of the positive pole was black and charred, but the tissue immediately surrounding the point was firmer and whiter than in other parts.

(2) A cat was put under the influence of chloroform and the needles were introduced into the right thigh one inch apart. Soon the fizzing sound was heard, which continued until the needles were withdrawn, at the end of ten minutes. The tissue was softened around the negative and much hardened around the positive needle. The needles were then introduced into the left thigh of the same animal, and retained there for ten minutes. In the post-mortem examination, several days later, the skin on the right thigh was found ulcerated for an inch in diameter. The muscles were separated down to the heel but not to the bone. There was a cavity under the skin large enough to hold a walnut. The left thigh presented similar appearances, the cavity being as large as an egg, and the muscles separated down to the bone, as well as softened and eaten away. Part of the femur was denuded of periosteum, but not eroded.

These, of course, are the effects of powerful currents long continued, but the action from weak currents is the same in kind, differing only in degree, and these experiments show how it is possible to produce on the face irreparable injury unless care be used.

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[1] Philadelphia Med. Times, October 2, 1871.

REPORT ON BACTERIOLOGY.

BY HAROLD C. ERNST, A.M., M.D., (HARV.),
Demonstrator of Bacteriology in the Medical School of Harvard University.

FURTHER investigations upon malaria by Golgi[1] have been made by the observation of forty cases mostly of the quartantype. Out of these forty cases but two gave negative results in the observation of the blood. In all the other cases the characteristic "Plasmodia" were found, the results being tabulated as follows:

I. Plasmodia only were found in the interior of the red blood-corpuscles in four cases.

II. Plasmodia and pigmented bodies in the red blood-corpuscles in eight cases.

III. Only pigmented bodies in the red blood-corpuscles in twenty-seven cases.

IV. Plasmodia in the red blood-corpuscles and free half-moon shaped, oval or circular bodies in one case.

In most of the cases there were also found the pigmented bodies described by Marchiafava and Celli.[2] In one case the plasmodia showed amœboid movements after four and one-half hours at a temperature of 9° to 10° C. The pigmented corpuscles were also seen to have amœboid movements. Golgi considers the pigmented bodies and the plasmodia (unpigmented) to be distinct, and finds the pigmented bodies to be especially characteristic of the quartan type of fever — considering the occurrence of plasmodia in this type as a complication. The quantity of the organisms found seems to bear a distinct relationship to the severity of the attack. The condition of the pigmented bodies as seen under the microscope seems to this observer to indicate the stage of the disease, and one can prognosticate the attack by observing how near complete their growth is, as indicated by their situation in the blood-corpuscles and amount of subdivision. These conclusions, however, are only applicable to the quartan type as yet.

TUBERCLE-BACILLI.

The question as to the positive diagnosis of this organism by the staining method of Koch-Ehrlich has received renewed attention.[3] The conclusions from the results thus far obtained seeming to be that occasionally the presence of organisms in fat-bearing materials, prevents the decolorizing action of nitric acid, and that therefore there may be occasions, as in the case of smegma-bacilli, where there is an imperfect application of the staining-method, and where confusion might arise. The work is not by any means complete, however, and does not destroy the value of the usual staining method for the clinical recognition of the bacilli of tuberculosis.

ULCERATIVE ENDOCARDITIS.

Wyssokowitsch[4] undertakes to produce this disease in animals by using pure culture of the organisms derived from pus in acute inflammatory conditions. The results were positive only when artificial irritation of the cardiac valve was practised. Ribbert[5] succeeded in producing ulcerative processes in the valve of rabbits' breasts by the injection of very large quantities of the staphylococcus aureus into the circulation. In an article upon the same subject by Bramwell,[6] experiments by Hare are recorded. This experimenter obtained negative results so far as the artificial production of the disease is concerned. but succeeded in obtaining from the material employed pure cultures of two organisms, one, a micrococcus resembling very strongly the staphylococcus pyogenes aureus, and the other, a short straight bacillus occurring in immense numbers. Wyssokowitsch[7] and Orth[8] have taken the subject up again, but without reaching any very definite results.

YELLOW FEVER.

Freire has published a very elaborate work containing the results of his observations upon this subject and his methods.[9] He claims to have established that the "microbe xanthogenicus" is introduced into the system by the respiratory and digestive apparatus, that from these points of entrance it passes into the circulation and thence into all the organs of the body; it is found with equal facility in the brain, muscles, kidney, spleen, pancreas, blood, lungs, urine, bile and vomit. With regard to the blood the organism is found most largely in the capillary circulation, rather than in the larger bloodvessels. The organism is very easy of detection in the urine and bile by simply placing a drop of either of these fluids upon a slide and examining with a power of from 450 to 800 diameters; blood must be treated with a weak solution of sulphate of soda before the organisms contained in it are easily visible. The period of incubation after infection is short, and the development of the organism is very rapid. The "cryptococcus xanthogenicus" appears under a diameter of 740 as minute refracting bodies, sometimes looking like black points and at other times showing a luminous spot in the center (differences of focussing). There are also yellowish masses with yellowish spots scattered about which are considered to be the scattered cells of the cryptococcus. The cells have a very rapid movement at the beginning of their development which becomes less as the cells increase in size. These cells, when mature, contain granules which are pigmented green or yellow. These finally burst through the cell-envelope and proceed to form new cells by constant increase in size. Occasionally the spores are scattered without order; sometimes they stick irregularly to the pigment, and sometimes they form regular figures, assuming shapes like a pineapple or a pear. Under cultivation the organism is found to be aërobic: it flourishes well in culture-media of bouillon, milk or gelatine solutions, forming in old cultures a yellow or even black layer upon the surface of the fluid; the ordinary temperature of the room is sufficient for its development. Methyl-violet in aqueous solution gives a very strong violet color to the cells.

Many inoculation experiments with material from yellow-fever patients — blood, urine — were practised upon animals, with the result of finding guinea pigs susceptible, whilst birds, pigeons, and chickens seemed to be refractory to the toxic effects of the organisms. The "cryptococcus xanthogenicus" was found in large numbers in the earth of cemeteries where persons dead of yellow fever had been buried, and in the air of yellow-fever hospitals. The attenuation of the virulent strength of the organism of yellow fever is obtained by its exposure to a low temperature — 15° to 20° C. for a few days — after which exposure injections into guinea pigs produces little or no effect. The virulence may be restored by keeping the culture at from 38° to 50° C.; after a few days' exposure to this temperature, the full toxic strength returns, as proven by inoculation experiments. Acting upon these facts, Freire undertook a preventive inoculation against yellow fever with an attenuated virus.

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[1] Sulla Infezione Malarica. Arch. per le Scienzhe Medice, 1886, No. 4.

[2] Fort. d. Med., 1883, No. 18, 1885, Nos. 11 and 24.

[3] Alvarez et Tavel. Recherches sur le Bacille de Lustgarten. Arch. de Phys. norm. et Path., 1885, No. 17. Klenperer. Ueber Syphilis, und Snegmabacillen. Deut. Med. Woch, 1885, S. 809. Bienstock. Fort. d. Med. 1886, S. 193. Friedländer, Ibid, S. 196. Gottstein. Ibid, 1885, S. 627.

[4] Cent. f. d. Med.Wiss., 1885, No. 33.

[5] Fort. d. Med., 1886, S. 1.

[6] Am. Jour. Med. Sciences, July, 1886.

[7] Aus dem Path. Inst. in Göttingen.

[8] Virch. Arch. Bd. 103, 11.

[9] Doctrine Microbienne de la Fievre Jaune et ses Inoculations Préventives. Rio do Janeiro. Imprimerie Nationale, 1885.

Finding that the virulence of the "cryptococcus xanthogenicus" obtained in cold weather was less than that in warm weather, or during the time of an epidemic, he preserved cultures of the former, and used them upon man, of course being encouraged to do so by previously-completed extensive experiments upon animals. The rèsults of these experiments seem to be favorable to his assertions, that is, that thus far, no case inoculated by him against yellow fever is as yet reported to have died of the disease.

HYDROPHOBIA.

The special interest excited in this disease by the announcement of Pasteur in regard to it has led to the endeavor, on the part of many observers, to isolate and identify the bacterium, which is in all probability the active factor in the production of the disturbance. The results thus far obtained are eminently unsatisfactory, however. Fol and Dowdeswell each think they have found a micrococcus which is the specific organism of rabies, but neither of them bring forward any evidence other than the occurrence of the bacterium in animals dead of the disease as a basis for their assertions. Pasteur himself has failed also to find anything which he is disposed to consider the "materies morbi" in this instance. Thus far there has been not only no bacterium connected with the disease, but no systematic work in confirmation of Pasteur's method of preventive inoculation has been published. Many announcements of "Pasteur Institutes" have been made in the daily press, but very little has come out with any substantial basis to it.

BACTERIOLOGICAL OBSERVATION OF WATER.

This is one of the most important of the practical applications of bacteriological science, and is being rapidly developed. A systematic observation of the limitations of chemical analysis, and the amount of evidence to be obtained in addition as to the potability of any water by the further examination by bacteriological methods, has yet to be made Such evidence would be exceedingly valuable, and it will not be long before it will be supplied. Meade Bolton[10] has paid some attention to this point, concluding that it is possible for a better decision to be given as to the safety of any given specimen of water by the employment of both methods of analysis, and in certain cases, that the observation of the bacteria and the determination of their species is the only way by which approximately exact results can be obtained.

Other first-rate recent work in the same direction is to be found in the first volume of the *Arbeiten das den Kais. Gesundheitsamte*, 1886.

METHODS OF PRESERVING COLONIES FROM PLATE-CULTURES.

Garrè[11] suggests that the portion of the gelatine containing the colony to be kept, be cut out, and transferred with a sterilized spatula to a slide. The preparation may then be placed in a drying apparatus, or under a glass-bell, and dried to one-half or less of its original bulk. A cover is then to be fastened on with concentrated glycerine jelly. In this way, the colony may be preserved for an almost indefinite length of time for microscopic examination and demonstration.

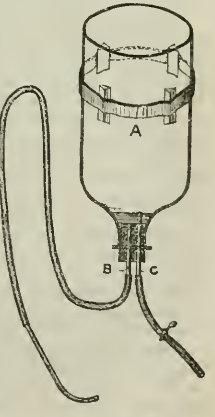
Plaut,[12] writing upon the same subject, suggests the cutting out of the colony with fine, sterilized scissors, and its transference to a slide moistened with a very small drop of pure water. Then slight warming of the slide to settle the gelatine, but not enough to melt it, and finally, covering the whole with a cover-glass fastened by a ring of dammar-lac, the advantages claimed for this method being that the colony is not only preserved for microscopic examination, but may also be used to propagate future cultures by the simple melting of the dammar-lac with a heated needle, and the removal of the cover-glass.

New Instruments.

A SIMPLE APPARATUS FOR WASHING OUT THE BLADDER.

BY FRANK HOLYOKE, M.D., HOLYOKE, MASS.

The accompanying diagram illustrates an apparatus for washing out the bladder, which combines cheapness in construction, with ease and safety in use.



An eight or twelve ounce, glass bottle, A, has its bottom cut off; and a cork perforated by two glass tubes, is now introduced and sealed, to prevent leakage of air or water. To the glass tube, B, by five feet of rubber tubing, is attached a rubber catheter. To the evacuating tube, C, is attached one foot of rubber tubing clamped by a bull-dog forcep or patent clothes-pin.

This safety of this apparatus lies in the fact that the evacuating tube reaches within the neck of the bottle one-half inch beyond the injecting tube, so that, when held upright, there is no possible chance, while emptying the bottle through the former, for air to enter the latter.

Four pieces of cork held at regular intervals by a narrow rubber band prevent the bottle from rolling off the table, while the patient — either standing or seated — introduces the catheter; upon the entrance of which within the bladder the bottle is held as represented and brought below the level of the bladder. The bladder being thus emptied, the forceps is removed from the evacuating tube, and all the urine passes into a vessel except the half-thimbleful that remains in the neck of the bottle, to guard against the entrance of air within the injecting tube.

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[10] Zeitschrift für Hygiene, 1886. S. 76.

[11] Fort. d. Med., 1886, S. 392.

[12] Fort. d. Med., 1886, S. 419.

The clamp is now replaced and the fluid to be used for injection is poured into the bottle which is slowly raised to a proper distance above the bladder, which gradually fills; the operator readily observing through the glass that it be not raised so high that the level of the fluid falls below the end of the glass tube, B.

Having once introduced the catheter, this process of filling and emptying may be repeated as often as desired, without laying down the bottle, by the careful raising and lowering of which, the distension of, and pressure within, the bladder, may be regulated.

This instrument I made for a man who recently came under my care, suffering with chronic cystitis. He declares that it is easily managed and practical:— for in this apparatus we have no syringe, no tap to turn, no injecting nozzle which has to be repeatedly connected and disconnected with the catheter, and no doubt about its safety, for we see what we are doing.

A ready way to remove the bottom of a bottle is to file a groove, with a three-cornered file wet with turpentine, deep enough to hold in place a piece of strong twine. The twine is then drawn to and fro until the glass becomes hot. If now the bottle be immersed in cold water, the bottom separates along the filed groove.

Reports of Societies.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., RECORDING SECRETARY.

Meeting, October 6, 1886, at the rooms of the Boston Medical Library Association.

The meeting was called to order at 12.30, P. M., by President Winsor. Present, eighteen members. Records of the last meeting were read and approved.

A letter from associate member H. W. Chapin, Esq., was read, advocating some movement toward regulation of medical expert testimony in the courts of this Commonwealth.

Med. Exr. Draper made some remarks on what had been done in previous efforts, and moved that a committee of five be appointed to consider the subject of regulating medical expert testimony, and of obtaining legislation therefor.

On motion of Med. Exr. Holmes, this committee was increased to six, and the following members were chosen: Regular, Winsor, Chairman, Draper, Gleason, and Holt; Associate, Chaplin and Tyndale. The President acknowledged, in behalf of the Society, receipt of Vol. VIII, Series 3, of the Transactions of the College of Physicians of Philadelphia.

Med. Exr. Holmes read a paper on the case of Carrie Whitney, of Boston, found dead in his district. The ligamentum nuchæ was ruptured, and Dr. Holmes believed that death was due to hæmorrhage into the spinal canal, with pressure on the cord. There was no mark of external violence. The specimen was exhibited, and some discussion took place.

Dr. Draper reported a case where the ligamentum nuchæ was ruptured, with fracture of transverse processes, and separation of spinal processes of the vertebræ. Death was due to spinal hæmorrhage and pressure on the cord. The nature of the accident was known, though there were no marks of external violence.

Dr. Presbrey reported a case of spinal hæmorrhage and death from a blow of the fist under the ear.

Cases more or less similar to that of Dr. Holmes were reported by various members.

Med. Exr. Tower reported a case of poisoning by two ounces of commercial hydrochloric acid, taken with suicidal intent. There was pain and vomiting, and purging of blackish-brown and bloody matters. The mucous membrane of the stomach was thoroughly cauterized, and was black in color.

Med. Exr. Adams reported the appearances in a case of alleged rape of a child ten or eleven years of age, and also narrated a case to show the fallibility of the sign of alcoholic odor in the breath in cases of alcoholic poisoning.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

Second Annual meeting, held at Everett Hall, Brooklyn, October 12, 1886.

MORNING SESSION.— THE PRESIDENT'S ADDRESS

was delivered by Dr. J. G. Porteous, of Poughkeepsie. In it he congratulated the Branch and the parent Association on the flourishing condition of the organization, and paid a tribute to the illustrious dead of the year, Drs. Austin Flint. Frank H. Hamilton, and Desault Guernsey, the latter being President of the Fifth District Branch at the time of his decease.

Dr. Joseph C. Hutchinson, of Brooklyn, read a

BIOGRAPHICAL NOTE OF THE LATE DR. FRANK H. HAMILTON.

Dr. Avery Segur, of Brooklyn, read a paper on

SOME RECENT IMPRESSIONS OF MEDICINE IN ENGLAND,

in which he spoke of the history of the Royal College of Physicians and the Royal College of Surgeons, the study of Medicine in England, the qualifications required for licensed practitioners and those entitled to the degrees of Doctor or Bachelor of Medicine, the clinical advantages afforded by the great London hospitals, the Croonian, Gulstonian, and Lettsomian Lectures, and the many advantages enjoyed by the profession in Great Britain, as exhibited in the British Medical Association and its Branches.

AFTERNOON SESSION.

Dr. H. A. Pooler, of Goshen, Orange County, read a paper on

THE MILK SUPPLY OF LARGE CITIES AND THE IMPROPER MODE IN WHICH IT IS CONDUCTED.

Having spoken at considerable length of good cow's milk, and in what respects it resembled and differed from human milk, he referred to the abnormal conditions of milk. There was only one period, he said, at which a healthy cow will secrete unhealthy milk, and that is after parturition, when it contains colostrum. Such milk taken by the young or invalids, might produce very harmful results. It is certain that the milk would not be entirely free from these cells ten days after the birth of the calf; but the farmer, not knowing the pathological condition of the milk at such a period, or at least the length of time that it is affected, usually saves the sixth milking, which occurs only three days after parturition. The milk of the entire dairy may thus be contaminated by the diffusion of the colostrum through it.

In speaking of the adulteration of milk, he said that many foreign substances have been added to it, but by far the most common forms of adulteration are the removal of fat and dilution with water. Pure milk furnishes an indication of the amount of fat required by the human being in the large proportion of butter fat to its other solid constituents which it contains. Besides performing certain purely mechanical offices, fat is essentially concerned in many of the chemical and vital processes of the body. It forms the nucleus of all cellular growth, renders important assistance to the digestive fluids in the digestion of other principles, is actively concerned in exciting the changes that take place in the nitrogenous principles, and has much to do with the formation of bile and blood; while fatty matter forms a great part of the brain, and the entire nervous system. As a heat-producer, fat also stands pre-eminent, and it is mainly from the fat stored up in the body that sustenance is derived when the supply is temporarily cut off or the power of digestion is impaired by sickness. Furthermore, it is believed that nature has especially adapted butter fat to the digestion of infants. Altogether, therefore, it is essential in large quantities to the proper nutrition of young children.

Dr. Pooler then quoted as follows, from the report of Professor C. F. Chandler (made with the assistance of C. E. Munsell, Ph. B.), published in the second annual report of the New York State Board of Health (1881–82): "While a large proportion of the milk sold has been but moderately watered and skimmed, and is still above the standard of the poorest milk (two and one-half per cent. of fat), much of the milk has been *extended* and skimmed far below this standard. So openly are these frauds practised that 'creameries' have been established in many localities, the names and locations of seventy-three such establishments being known to the writer; of which sixty-three are known to send skimmed milk to New York City, all of which is sold as whole milk on its arrival." Later reports of C. E. Munsell, Ph. B., showed, from analysis, that this skimming amounted to from about 29 to 78 per cent. of the fat. Now, said Dr. Pooler, you can readily see that the mother receives this milk into her home as whole, pure milk, and dilutes it one-half to three-fourths. What then does the child have to live upon, when nature says that infants must have 3.38 per cent. of milk fat for their sustenance and development.

Up to 1883 there was no law in the State prohibiting the shipping and sale of skimmed milk; but the passage of such a law was then secured, and milk inspectors were placed upon the milk trains. Dr. Pooler told the Judiciary Committee of the Legislature that if they would pass the law, he would guarantee to reduce the mortality among young children in the city of New York at least three thousand, and he was able to keep his promise. In 1879 the mortality in children under five years was 12,777, or about 50 per cent. of the births of that year. This was before the milk adulterators carried on their work so extensively as afterward. In 1880, however, the mortality in this class increased to 14,650. and while from 1878 to 1879 it increased only 300, the increase in the number of deaths from 1879 to 1880 was 2,000. The mortality in 1881 was 17,737, an increase of 3,000 over 1880, and about 75 per cent. of the births. In 1882 the number of deaths was almost the same as in 1881; but if it had not been for the work that was done in the autumn of 1882, the mortality would have reached nearly 20,000; a close watch being then kept upon the dealers. In the winter of 1882 and 1883 the skimmed-milk bill was passed and enforced, and notwithstanding many discouraging circumstances the mortality was reduced from 17,737 in 1881, and 17,520 in 1882, to 13,856 in 1883, a reduction of some 4,000.

But, unfortunately, in 1884 the good work was interfered with by the politicians. Up to this time the labor performed had been almost all voluntary services. An appropriation was therefore asked from the Legislature; but while this was granted, a Dairy Commission was also appointed to take charge of it, and this commission was manipulated so as to form a part of the great political "machine." There were other political changes also, and the withdrawal of Professor Chandler from the head of the Metropolitan Health Department, an irreparable loss. Hence the mortality in children under five years increased from 13,865, in 1883, to 15,272 in 1884, an increase of nearly 2,000. Dr. Edson, of New York, and Dr. Bartley of Brooklyn, had, however, done all in their power, with the means at their command, to keep the evil in check, though the small force available for this service was quite inadequate to the demands upon them.

Dr. Pooler spoke next of the adulteration of milk through the cow, by feed and otherwise. The refuse of about nine thousand distilleries, breweries, and malt-houses in this country is nearly all sold to feed the cows that produce the milk upon which the infantile population principally subsists. The natural food of the cow is grass, either green or dried, and when she is fed exclusively upon it, her fresh milk is generally neutral in reaction. On the contrary, the milk of cows fed, either wholly or in part, upon food other than the natural is almost invariably acid. Dr. Mayer, of Berlin, found the following results: "Of cows fed with brewers' grains, red potatoes, rye bran, and wild hay, in five instances the milk was slightly sour, in one, very sour. Of forty cows fed with potato mash, barley husks and clover, and barley straw, in ten examined the milk was sour, in three very sour. From five cows fed by a cow-feeder on luke-warm bran-mash and hay, in four the fresh milk was quite neutral, in one it was decidedly alkaline."

All physicians know how easily affected infants are by acid milk, and Dr. J. Lewis Smith, in his work on diseases of children, says that milk used for children should always be alkaline. If it is acid, as shown by the proper test, it should be rejected. Dr. Hassal, in his standard work on "Food and its Adulterations," says: "As is well known, a very considerable number of the cows which supply London with milk, are kept in various confined and unhealthy places in the metropolis. Such cows are seldom turned out to grass; the system adopted being altogether artificial and unnatural. Brewer's grains and distiller's mash form much of their food. These stimulate the animals unnaturally, and under this stimulus larger quantities of milk of inferior quality are secreted. The cow quickly becomes worn out and diseased in consequence. It has been shown also by experiment that brewer's grains afford a most favorable soil for the development of the microbe of anthrax, and in 1879 an outbreak of this disease occurred in England, in a district which had previously been free from it, where it was found upon investigation that all of the cattle infected had been fed upon grains from one particular brewery.

The facts show that the action of brewer's grains is to impoverish the milk in its most essential constituent, and largely increase its most objectionable ingredient, caseine. When the fat is not equal to the normal amount, the milk forms a hard curd in its coagulation, which is known to the skimmed-milk cheese-makers as "hickory curd"; the formation of this being directly due to the abstraction of fat. It is the cheapness of the brewer's grains, together with the large amount of milk which the cows give when placed upon them that induces farmers to purchase this food. The proper food, wheat-middlings or wheat-bran, costs twenty dollars a ton, and will yield less milk (though of far better quality), than a ton of brewer's grains which costs only from four to six dollars. Dr. Pooler also spoke of the evils resulting from the transportation of milk from long distances. (Dr. Pooler was assisted by E. W. Martin, Ph. D., Chemist to the New York Board of Health, who projected upon a screen a number of fine micrographic illustrations).

In the discussion which followed the reading of the paper, Dr. A. N. Bell said that if he was correctly informed, milk from diseased cows not infrequently contains a large amount of fat, and that this was particularly the case with milk from animals suffering from rinderpest. We must be on our guard, therefore, against this source of danger also.

DR. ALFRED L. CARROLL, of New Brighton, Staten Island, read a paper on

LEPTO-MENINGITIS INFANTUM.

The clinical history and pathology of acute hydrocephalus, he said, are involved in considerable obscurity; the symptomatology varying, on the one hand, in cases having a similar morbid origin, or, on the other hand, closely corresponding in instances due to different kinds of lesions. It seems to be the general opinion that recovery from a meningeal attack in childhood precludes the idea of tubercular deposit; but whether non-mortal forms of acute hydrocephalus (not secondary to disease elsewhere) are always dependent on inflammation of the pia, or whether there may be other less serious pathogenetic factors, is a question still open to discussion.

Huguenin, in Ziemssen's Encyclopædia, affirms that cerebral hyperæmia is the exciting cause in all instances save those occurring in marasmic conditions supervening upon chronic digestive disorders; and in these, forced to admit an anæmic state of the brain, he assumes "partly a hydrocephalus *ex vacuo*, in consequence of the diminution of the brain, partly the result of the long-continued weakness of the circulation, with greater emptiness of the arteries than of the veins." In the former class of cases he intimates that we are forced to assume a true inflammatory process as the cause of the effusion into the ventricles, but at the same time states that it is impossible to say, during life, when the hyperæmia ceases and the inflammation begins. But in his description of the pathological anatomy it is admitted that the pia contains a moderate amount of blood, or is anæmic; no traces of arterial hyperæmia can be found. We are forced to assume that it disappeared at the moment of death.

J. Lewis Smith, describing tubercular and simple meningitis conjointly, speaks of the "inflammatory action" as usually confined to the pia mater, and includes purulent meningitis of the convexity apparently as a more intense form; adding that serous distension of the lateral ventricles is a common result in either variety of the disease. Vogel, on the contrary, asserts that acute hydrocephalus never occurs in combination with simple meningitis, but invariably supervenes upon tuberculous meningitis.

Other authors either deny a non-tubercular origin of acute hydrops of the ventricles, or, at all events, ignore the affection which Huguenin endeavors to differentiate; an affection of which well-defined examples are not unfrequently encountered, but wherein we are asked to "assume" an ante-mortem hyperæmia which suddenly changes to a post-mortem anæmia, and an inflammatory process which does not leave behind it the ordinary traces of inflammation.

As regards the first of these assumed phenomena, all pathological investigations tend to show that we are much more likely to be misled by a post-mortem fulness of the intra-cranial vessels where previous anæmia has existed than to fall into the opposite error. Long ago, the classical experiments of Kussmaul and Tenner (New Syd. Soc., Vol. V.), led them to the conviction that, "from the quantity of blood contained in the skull after death, it is seldom possible to draw certain conclusions with respect to the quantity contained during life"; and Moxon (Croonian Lect., on the Influence of the Circulation upon the Nervous System, 1881), states that, "no degree of redness or pinkness, or overfulness of blood about the brain or its membranes can prove that there was any morbid state of circulation within the head before the act of dying."

On the other hand, although the mere so-called "determination" of blood, caused by local irritation, may speedily pass away, the evidences of inflammation are usually regarded as persistent and unmistakably recognizable after death. And these evidences lie, not in simple fulness of the larger vessels, but in the crowding of the smaller ramifications with coherent corpuscles, even in an early stage of the inflammatory process, whilst in a more advanced condition exudation-products are discoverable. In inflammation of the pia of undoubted character, this membrane is lacerable and infiltrated; the arachnoid thickened and opaque; fibrinous exudation being marked. In the disease described by Huguenin, there is no effusion between the dura and pia, nor in the meshes of the latter, the outer surface of which is "usually remarkably dry"; there is no exudation at the base; the ependyma of the ventricles shows no change, macroscopic or microscopic. The only significant morbid appearance is a turgescence of the choroid plexuses, sometimes with punctiform extravasations. In brief, we have to deal with a disorder of which the pathological features are more or less rapid accumulation of fluid in the ventricles, with a specified morbid condition of the choroid plexuses; its clinical manifestations (by no means uniform), convulsions, unconsciousness, paralytic symptoms, and disturbances in the tract of the pneumogastric and splanchnic nerves.

The known causes of serous effusions are usually found in anæmic conditions, or in mechanical impediment to the return of venous blood. Thus, dropsies of different sorts are common in the hydræmia or "hypalbuminosis" of general anæmia; from malarial cachexia; from feebleness of circulation in dilatation of the left cardiac ventricle; from aortic insufficiency; from pericardial adhesions; or, on the other hand, from valvular insufficiencies in the right heart, or any intermediate cause of capillary and venous stagnation. Within the cranium, such stagnation is especially likely to concur with arterial anæmia, since, even allowing for the balance ordinarily maintained by the ebb and flow of the cerebro-spinal fluid, atmospheric pressure tends to retard the egress of venous blood. Moreover, the outlet from the choroid plexuses, through the venæ Galeni and straight sinus, has the additional obstacle of a rectangular diversion at the torcular Herophili. It has long been known that in animals bled to death the intra-cranial vessels may retain their contents after all the rest of the system is drained. Meningeal venous turgescence of this kind, "ex vacuo," is familiar as arising from atrophy of the brain, and in other conditions associated with arterial anæmia. Furthermore, the pia gradually diminishes in vascularity from the convexity toward the base, until, at the crura and pons, it is almost devoid of vessels. Finally, we have the authority of Nothnagel for doubting whether active hyperæmiæ can limit themselves to circumscribed regions of the brain; whilst localized ischæmia about the basal ganglia is a more probable event, originating in arterial spasm, reflected irritation, or insufficient cardiac action.

Having devoted considerable attention to the phenomena and mechanism of effusion into the ventricles, Dr. Carroll went on to say that as to the clinical phenomena of acute hydrocephalus, it is well known that convulsions are oftener due to cerebral anæmia, rapidly induced, than to any mechanical alteration of pressure upon the brain. Epilepsy is commonly conceded to be of anæmic origin, and Moxon has observed that in this disease the convulsive seizure is often preceded by a momentary arrest of the pulse.

Niemeyer affirms that "the so-called symptoms of pressure in apoplexy, tumors, the various forms of hydrocephalus, and other diseases encroaching on the intracranial space, are not immediately referable to the pressure on the brain substance, but to the consequent anæmia," and he farther points out the false interpretation usually given to increased pulsation of the carotids, which he defines as an essential consequence of cerebral anæmia.

Another common mistake is to regard the vascular appearance of the external surface of the head and face as indicative of the intra-cranial condition. In states of general anæmia, facial pallor and cerebral anæmia are twin results of the same cause; but when the blood is pumped up toward the head in due amount, a localized ischæmia within the skull is apt to divert an increased flow into the external carotid and those branches of the internal carotid which arise before its entrance into the cranial cavity.

It is extremely difficult to discriminate during life between this, so to speak, idiopathic leptomeningitis and other meningeal affections of childhood. In early infancy, and after exhausting disease, the secondary "hydrocephalus ex vacuo" is to be considered rather as a mode of dying from other complaints, and the past history of the case (oftenest one of protracted diarrhœa) will afford a clue to its nature. True meningitis, commonly affecting the lateral part of the convexity, arises by traumatism or extension from adjacent foci, as in internal otitis, caries of the cranial bones, mastoid inflammation, phlebitis sinum, etc., and although in most examples its diagnosis may be made with some confidence, it is well to know that not a few cases occur in which the symptoms simulate those of acute hydrocephalus.

Having briefly referred to his extensive post-mortem experience, which, he said, had induced him to believe that tubercular meningitis seldom if ever occurs except as a part of a more generalized deposit, and that the majority of the cases ascribed to this cause in death certificates, but not verified by necropsy, are really examples of Huguenin's leptomeningitis, Dr. Carroll summed up his argument by saying that he was convinced that a malady quite frequently occurring in childhood, and often erroneously reported as tubercular meningitis; characterized by serous distension of the ventricles, and variously described under the names of "simple meningitis," "leptomeningitis," and "acute hydrocephalus," but by most writers ascribed to hyperæmia and inflammation, is, on the contrary, essentially due to cerebral anæmia; that the principal and most significant morbid factor is a varicosity of the choroid plexuses, sometimes extending to those of the fourth ventricle, exerting Moxon's "stop-cock" action, perhaps, in many cases, and thus aggravating the arterial anæmia which gave it birth.

In conclusion, he submitted a microscopic preparation exhibiting the condition of venous and capillary stasis met with in these cases.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated meeting, October 18, 1886.

PRESIDENT'S ADDRESS.

On calling the Association to order, the President, Dr. Charles H. Leale, made a brief address on the resumption of the active work of the Society after the long summer vacation, concluding his remarks with a feeling allusion to the death of Professor Hamilton, which had occurred since the last meeting.

RESOLUTIONS ON THE DEATH OF DR. FRANK H. HAMILTON.

The Vice-President, Dr. John Shrady, offered the following resolutions, which were unanimously adopted:

Whereas, It has pleased the Almighty Disposer of Events to remove from the sphere of his usefulness our much-respected co-worker, Frank Hastings Hamilton, M.D., LL.D., and

Whereas, The New York County Medical Association desire to express a sense of their bereavement, in common with the many organizations with which he was connected; therefore, be it

Resolved, That the fulness of his days has been a record of a well-spent life; and that his work has adorned the surgical annals of America, borne his name beyond the borders of our hemisphere, and added to the solid contributions of medical literature.

Resolved, That as a scholar in his chosen science, he has won a place among the worthies of all tongues; and that he has conscientiously weighed all his statements, and given to the world the results of a ripe experience and a most painstaking discrimination.

Resolved, That his professional life has been gauged by the strictest regard to the right: that his loyalty, ever unimpeached, was never expended upon the unworthy, nor his unswerving rectitude ever challenged, even by the captious multitude.

Resolved, That the memory of his many virtues will ever linger with us, and that we tender to his family our sympathies, assuring them that his humanity, his sterling merit, and his valuable counsels have not been unappreciated by those who had the honor of association with him.

Dr. Frederic S. Dennis read a paper on

SOME POINTS OF SPECIAL INTEREST IN THE TREATMENT OF COMPOUND FRACTURES, INCLUDING A REPORT OF OVER FIVE HUNDRED CONSECUTIVE CASES.

He said that in compound fractures, while absolute cleanliness is essential, and extension necessary, the rule should be adopted that no fixation apparatus should be allowed to remain in position longer than eight days without an inspection of the parts. Otherwise, the result might not be satisfactory, and he gave some illustrative instances. The seat of fracture should be inspected at the end of eight days, and then at ten days, after which the dressing could be allowed to remain untouched as long as was required. He said he was more and more convinced, as time went on, of the great importance of the first dressing in compound fractures, and this should be made with the same care and attention to detail as in cases of resection of bones or laparotomy. The treatment consisted, first, of securing perfect asepticism; and second, of the application of an appropriate plaster-of-Paris support. For some time past he had instructed the ambulance surgeons in his service at the 99th Street Reception Hospital, to make antiseptic irrigations, and apply antiseptic dressings in all cases of compound fractures before lifting the patient into the ambulance, and the results thus secured had been extremely satisfactory.

Dr. Dennis then went on to call attention to a number of points which had especially interested him in connection with the treatment of this class of fractures. The first of these was

(1) *Meningeal Hæmorrhage.* In cases of fracture of the skull, when this occurred, it had hitherto been the common practice among surgeons to ligate either the common or the external carotid artery. In a number of instances, however, he had been successful in controlling the hæmorrhage without resorting to this procedure. In the first of these cases that he referred to, he removed the bone to the extent of about six inches, and endeavored to grasp the middle meningeal artery with the forceps. On account of the receding of the dura mater, however, he was unable to accomplish this until he ran a tenaculum through the dura, and then brought it out in such a way as to include and raise the lacerated and bleeding vessel with it. By this means, he was enabled to apply the artery forceps and perform the ligation with facility. This procedure might, perhaps, be regarded as quite bold, but the results showed that it had accomplished a great saving of life, when the former statistics were brought into comparison. In connection with this point, Dr. Dennis presented some specimens, showing that a meningeal hæmorrhage might be produced by *contre-coup*.

(2) *Fat Embolism.* Having mentioned that the attention of the profession was first called to this condition by Wagner and Zenker, he gave a *résumé* of the researches of various authors concerning it. While fat embolism was usually fatal in connection with fatty liver or tuberculosis, it was usually by no means so serious a complication when met with in compound fractures. He briefly described the symptoms, which, in general, resembled those of secondary shock, and a prominent feature of which was the frequent occurrence of Cheyne-Stokes respiration. In several cases he had found an abundance of fat globules in the urine. Fat embolism was said to be more frequent in the aged than in younger subjects. Having pointed out the differential diagnosis between this condition — secondary shock and pulmonary embolism — and stated that one of the principal points in this was the matter of time (fat embolism always occurring within three days), he spoke of the treatment. This consisted in the administration of ether, on theoretical grounds, for the purpose of dissolving the fat, and of appropriate stimulants. Dr. Dennis said that he had now under treatment in Bellevue Hospital a case of fat embolism, which had occurred in connection with a simple fracture of the fibula. Two days after the accident, the patient was suddenly seized with great dyspnœa and depression, and the temperature ran up to 104°, while the urine was found loaded with fat globules. Under the administration of Hoffman's anodyne and carbonate of ammonia, the patient became relieved, and her condition was now favorable.

(3) *Insanity following fracture.* While insanity was sometimes undoubtedly due to traumatism, it was usually a difficult thing to trace it to a fracture of the skull. He had, however, seen some such cases. In one of these, the patient, he was informed, was now hopelessly insane. In another, idiocy and imbecility resulted. In one in which constant severe headache, accompanied by more or less mental aberration, followed such a fracture, he trephined the skull, and the patient was cured. In three cases of traumatic epilepsy, in which there was more or less disturbance of the mind, he also effected a cure by trephining. He expressed the positive conviction, however, that in epilepsy there is little to be expected from trephining except in cases where there was well-marked depression. Having referred to a number of successful cases from trephining performed by other surgeons, he spoke of the importance of always raising a depression of the skull as soon as possible after the reception of the injury, whether there are any symptoms due to the depression present or not. By such a procedure the patient might be saved from becoming insane in the future.

(4) *Malignant disease.* Dr. Goss had pointed out that about one-half of all the cases of malignant bone-disease could be traced to traumatism, and Dr. Dennis said that he had been able, in quite an extended experience, to verify the correctness of this view; although it was not often easy to trace such disease to fractures. Sarcoma was the variety of malignant growth that usually resulted from traumatism. Epithelioma might also develope indirectly; but this almost always arose in connection with a sinus leading down to the bone. When malignant disease occurred, he advised early

amputation, and in illustration he referred to a case of sarcoma of the femur which was sent to him by Dr. Robb. The patient refused to submit to amputation until the growth had become very extensive, and he did not survive the operation. The specimen was exhibited and showed an enormous growth of the malignant disease.

(5) *Tenotomy.* Two years ago he said he had called attention to the value of tenotomy, in many instances of compound fracture, and since then he had met with a considerable number of cases which had further confirmed him in this opinion. While it was of great utility in all oblique cases in which there was difficulty in reduction, it was of no avail in vertical fractures. He had practised it not only on the tendo achillis, but also on the hamstrings and the tendons of the arm and forearm.

(6) *Healing by Schede's method.* Fluid blood and blood-clots, he said, if perfectly aseptic, were undoubtedly valuable aids to hastening and perfecting repair by primary union; but if rigid antisepsis was not carried out, they might be a source of very great danger. This was no doubt the reason why this method had not been adopted earlier; as it was only since the days of antiseptics that it had become practicable.

(7) *Amputation.* Formerly, amputation was resorted to in a great majority of all compound fractures admitted to large hospitals, as this was necessary in order to prevent blood-poisoning. In Bellevue it was resorted to in every serious case; and a fracture into the ankle or knee-joint was regarded as affording a certain indication for amputation. But now the case was entirely different; and the loss of a few inches of the shaft of a bone, (although there might be some permanent shortening), did not justify amputation. The limits for this were now exceedingly narrow and contracted; and this fact he considered one of the greatest advances in modern surgery. When amputation was found to be necessary, it was proper to defer the operation for several days in cases where great shock was present; while formerly this would not have been possible without subjecting the patient to the greatest possible risk. It was important, however, in such cases, that no dressing should be applied or compression made above the seat of injury, on account of the danger of inducing dry gangrene.

Dr. Dennis next proceeded to present an analysis of his cases, which were 516 in number. Of these, 107 were fractures of the skull, and of the latter 47 proved fatal. 39 of the patients died, however, within the first 48 hours. The special circumstances attending the death of the remaining 8 were referred to singly. There were 15 cases of fracture of the arm; of which 14 recovered, and 1 died. The latter was a severe case of railway injury, and death ensued within 48 hours. 23 were cases of fracture of the fore-arm, of which 22 recovered, and 1 died. This death occurred within 24 hours. 53 cases of fracture of the thigh; of which 48 recovered, and 5 died. All the deaths occurred within 48 hours. 150 were cases of fracture of the leg. Of these. 15 cases required amputation. This left 135 cases; of which 122 recovered. Of the remaining 10, 2 were transferred from the hospital at the request of the patients, immediately after their reception, and the 8 others died; all of them within 48 hours. 37 were fractures of the hands and feet, and these were all accompanied by much damage to the soft parts. One case died from other injuries, and the rest all recovered. 23 were fractures of the shoulder, elbow and wrist, and all recovered. Of fractures of the hip, knee and ankle, there were 40 cases; 4 of which required amputation, and 3 of which proved fatal. In none of the latter was septicæmia the cause of death. 24 were fractures of the carpal, metacarpal, tarsal, and metatarsal bones, and all recovered. 28 were fractures of the upper and lower jaws, and these also all recovered. 13 were fractures of the ribs and nasal bones, and 1 of them died, within 36 hours. In addition, there was 1 case of fracture of the ilium, and 2 of the malar bones; all 3 of which recovered.

In the 516 cases, there were thus: 59 deaths, 19 cases requiring amputations, and 2 cases in which, owing to removal from the hospital, the result was unknown. Of the 59 fatal cases, 49 died within the first forty-eight hours, or during the period of shock, and, therefore, before any plan of treatment could be adopted. Of the remaining 10, one died of tubercular meningitis (the autopsy showed that there was no septic trouble); one died of uræmic poisoning from Bright's disease; and of the others only two could be attributed to septic infection of the wound. One of these patients, who had compound fracture of the skull, died fifty-three hours after trephining, and the other was a man over sixty years of age, whose foot was very badly crushed.

Dr. Dennis then quoted some of the statistics of compound fractures, gathered from the best authorities, before the introduction of antiseptics. According to Norris, at the Pennsylvania Hospital from 1839 to 1851, there were treated 116 cases of compound fractures of the leg and thigh (excluding those in which amputation was resorted to), with 51 deaths, or a mortality of 44 per cent. In the New York Hospital, about the same period, there were 126 cases, with 61 deaths, or a mortality of 48 per cent. In the German hospitals, a decade later, the mortality was 31 per cent., while in St. Petersburg it was no less than 68 per cent. In Guy's Hospital, London, from 1841 to 1861, the mortality was 26 per cent. According to the most reliable tables, therefore, the number of deaths was from 26 to 68 per cent.

After the introduction of antiseptics there was a wonderful difference. The death-rate fell from 68 to 4 per cent. In Bellevue Hospital, among 224 cases of compound fractures of the extremities (exclusive of amputations) such as the other statistics were based upon, there were but 11 deaths, or a little over 4 per cent. Now, taking Dr. Dennis's cases, there was not a single instance among the fractures of the extremities of death, from septipyæmia. Pyæmia and septicæmia could, therefore, be said to have been eliminated as a cause of death in these cases. This great result was due to the science of bacteriology, and for such a triumph the profession was indebted to Sir Joseph Lister, whose name could never be dissociated from the march and progress of surgery.

Dr. F. Van Fleet exhibited the specimens from, and made some remarks upon a case of

ABSCESS OF THE BRAIN FROM SUPPURATIVE OTITIS.

The chief point of interest was that if the ear-trouble had been properly attended to in the beginning, the abscess, which was located in the left hemisphere of the cerebellum, would probably not have developed, and the child's life thus been needlessly sacrificed.

AMERICAN ACADEMY OF MEDICINE.

ANNUAL MEETING AT PITTSBURGH, OCTOBER 12TH AND 13TH, 1886.

THE annual meeting of the American Academy of Medicine was held in Pittsburgh, Penn., on Tuesday and Wednesday, the 12th and 13th of October, three sessions being held on the first and one on the second day.

This Association has for its principal objects the elevation of the standard of medical education, and the persuading of young men who propose studying medicine to prepare themselves by a full collegiate course. The membership is substantially limited to those doctors of medicine who have earned a degree in arts or science. Last year a number of amendments to the constitution were offered, all looking to an enlargement of the membership by accepting those who are not A.B.'s, but have distinguished themselves in the profession, and much of the interest of this year's meeting centred about these propositions, which, under the usual rule, had been lying over for a twelvemonth. The action of the Society, however, showed that there is at present no considerable desire to alter the conditions of fellowship, for all the proposed amendments were laid on the table till next year, when they will be again discussed. There is no disposition in the Academy to attempt to establish in the profession an aristocracy based upon the circumstance of early advantages, but it is thought wise to enlist the sympathies of a much larger number of college-bred men before endeavoring to make the membership general.

Most of the papers presented were on topics within the special scope of the Academy's work, but several strictly scientific articles were read.

DR. RICHARD J. DUNGLISON, of Philadelphia, made a report on the present working of laws regulating medical practice. The various States furnished their contributions to the material of this paper, which showed clearly the formal attitude of the people in different parts of the country towards the profession. The influence of legislation in one State upon the physicians of neighboring States was strikingly portrayed, as, for instance, where the stringent law of Illinois results in the flooding of surrounding commonwealths with the charlatans which flee from the wrath of Rauch. The report was so full of details as to forbid anything like a brief abstract, and must be read in full to be appreciated.

DR. FREDERIC H. GERRISH, of Portland, read a paper on the best equipment for medical study. The Academy advises a collegiate course, but the curriculum varies so widely in different institutions that it is desirable that the studies best adapted to the preparation for medical study should be pointed out in order that a selection may be made, as is possible in so many of the colleges of to-day. The essayist advocated the study of English, Latin, French and German, mathematics, physics, chemistry, botany, zoölogy and logic. He insisted that these branches should be pursued in a thoroughly practical way; for example, the student should learn to speak the modern languages, and should study the physical sciences in the laboratory, and not merely from the text-book. The analysis of chemical substances and of botanical specimens was considered a peculiarly good training of the mind in the direction of diagnosis by exclusion, the only safe method of determining the character of a disease.

DR. R. LOWRY SIBBET, of Carlisle, Pa., read a paper on the two standards, literary and medical, advocating the necessity of a degree in arts and a degree in medicine, as the only presumptive evidence of entire qualification for medical practice.

DR. L. P. BUSH, of Wilmington, Del., made a strong argument on the advantages of a classical education to the medical student and the physician. The discipline resulting from such training was claimed to prepare the mind particularly well for the pursuit of medical study. The thought was developed in a graceful and attractive style, which won the admiration of all.

DR. PHINEAS S. CONNER, of Cincinnati, presented an essay on the medical service of the United States Pension Bureau. While admission to the medical department of the army and navy is possible only after an examination far more severe than that which is required in any medical college in the country, and the Marine Hospital Service exercises similar care in the selection of its surgeons, the medical work of the Pension Bureau is committed to hundreds of physicians all over the country, whose appointments are strictly political, and whose professional qualifications are made the subject of no particular investigation. And yet these men have to deal with many times more cases of disease and injury than do the surgeons of army, navy, and marine hospitals together, and these cases are of a character to demand the most profound learning, the widest experience and the greatest acumen. Dr. Conner proposed the establishment of a medical corps of highly educated men, limited in number, which should devote itself entirely to pension work.

DR. VIRGIL P. GIBNEY, of New York, read a paper on the management of tubercular spondylitis, and Dr. J. Cheston Morris, of Philadelphia, reported an extraordinary case of prolonged gestation. Other papers by gentlemen who were not present were read by the secretary.

DR. R. S. SUTTON, the president of the Academy, in his address, deplored the existence of the great quantity of medical schools, and the low standard which they maintain. The character of the profession is continually lowered by the introduction of hordes of half-educated men. He advocated the requirement of a knowledge of the classics, as enlarging the vocabulary, training the memory and reason, cultivating the habit of close observation. The modern languages are essential to an advanced physician, and mathematics and mental and moral philosophy are elements in his outfit. The benefits of the physical sciences are obvious. The insufficiency of the usual professional equipment was pointed out, and greater strictness demanded of the medical schools. He believed that legislation only could remedy these evils. The teaching and licensing bodies should be separated, and the authority of the latter be derived from the State.

The following officers were elected for the ensuing year: Dr. L. P. Bush, Wilmington, Del., president; Drs. R. L. Sibbet, Carlisle, Pa., S. J. Jones, Chicago, P. S. Conner, Cincinnati, and V. P. Gibney, New York, vice presidents; Dr. R. J. Dunglison, Philadelphia, secretary and treasurer. The next annual meeting will be held in September, 1887, in the city of Washington.

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AUTO-INTOXICATIONS.

In a previous issue of the Journal, we have referred to the experiments of Panum, Gautier, and others showing the development under certain conditions of alkaloids known as ptomaines and leucomaines, from decomposing animal structures and from certain fluids in the living animal, which alkaloids have a most intensely poisonous action when introduced into the animal economy. The practical bearing of these facts is obvious.

A further contribution to this subject, dealing more particularly with the clinical side of it, was made at the last International Medical Congress at Copenhagen, the official report of which has just been received. Professor R. Lépine, of Lyons, read the paper, in which he discussed two sources of possible auto-intoxication, the one by absorption from the digestive canal, the other from the secretions, particularly renal, in acute diseases. This two-fold source of infection had already been pointed out by Professor Bouchard. Among the cases cited by M. Lépine of probable absorption from the intestinal canal, is one in which a patient, operated upon by Professor Mollière for strangulated hernia, and having an artificial anus in the right inguinal region, developed after five months a sudden delirium with general scarlatiniform eruption, dilated pupils and rapid pulse. The interne diagnosticated the case as scarlatina but this diagnosis was rejected, as there was no elevation of internal temperature and no angina. Atropia poisoning was suspected, but careful inquiry excluded that possibility. It was finally considered to be a case of septic absorption from the intestine. It is worthy of note that atropia rather than muscarine (as in the observation of Gautier), was the drug whose action the intestinal poison simulated. This somewhat bold diagnosis was confirmed by M. Mollière at the autopsy, when the segment of the intestine below the artificial anus, namely, the ascending colon, was found to contain a quantity of stagnated matter, apparently originally a mucous secretion, which had become intensely fetid. Other similar cases are given where the intestinal contents had been long retained, giving rise to attacks of high pulse, with normal temperature, profuse sweating, polymorphic cutaneous eruption, etc. One of the patients, a physician, had complained previous to his septic attack of a fæcal taste in his mouth.

In the case of acute diseases, the evidence presented by M. Pinard is necessarily largely physiological. The ethereal extracts made from the urine of typhoid and pneumonia patients, containing only a small part of the alkaloid which more complicated chemical processes would have removed, were deprived of all those normal constituents that might have an effect in obscuring the action of the alkaloids. Special precautions were also taken against the introduction in connection with the chemical processes employed of any substance which could produce toxic effects. The total urine of twenty-four hours from a pneumonic patient yielded even to the crude process of agitation with ether, enough of an alkaloid to kill five frogs. In a case of pneumonia the urine taken just before the crisis of the disease gave toxic alkaloids which could not be obtained two days later, after the defervescence had been established. The frogs which were killed by the injection of the alkaloid from a pneumonic patient, had acceleration of the heart action and that organ was found post-mortem in systole; while the frogs inoculated from typhoidal urine had slowing of the heart, which finally stopped in diastole. This might be taken in confirmation of the clinical observation that in pneumonia the pulse is more rapid proportionally to the temperature than in typhoid; but unfortunately there seems to be some doubt as to whether the dose of the alkaloid administered from the two kinds of urine was the same.

The conclusions reached provisionally by M. Lépine are:

(1) That the extract from two hundred cc. of febrile urine, deprived almost wholly of salts, are capable, if injected into a small mammal, of causing death in a few hours, which effect will not be produced by the extract from the same quantity of normal urine.

(2) There is no correlation between the toxic power of the extract (deprived of salts) from a given quantity of urine and the proportion of urea which that urine contains. In other words, the toxic organic matters are not proportionate to the urea. Anæmic patients, having a diminution in the excretion of urea, were found to have urine that was particularly toxic.

(3) There is a certain correlation between the toxic power of the alkaloids contained in the urine and that of the urinary extract deprived of salts. Thus, in the pneumonia patient, the urine, before defervescence, contained a toxic alkaloid and also gave a very poisonous extract, while, two days later, the crisis having passed, there was no alkaloid discoverable, and the extract was much less poisonous. Yet the density of the two urines was the same.

(4) There is sometimes a correlation between the gravity of the disease and the toxic power of the urinary extract, but this correlation is by no means constant.

(5) Finally, it seems clear to the author that certain urines contain poisonous organic principles which may be supposed to have an influence upon the morbid phenomena of the diseases which they accompany; this view is confirmed by the facts observed as to auto-infection from the intestinal canal.

In the discussion which followed this paper, Dr. Stadelmann, of Königsburg, spoke of the evidence of auto-infection in certain forms of diabetes mellitus, leading to diabetic coma, which, in its complex of symptoms, corresponded closely with the complex of symptoms induced in the herbivora by poisoning with acid injections. The formation of acid and its elimination through the urine was found by Stadelmann to be much greater than normal during diabetic coma, and he ascribed the symptoms to the seizure of the acid upon the fixed alkalies of the blood. Hence follows, according to him, the indication for treatment in diabetic coma, namely, the intravenous injection of alkalies (carbonate of soda).

Professor Edelson, of Kiel, spoke of the evidence of auto-infection from the intestinal canal, and referred to the experiments of Panum in which the injection into animals of toxic alkaloids from the bowels had induced the symptoms of excessive drowsiness, which symptoms he had himself noticed clinically in cases of obstipation. He therefore believed that one of these alkaloids had poisonous properties resembling those of morphine.

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HYPNOTISM AS A PHASE OF THE MIND-CURE.

It cannot be as yet claimed that hypnotism has won for itself a definite and well-recognized place in the domain of therapeutics, or that it is always possible to separate the fraudulent from the genuine in the performances of the professional adept. The phenomena of so-called "mesmerism" and "animal magnetism" have too long been the *jeu d' esprit* of the unscrupulous charlatan, and there is connected therewith too great an accretion of the apocryphal, to seriously attract the attention of many physicians who are mainly solicitous for positive methods in theory and practice. In fact, the reality of the phenomena has been repeatedly called in question by critics who, however, may have pronounced judgment from too limited a stand-point of observation.

However this may be, it is certain that among some continental physicians hypnotism is attracting increased attention as a remedial agent, and not only the reality of the phenomena, but the marked benefit sometimes derivable from the new system of *psychotherapy* (so-called by its advocates) have been recognized by such different men as Chemnitz and Weinhold, Ruhlmann and Opitz, Heidenhain, Grutzner, Berger, Preyer, Fischer and Wiebe, and Czermak, of Germany; Lombroso and Giovanni in Italy; Charcot, Auguste Voisin, Charles Richet, Liebeault, Bernheim, the late Professor Lasègue, Pitres, Beaunis, Bottey, Prospère Despine and others, in France.

The literature of hypnotism is now quite extensive; besides numerous review and magazine articles, several quite portly volumes have appeared within the last five years, the most important of which is the work of Professor Bernheim, of Nancy, entitled: "De la Suggestion et de ses Applications à la Thérapeutique," and published the present year by O. Doin.

As for the meaning and scope of hypnotism, the scientific men who now stand as its representatives do not claim that there is anything in the phenomena which they have observed, which is contrary to the physiological and psychological conceptions which science has established in our time. Bernheim, who scouts the pretensions of those who would make of hypnotism a prop of spiritism, declares that "of marvels such as 'second sight,' prevision of the future, 'mind reading,' vision at a distance or through opaque objects, transposition of the senses, clairvoyant insight into physical states and remedial indications, I have seen nothing and know nothing." Equally do they scout the idea that "the phenomena determined in the hypnotic state are due to a magnetic fluid, or some sort of emanation going from one organism to another." This was the old view, which was effectually exploded by Braid in 1841, who taught that the hypnotic condition and the phenomena associated therewith, are purely of a subjective order, being dependent on the nervous states of the subject himself. What most strikes an ordinary observer is the automatism of the hypnotized subject who is for the time (to use Dr. Carpenter's simile) a mere puppet, moved by leading strings in the hands of the operator. It is by *suggestion* that the latter manipulates his subject, and this is now the favorite word to designate the phenomena in question. The hypnotized individual illustrates then only the ordinary laws of the nervous system; with the cerebral voluntary activity and consciousness dormant, he is much in the condition of the decapitated frog, says Prospère Despine.

As for the number of persons in any community amenable to the hypnotic influence, the proportion, according to the statistics of Liebeault, is about fifteen per cent. Bernheim finds the proportion much larger. "I have been able by my researches to assure myself," he says, "that refractory subjects constitute the great minority." It is interesting in this connection to note that Bernheim finds the best subjects to be those who have all their life long been accustomed to implicit obedience to their superiors, such as soldiers, day laborers, and nuns. Yung adds that hysterical persons are most susceptible to the "magnetic influence."

Hypnotism is a state in which the subject is completely under the control of the person who has induced the somnambulism. It might be inferred then that this power might be abused for criminal purposes by unscrupulous experts. Bernheim, however, who has devoted a chapter to this subject, has been able to find only one or two well attested cases of the kind. On the other hand, we occasionally read pleasing reports in foreign journals of this singular power being turned to praiseworthy ethical account, the hypnotizer "suggesting" to his patient who it may be, is lewd, ideas of chastity, to the untruthful, ideas of truth, to the selfish, ideas of altruism, etc.[1]

But it is as a remedial agent for the cure of physical disease that hypnotism as such, need be especially deserving of the attention of physicians, and if the new psychotherapy be what it is claimed to be by certain continental authorities, it might prove an acquisition to the resources of the practitioner. The professional hypnotizer claims largely to control the sensorial states of his patient as well as the cerebral springs of motion, and he tells the man suffering from lumbago, pleurodynia, migraine, etc.: "Your pain is all gone." If we may trust our authorities, above quoted, that assurance often proves to be the actual truth, the dynamic states which caused the painful sensation disappearing under the powerful stimulus imparted by the medical hypnotizer. Is the patient suffering from paralysis of a certain kind? the suggestion that he can move his arm or his leg will often arouse to activity the dormant nervous motor mechanism.

The following, among other cases reported by Bernheim, were benefited. in a marked manner by hypnotism:

(1) Post hemiplegic bilateral trembling, with hemianæsthesia and contractures of the left extremities, due to central softening; these symptoms, which were proved by the autopsy to be dynamic, that is, the effect of a reflex cerebral irritation, and not of descending degeneration, were alleviated and kept in abeyance by hypnotic "suggestion."

(2) Hysterical hemianæsthesia; complete return of sensibility after one hypnotic séance.

(3) Hysteriform crisis with hysterical somnambulism. Rapid cure from hypnotism.

(4) Hysteria. Incomplete paraplegia, with anæsthesia of the legs. Restoration of the sensibility in one séance, of the motility in six séances.

(5) Hysterical aphonia, of two months' duration, cure by hypnotic suggestion.

(6) Nervous aphonia, lasting a month: cured by "simple affirmation."

(7) Gastric troubles of a nervous character. Anæsthesia of the limbs. Rapid disappearance of the anæsthesia by "suggestion." Temporary amelioration of the gastric troubles.

(8) Symptoms of multilocular sclerosis; notable amelioration and arrest for six months of the affection by hypnotism.

(9) Diffuse rheumatic myelitis. Marked amelioration by repeated "suggestion."

(10) Rheumatic and nervous "girdling" pains, and pains in the lower extremities for twenty months, making it impossible for the patient to walk. Cure by hypnotic "suggestion."

(11) Neuropathic insomnia, want of appetite, trembling, melancholy; cure by "suggestion."

(12) Partial chorea (confined to one arm); cure by hypnotism.

(13) Choreic movements of the hands, difficulty in writing; cured by "suggestion."

(14) Writers' cramp; cured by hypnotism.

(15) Nocturnal incontinence of urine; cured by hypnotism.

(16) Hysterical paraplegia; cured by hypnotism.

(17) Epigastralgia; cured by one séance.

(18) Intercostal neuralgia; cured by "suggestion."

(19) Rheumatic paralysis of the forearm and hand. Restoration under hypnotism.

(20) Old rheumatic arthritis of shoulder. Marked amelioration under hypnotism.

(21) Muscular rheumatism with cramps; cured by hypnotism.

(22) Rheumatic ileo-lumbar neuralgia; cured by hypnotism.

(23) Arthralgia consecutive to arthritis; cured by hypnotism.

(24) Pleurodynia; cured by "suggestion."

(25) Chronic articular rheumatism (of ankles); cured by hypnotism.

In summing up and classifying the different cases, Bernheim finds that of those treated by hypnotism and deriving benefit from it, 7 were suffering from organic affections of the nervous system, 9 were cases of pure hysteria, 12 were neuropathic, 11 were neuroses, (chorea, hemichorea, writers' cramp, etc.), 3 were cases of "paresis and dynamic paralysis," 4 were gastro-intestinal affections, 11 were classified as "divers pains," and 14 were rheumatic affections.

As to the question whether hypnotism is dangerous to those on whom it is practised, Bernheim replies, *no, if properly managed.* It disturbs none of the functions of organic life, and its effects on the cerebral innervation (especially in disordered states) are calmative. As a remedy against insomnia, it is almost unrivalled. It is worthy of note that Yung[2] and Barthe[3] take a different view, regarding hypnotism, whether induced by a second person, or *self-induced* (trance-mediumship, clairvoyance), as more or less hurtful to the nervous system of the subjects, enfeebling the control of the will, and fostering a credulous, spiritless and superstitious habit of mind. Hypnotism exalts the automatic at the expense of the rational and voluntary powers.

With regard to the alleged triumphs of "suggestion" in the department of healing, it should be mentioned that similar results have been placed on record by Charles Richet, Liebeault, Paul Richer and others in Paris, by Creutzfeld, Berger and Fischer, in Germany, and he would be a hardy man who would hastily gainsay such an accumulating mass of testimony.

Not the least interesting portion of M. Bernheim's book to which we have referred, is the chapter in which he correlates hypnotic therapeutics with mind or faith cure, and the miracles of healing performed in all ages, and attempts to show that all come under the same general law, and are susceptible of a similar explanation. As Braid overthrew the transcendental pretensions of the mesmerizers by substituting for their occult forces, forces that could be brought under scientific cognizance and control, so the progress of physiological inquiry has made plain the essential unity of the phenomena of *induced* and those of *natural* somnambulism, while certain morbid states, as hysterical catalepsy and coma, find their counterpart in occasional conditions of the hypnotized subject. It is, moreover, no longer doubtful that if the "faith healer," or modern "Christian scientist" has now and then, in some deluded but devoted subject, awakened dormant powers into activity, it is by a mechanism precisely like that which our French psycho-therapists call "suggestion in the waking state."

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[1] See the report of Henrot and Voisin at the recent meeting of the French Association for the Advancement of Sciences. Voisin's patient was a female, "debauched, coarse and lazy." During the mesmeric sleep (which he kept up for ten or twelve hours a day), he improved the opportunity to suggest to the patient ideas of obedience, of submission, of decency, and he exhorted her to useful labor. "A complete transformation was effected in several months!"

[2] Du Sommeil Normal, et du Sommeil Pathologique, Paris, 1884.

[3] Le Sommeil Non-Naturel, Paris, 1886.

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DEATH BY A DRUGGIST'S ERROR.

The fatal mistake of a Haverhill druggist, whereby eighty-eight grains of podophyllin were put up for one dose for a young woman, the sign *ss*, representing half a grain, being mistaken for eighty-eight, the mistake resulting in the death of the young woman, illustrates the folly of allowing young clerks with no preliminary study or preparation to undertake the responsibility of dispensing drugs.

Were the law whereby apothecaries are authorized to dispense medicines as stringent as it ought to be, or were there, in fact, any State Statute whereby a man with no fitness for the place is forbidden to sell powerful drugs (and in all foreign countries such protection is given the public, ignorant and incompetent men being excluded from the druggist's office), such mistakes would seldom or never occur. A very superficial knowledge of materia medica would have indicated to the dispensing apothecary that eighty-eight grains of podophyllin was a dose that it would be impossible for a physician to prescribe.

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MEDICAL NOTES.

— The following application for a pension is copied from the records of a United States pension bureau in a Western city. Readers will kindly excuse its early English for the sake of its anatomical curiosities, and the light it throws upon the temptations to which examiners for pensions are subjected.

I do her by swar before god that i was shot betwixt my leggs and mi rite legg an in my hed; it went in to me rite in the middle an ripped me all to thunder, it cut of one of my strings and dropped one of my kasters in the bottom of the sak an there hit as been ever since, and mi wife says it is a dam shame, case it is sorter nocked me up on the family biz. but hant a mindin that air much; hits the bustin the damed ball done me behind, as i hats (hates) for it kom out rite in the cheek of mi as an left a big skar an it hurts when I set down that is what i want a pension for it is; I hant no dimikrat, nor i want shot in the as like some of these pizen dimikrats bout these parts say i was; i gott that facing the rebs i did an i was treated by a temprey hospital surgen named tod in a temprey hospital on the bank of tenese river in temprey camp; camp by the border of chatanoga tense; now ginthemens i want a pension, and if you dont give me one i'l be g–d d–m if i vote for any of your crowd agin;

fraterally yours til deth, B.

BOSTON.

— Dr. J. S. F. Bush met with a serious accident last week. He was thrown from his carriage, his horse running away, and one knee-joint was laid open, the patella being almost torn off.

— Dr. James R. Chadwick, who was delegated to represent Harvard University at the recent festivities at Heidelberg, tells a story of the "republican austerity" which he was supposed to illustrate. For while other delegates presented their credentials emblazoned upon parchment, and enclosed in cases of velvet and gilt, all that he had to offer was an informal note, written on a half-sheet of paper by President Eliot, and bearing date at his summer residence at Mt. Desert. — *Harper's Weekly.*

Dr. Chadwick's credentials, we believe, were mailed at Mount Desert, but bore date at Cambridge.

NEW YORK.

— The tenth annual commencement of the Training School for Nurses of the Charity and Maternity Hospitals, on Blackwell's Island, took place on the 26th of October, in the chapel of Charity Hospital. Dr. Henry Goldthwaite presented diplomas to a graduating class of twenty-four, and Commissioner Brennan gave each member of the class a nurse's pocket-case.

— A somewhat sudden and serious outbreak of small-pox, the origin of which has not yet been traced by the authorities, has occurred in Brooklyn, and Health Commissioner Otterson has appointed six sanitary inspectors on special vaccination service. An extra force of men has also been assigned to duty on the fumigating corps.

— Measles has become quite prevalent in New York. During the week ending October 30, there were reported 162 cases. During that ending October 9, the number was 55; October 16, 95; and October 23, 108. 420 cases have been reported during the past four weeks, but the mortality has been low, only 37 deaths having occurred from the disease. Most of the cases have been in charitable institutions.

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Miscellany.

GREAT WITS AND MADNESS.

The Journal has already, in a previous volume, referred to the marked strain of madness in the family of Victor Hugo, who had, on the maternal side, a mad uncle and mad cousins, whose brother Eugene died in a mad-house, and whose only surviving daughter, Adele, has been for years in confinement. A Paris letter says: "A controversy is now going on in the scientific world on the conditions under which genius is produced. Senator Naquet, and Drs. Marechal, Jacopy, and Bull say that it is a neurosis, and that most great men have had mad or epileptic ancestors or descendants, or been themselves attacked with epilepsy, or been, in some respects, on the very brink of lunacy. Cæsar and Peter the Great had falling sickness. Napoleon was subject to long fits of fainting that resembled catalepsy. Newton had also a disordered nervous system. Byron's mother was a raging, irresponsible termagant, and father no better. Isabella the Catholic, who was certainly a woman of genius, had a mad uncle, a mad brother, and mad daughter, the ancestor of all the Spanish and Austrian Hapsburgs. Her (Isabella's) grandson, Charles V, also a man of prodigious political genius, was epileptic, and the progenitor of a line which ended in idiocy. Pascal had fits and hallucinations. Luther also had the latter, and thought he saw the devil in person coming to tempt him. William the Conqueror was the son of Robert the Devil, who must have had, to judge from the legend which has been handed down, a nervous system that ran riot. According to the new theory, genius, like the orchard pear or apple tree, or the double rose, or dahlia, is abnormal, and except in an intellectual sense, sterile. Thus Dante (a hypochondriac), Michael Angelo, Raphael, Shakespeare, Cowper, Wordsworth, Byron, Scott, and De Quincy either left no posterity, or families that soon died out. That of Victor Hugo is not apparently destined to live long."

SIR SPENCER WELLS ON THE OCCUPATIONS OF WOMEN AND OVER-PRESSURE.

In his inaugural address before the Sanitary Congress, recently held at York, England, Sir Spencer Wells spoke on the above subject as follows, according to the report in the *Lancet*. "So far as concerns the mental and physical training of children, and giving women the option of other occupations than those of domestic life, I see no great cause for alarm. It is an age in which education — at any rate for the middle classes — must be pushed far beyond the limits which our fathers thought wide enough for us. Mere rule-of-thumb work is almost out of date, and there are so many industries in which scientific knowledge and exactness are requisite, that the want of early education cuts off a young man's chances of advancement. To engage in most of the recent applications of steam power, electricity, magnetism, and chemistry — to be available in carrying out the complexities of engineering science — a workman must be something more than a mere machine. He must have head as well as hands — brain as well as muscle; and as uneducated brains are not worth more in the labor market than untrained muscle, we must be content to make some sacrifice in the culture. While we pity the few who fall in the struggle, we must remember that there is no chance for those who stand still. As for the outcry about the dangers from women taking up men's work, it is breath wasted. A great many failures will outweigh a few successes and bring the balance right. For my own part, I think women capable of a great deal more than they have been accustomed to do in times past. "To suckle fools and chronicle small beer" surely cannot be the chief end of woman. If overwork sometimes leads to disease, it is more morally wholesome to work into it than to lounge into it. And if some medical practitioners have occasionally observed cases where mental overstrain has led to disease of mind or body, I cannot deny that I also have at long intervals seen some such cases. But for every such example I feel quite sure that I have seen at least twenty where evils equally to be deplored are caused in young women by want of mental occupation, by deficient exercise, too luxurious living, and too much amusement or excitement. Again, we have heard much of late about over-pressure from work in schools. This is one of the novelties of our time. No doubt it exists, and I think it may in part be traced to some of our sanitary success. We have reduced the mortality of early infancy. Many children who would formerly have died off-hand are now saved, and find their way into the schools. They are the survivals of the least fitted. They live, but they are not strong — not so strong as the average. They have to submit to the same routine, and to be forced up, if possible, to the same standard as the rest. But the effort is too much for them. Their frames are not hardy enough to resist the mental strain. They show all sorts of nerve symptoms, disappoint the teachers, and are the types brought forward as victims of the system. The vice of the system is that it is indiscriminate. There is no revision of the recruits, and the tasks are not apportioned to the feeble powers of sanitary survivors. This is an evil which will remedy itself in time by the growing up of a larger proportion of strong children, and the present difficulty may be got over by a little patience and moderation — a little more regard to sanitary logic. The children must have training before education, and must be put upon something even less than a half-time system."

RESOLUTIONS IN MEMORY OF ALLEY TALBOT WAKEFIELD, M.D.

At a meeting of the Cambridge Medical Improvement Society held October 25th, 1886, the following resolutions were passed:

Whereas, In the death of Dr. Alley Talbot Wakefield, on the 18th inst., this society has lost a much esteemed member, we wish to express our sense of loss, our appreciation of his character and ability, and our sympathy with his family and immediate friends.

During his brief association with us we recognize a character pure, noble, and of strict integrity. We found him devoted to his work, prompt and efficient in emergencies because of his thorough knowledge and perfect self-control.

To exceptionally good natural endowments he had added unusual advantages in study and hospital practice, and the success he had already achieved gave assurance of a bright professional career in the future.

Frederic W. Taylor, M.D., *Secretary*.

Correspondence.

THE GIFT OF MRS. WOERISHOFFER TO THE NEW YORK ACADEMY OF MEDICINE.

The following correspondence will explain itself:

New York, October 15th, 1886.

Dr. Everett Herrick, *Chairman Board of Trustees, New York Academy of Medicine.*

Sir,— In presenting a munificent donation to the New York Academy of Medicine, Mrs. Anna Woerishoffer was guided, first, by the great respect her late husband, Mr. Charles F. Woerishoffer always felt and expressed for medical science, and the medical profession, and second, by her conviction that it is better to aid and sustain such institutions of either science or charity as have already proved their faculty and right to exist by duration, results, and accumulated property, than to create new institutions.

After mature deliberation she came to the conclusion that the New York Academy of Medicine has, by its publications in the journals of the country, and in numerous volumes of transactions and bulletins, and by its regular stated and section meetings, contributed largely to the progress of medical science, and deserves eminently the name of a scientific body.

That after having existed forty years, collected an ever-increasing library, and accumulated considerable property, the New York Academy of Medicine holds out the promise of *perpetuity*.

That, by excluding politics and ethical strifes from its constitution and gatherings, it deserves the name of a purely and exclusively scientific body, and thereby the confidence of the public; as it must necessarily become and be the centre of the scientific interests and labors of the medical profession of New York.

Mrs. Woerishoffer was also struck with the fact that the present building of the New York Academy is too small for its present and future purposes, that not only do its sections require more accommodations, but that every medical and scientific society of the city ought to find ample room within its walls and look upon the Academy as its proper centre; and finally, that the increasing library is in urgent need of a fire-proof building.

From these points of view, Mrs. Woerishoffer desires to contribute to the means required for enabling the New York Academy of Medicine to accomplish its great ends and reach its high aims, which she takes to be both truly scientific and truly humane.

I have the honor, Mr. Chairman, of enclosing Mrs. Woerishoffer's letter and her check for twenty-five thousand dollars. Very respectfully yours,

A. JACOBI, M.D., *President.*

NEW YORK, October 13, 1886.

DR. A. JACOBI:

Dear Sir,—Please find enclosed a check for the "Academy of Medicine," which I send you in memory of my husband, the late C. F. Woerishoffer. In selecting the Academy of Medicine as one of the institutions to which I intend to distribute a certain sum in accordance with the wishes of my husband, I am led by the high appreciation Mr. Woerishoffer always entertained for the medical profession. Yours very sincerely,

ANNA WOERISHOFFER.

NEW YORK, October 22, 1886.

MRS. ANNA WOERISHOFFER, New York.

Dear Madam:—At a meeting of the Academy held Thursday evening, October 21st, 1886, the following resolutions, moved by Fordyce Barker, M.D., and seconded by C. R. Agnew, M.D., were unanimously adopted.

Resolved, That the New York Academy of Medicine accept with the warmest thanks and gratitude, the noble gift of twenty-five thousand dollars from Mrs. Anna Woerishoffer, as an expression of the appreciation by her late husband, Mr. Charles F. Woerishoffer and herself, of the importance of the Medical Profession to the health and welfare of the public, as well as to individuals, and the necessity for the development of its highest culture.

Resolved, That the names of Mr. and Mrs. Charles F. Woerishoffer, be inscribed in the Academy for permanent record as Benefactors.

Resolved, That a copy of these resolutions, duly engrossed, and signed by the President, Recording Secretary and Treasurer, be transmitted to Mrs. Woerishoffer.

A. JACOBI, M.D., President.
A. M. JACOBUS, M.D. Recording Sec'y.
F. A. CASTLE, M.D., Treasurer.

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COCAINE ADDICTION.

MR. EDITOR,—If any reader of your JOURNAL has met with a case of cocaine addiction and will send me the fullest details at his command, I'll thank him for the courtesy, reimburse him for any expense incurred, and give him full credit in a coming paper. J. B. MATTISON, M.D.

BROOKLYN, 314 State St.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 16, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	715	332	20.80	—	7.02	2.08	7.28
Philadelphia	971,363	315	115	16.32	19.20	3.20	4.48	5.76
Brooklyn	690,000	282	125	24.85	12.60	8.40	1.40	10.15
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	163	52	15.86	18.30	2.44	2.44	8.54
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	136	45	24.42	17.02	4.44	2.96	7.40
Cincinnati	325,000	107	46	32.55	14.88	8.37	1.86	16.74
New Orleans	238,000	98	21	30.60	14.28	7.14	—	2.04
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	96	33	27.04	11 14	5.20	5.20	4 16
Pittsburgh	190,000	73	28	35.00	12.60	1.37	.98	11.33
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	9	36.40	18.20	18.20	4.55	4.55
Charleston	60,145	50	25	12.00	6.00	2.00	—	—
Worcester	68,383	21	7	—	12.28	—	—	—
Lowell	64,051	22	4	22.75	18 20	9 10	4.55	9.10
Cambridge	59,660	21	7	23.80	28.56	14.28	—	9.52
Fall River	56,863	19	8	52.63	—	15.68	21.04	5.26
Lynn	45,861	13	4	—	7.69	—	—	—
Lawrence	38,825	10	3	10.00	10.00	—	—	—
Springfield	37,577	14	5	35.70	7.14	14.28	7.14	7.14
New Bedford	33,393	7	2	14.28	28.56	14.28	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	5	1	—	—	—	—	—
Holyoke	27,894	8	5	12.50	25.00	12.50	—	—
Chelsea	25,709	5	2	—	40.00	—	—	—
Taunton	23,674	4	2	25.00	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	2	0	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	1	20.00	—	20.00	—	—
Malden	16,407	4	2	25.00	25.00	—	—	25.00
Fitchburg	15,375	7	1	—	—	—	—	—
Waltham	14,609	4	1	25.00	—	—	—	—
Newburyport	13,716	4	1	—	25.00	—	25.00	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,235: under five years of age 887; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 505, consumption 230, lung diseases 192, diphtheria and croup 169, diarrhœal diseases 138, typhoid fever 64, malaria fever 57, whooping-cough 22, measles 19, scarlet fever 13, erysipelas 10, cerebro-spinal meningitis eight, puerperal fever four, small-pox (Brooklyn) one. From malarial fevers, New Orleans 17, New York 11, Baltimore 10, Brooklyn seven, District of Columbia six, Philadelphia and Charleston three each. From whooping-cough, New York nine, Brooklyn and Baltimore three each, Nashville two, Philadelphia, Cincinnati, District of Columbia, Pittsburgh and Lawrence one each. From measles, New York eight, Pittsburgh five, Brooklyn, Boston and Charleston two each. From scarlet fever, New York and Cincinnati four each, Philadelphia three, Pittsburgh and Springfield one each. From erysipelas, District of Columbia four, New York, Brooklyn, Boston, Cincinnati, New Orleans and Pittsburgh one each. From puerperal fever, New Orleans two, Boston and District of Columbia one each.

In the 23 cities and greater towns of Massachusetts with a population of 1.048,322 (population of the State 1,941,465), the total death-rate for the week was 17.41 against 20.28 and 20.21 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817 for the week ending October 2d, the death-rate was 20.6. Deaths reported 3,592: infants under one year of age 1,206; acute diseases of the respiratory organs (London), 187; diarrhœal diseases 532, scarlet fever 61, fever 59, diphtheria 33, measles 32.

The death-rates ranged from 15.2 in Brighton to 29.2 in Manchester; Birkenhead 21.3; Birmingham 21.5; Hull 24.3; Leeds 27.7; Leicester 22.0; Liverpool 26.4; London 17.0; Nottingham 21.6; Sheffield 23 2; Wolverhampton 27.4.

In Edinburgh 14.8; Glasgow 21.8; Dublin 22.8.

For the week ending October 2d, in the Swiss towns, there were 45 from diarrhœal diseases, consumpton 23, lung diseases 10, diphtheria and croup four, typhoid fever two.

The death-rates were: at Zurich 1.9; Geneva 15.1; Basle 25.2; Berne 21.4.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 23, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	676	282	32.20	15.75	7.95	1.05	8.70
Philadelphia	971,363	341	108	15.66	15 37	1.74	4.64	7.25
Brooklyn	690,000	311	152	22.40	10.24	4.16	1.60	10.24
Chicago	630,000	218	95	24.18	8.28	5.06	4.14	11.96
Boston	390,406	177	59	10.83	15.39	2.85	2.28	5.13
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	95	39	19.95	16.81	5.25	2.10	7.35
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	96	34	19.76	12.48	2.24	4.16	7 28
Pittsburgh	190,000	71	34	29.61	2.82	4.23	1.41	9.87
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	21	6	23.80	14.34	4.76	—	14.34
Charleston	60,145	46	26	—	—	—	—	—
Worcester	68,383	16	7	32.25	18.75	6.25	—	18.75
Lowell	64,051	28	9	25.00	11.11	3 57	—	17.85
Cambridge	59,660	23	5	8.70	13.05	—	4.35	—
Fall River	56,863	19	10	21.04	10.52	15 78	5.26	—
Lynn	45,861	11	3	18.18	9.09	9.09	—	9.09
Lawrence	38,825	14	—	—	14.28	—	—	—
Springfield	37,577	16	8	12.50	6.25	—	—	6.25
New Bedford	33,393	17	6	41.16	11.67	23.52	17.64	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	3	—	10.00	—	—	—
Holyoke	27,894	9	3	22.22	22.22	11.11	11.11	—
Chelsea	25,709	14	2	7.14	14.28	—	7.14	—
Taunton	23,674	6	1	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	1	—	20.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	1	—	40.00	—	—	—
Malden	16,407	7	3	42.84	14.28	—	14.28	28.56
Fitchburg	15,375	5	4	—	—	—	—	—
Waltham	14,609	6	2	16.66	16.66	—	—	—
Newburyport	13,716	5	0	—	—	—	—	—
Northampton	12,896	4	2	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,272: under five years of age 905: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 377, consumption 296, lung diseases 208, diphtheria and croup 187, typhoid fever 55, diarrhœal diseases 41, whooping-cough 22, malarial fevers 22, scarlet fever 18, measles 14, cerebro-spinal meningitis seven, erysipelas five, puerperal fever four. From malarial fevers, New York 10, Brooklyn nine, District of Columbia two. From whooping-cough, Brooklyn nine, New York four, Philadelphia and Pittsburgh three each, Chicago, District of Columbia and Lowell one each. From scarlet fever, Philadelphia, Chicago and Cincinnati four each, New York and Pittsburgh, three each. From measles, New York nine, Pittsburgh three, Brooklyn and Nashville one each. From cerebro-spinal meningitis, New York and District of Columbia. two each, Cincinnati, Worcester and Springfield one each. From erysipelas, Chicago two, New York, Brooklyn and Pittsburgh one each. From puerperal fever, New York, Chicago, Boston and District of Columbia one each.

In the 20 cities and greater towns of Massachusetts, with a population of 1,012,143 (population of the State 1,941,465), the total death-rate for the week was 20.23 against 17.41 and 20.28 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending October 9th the death-rate was 19.3. Deaths reported 3,369: infants under one year of age 999; acute diseases of the respiratory organs (London) —, diarrhœa 324, scarlet fever 70, fever 70, measles 42, diphtheria 42, whooping-cough 30.

The death-rates ranged from 14.2 in Bristol to 29.9 in Preston; Birkenhead 22.9; Birmingham 17.5; Bradford 18.3; Hull 20.7; Leeds 21.9; Liverpool 25.4: London 17.2; Manchester 23.1; Newcastle-on-Tyne 23.9; Sunderland 21.7.

In Edinburgh 19.9; Glasgow 23.9; Dublin 23.1.

For the week ending October 9th, in the Swiss towns, there were 30 deaths from consumption, diarrhœal diseases, 29, lung diseases 13, typhoid fever five, whooping-cough one, diphtheria and croup one.

The death-rates were: at Zurich 7.6; Geneva 13.1; Basle 13.3; Berne 17.1.

The meteorological record for two weeks ending October 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Oct. 16, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...10	30.227	58.0	65.1	56.1	88.0	67.0	66.0	73.7	N.	S.E.	S.W.	6	6	5	C.	C.	C.	—	—
Monday,.. 11	30.162	63.8	76.9	54.1	74.0	40.0	74.0	62.7	W.	S.W.	W.	11	13	12	C.	C.	C.	—	—
Tuesday,..12	29.908	66.4	79.5	56.2	78.0	41.0	80.0	66.3	W.	W.	W.	9	7	10	C.	F.	F.	—	—
Wednes... 13	30.137	50.7	63.6	50.0	85.0	77.0	74.0	78.7	N.E.	E.	S.E.	14	10	4	O.	O.	C.	—	—
Thursday, 14	30.058	55.4	59.2	45.6	80.0	70.0	88.0	79.3	S.E.	S.E.	S.	6	15	7	C.	F.	O.	—	—
Friday, ...15	29.734	61.1	71.2	50.1	91.0	55.0	56.0	67.3	S.	W.	W.	15	20	18	C.	O.	C.	—	—
Saturday, .16	30.196	38.8	50.3	31.1	60.0	47.0	56.0	54.3	N.W.	N.W.	N.W.	16	21	9	C.	C.	C.	8.00	0.06
Mean, the Week.	30.060	56.3	69.4	49.4				68.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

Week ending Saturday, Oct. 23, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...17	30.370	40.4	49.1	27.2	68.0	27.0	65.0	53.3	W.	S.	S.	6	14	4	C.	O.	O.	—	—
Monday,.. 18	30.355	48.6	51.8	44.5	87.0	75.0	75.0	79.0	N.	E.	E.	4	13	4	O.	C.	O.	—	—
Tuesday,..19	30.554	45.0	51.2	39.6	90.0	62.0	72.0	74.7	N.	S.E.	S.W.	6	10	5	F.	C.	C.	—	—
Wednes... 20	30.315	53.5	64.9	39.9	87.0	58.0	90.0	78.3	W.	S.W.	S.W.	6	13	13	C.	C.	F.	—	—
Thursday, 21	29.998	56.9	66.0	49.0	89.0	47.0	59.0	65.0	S.W.	N.W.	N.W.	9	24	4	F.	C.	C.	—	—
Friday, ...22	29.995	52.9	64.0	40.0	76.0	42.0	51.0	56.3	W.	S.W.	W.	7	20	7	C.	C.	C.	—	—
Saturday, .23	30.201	49.3	56.1	44.9	70.0	60.0	53.0	61.0	N.W.	S.E.	N.E.	8	7	13	C.	C.	C.	3.00	0.05
Mean, the Week.	30.255	49.5	57.6	40.7				66.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 23, 1886, TO OCTOBER 29, 1886.

Webster, Warren, major and surgeon. Leave of absence on account of sickness further extended one year on account of sickness. S. O. 244, A. G. O., October 20, 1886.

Billings, J. S., major and surgeon. Granted leave of absence for eight days. S. G. 246, A. G. O., October 22, 1886.

Landerdale, John V., captain and assistant surgeon. Leave of absence extended one month. S. O. 249, A. G. O., October 26, 1886.

Carson, Jos. K., captain and assistant surgeon. Granted leave of absence for one month, to take effect when his services can be spared. S. O. 246, A. G. O., October 22, 1886.

Moseley, E. B., captain and assistant surgeon. Relieved from duty in Department of the Columbia and ordered to report in person at headquarters, Division of the Pacific, for assignment to duty. S. O. 87, Division of the Pacific, October 16, 1886.

Taylor, B. D., captain and assistant surgeon. From Department East to Columbus Barracks, Ohio.

Tesson, L. S., captain and assistant surgeon. From Department Texas to Department East.

Barrows, C. C., first lieutenant and assistant surgeon. From Department of Arizona to Department East.

Egan, P. R., first lieutenant and assistant surgeon. From Department of Arizona to Department of Texas.

Walker, F. V., first lieutenant and assistant surgeon. From Department East to Department of Texas. S. O. 244, A. G. O., October 20, 1886.

Carter, E. C., first lieutenant and assistant surgeon. Granted leave of absence for six months, with permission to apply for an extension and to go beyond sea, to take effect when his services can be spared. S. O. 244, A. G. O., October 20, 1886.

Black, Charles S., first lieutenant and assistant surgeon. Granted leave of absence for two months on surgeon's certificate of disability, to take effect when his services can be spared. S. O. 244, A. G. O., October 20, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 30, 1886.

Diehl, Oliver, passed assistant surgeon. Granted three months leave from 26th inst.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING OCTOBER 23, 1886.

Urquhart, F. M., passed assistant surgeon. Relieved from duty at Cape Charles Quarantine, to proceed to Washington, D.C., with Steamer "Woodworth," October 20, 1886.

Wasdin, Eugene, passed assistant surgeon. Promoted and appointed passed assistant surgeon, from October 1, 1886, October 20, 1886.

Williams, L. L., assistant surgeon. Granted leave of absence for three days, October 16, 1886.

SOCIETY NOTICES.

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, November 10, at 7.45 o'clock. Papers: Dr. P. C. Knapp, "An Unusual Form of Professional Neurosis." Dr. H. C. Haven, "A Plea for the more careful Consideration of the Importance of the Methods and Manner of Infant Feeding." Dr. F. C. Shattuck, "A Case of Malignant Endocarditis." Dr. E. W. Cushing, "Fatal Perforation of the Appendix Cœci, with Specimen."

Albert N. Blodgett, M.D., *Secretary*.

F. I. Knight, M.D., *Chairman*.

Gynæcological Society of Boston. — The next meeting of the Society will be held at the Medical Library Room, No. 19 Boylston Place, on November 11th, at four o'clock, P.M. Papers: Dr. W. Thornton Parker's paper postponed from last meeting, entitled "The Removal of a Large Vaginal Tumor." Dr. E. W. Cushing, "The Use of Irrigation in Gynæcology." Dr. Cushing will also show with the microscope specimens of the *gonococcus*.

H. J. Harriman, *Secretary*.

Original Articles.

THREE CASES OF SUPPURATING OVARIAN TUMOR TREATED BY DRAINAGE.[1]

BY J. W. ELLIOT, M.D.

THESE cases seem naturally to divide themselves from other abdominal operations, I therefore report them separately.

CASE I.— CYST DISCHARGING INTO RECTUM: DRAINAGE PER RECTUM. CURED.

Miss C. was a servant, twenty-seven years old. I first saw her on October 27th, 1882. She was thin and in miserable health. She complained especially of bearing-down pains and of a constant discharge of pus from the rectum. Five years previous she had experienced great relief from a sudden discharge of pus from the rectum. From that time she had very little trouble until two years before I saw her, when the discharge began again. She suffered from constant pain in the lower abdomen and had frequent attacks of vomiting. She was very constipated and every movement caused severe pain.

On examination I found a tumor the size of a large orange in the right side of the pelvis, the uterus being pushed to the left. The uterus and tumor were evidently bound together by adhesions, but the whole mass was movable in the pelvis. I considered the case one of suppurating cyst or fallopian tube discharging into the rectum, and advised her to enter the Free Hospital for Women, which she did.

November 23d. Under ether I succeeded in finding the opening into the cyst, which was very high up in the rectum. I was able to bring this opening into view by putting a Sims's speculum into the rectum (patient in Sims's position) and pulling down the anterior wall with double hooks and tenaculum. This opening being dilated and enlarged, several ounces of pus were evacuated. A drainage-tube was put in and the cyst washed out. This operation caused only slight constitutional disturbance. The cavity was washed out regularly; the discharge diminished to a certain extent and the tumor became smaller, but the soft rubber drainage-tube gave us trouble by getting bent and clogged, and finally it was removed in about ten days because it caused severe pain of the anus. After waiting some weeks to see if the cavity was disposed to close, it became evident that the tumor still contained pus and required further attention.

January 18th. Ether was again given. The opening being dilated as before, numerous partitions inside the cavity were broken down with the finger. In this way the contents was thoroughly evacuated. Drs. Baker and Davenport were present and kindly assisted me. I then placed a hard-rubber tube, curved like a male catheter, which I had had made especially for this case, to obviate the difficulties caused by the soft rubber tube after the previous operation. The temperature rose to 104.2° F., but soon subsided. The cyst cavity could be thoroughly washed out with a catheter passed up inside the hard-rubber drainage-tube.

January 27th. The patient was doing well; the wash water returned clear, but there was severe pain.

January 30th. The abdomen was swollen and tender, the patient had a bad, hollow-eyed look, the temperature was raised and the pulse rapid. There was evidently a beginning peritonitis. The drainage-tube was removed and a poultice applied to the abdomen.

February 3d. The above symptoms were disappearing.

February 7th. Patient much better, eating well. From this time on there was a steady improvement, and on February 16th, she was up and about the ward.

March 4th. There was no discharge from the rectum. Patient in good condition.

March 8th. Patient discharged from the hospital cured.

I saw her again about a year later. She had gained forty pounds since the operation. The cyst, had entirely disappeared. The uterus was bound tightly to the sacrum from the contraction of the old cyst cavity. I afterwards freed the uterus from the sacrum, and when last seen in 1885, she was perfectly well.

CASE II.— CYST AND PERITONEUM INFLAMED, DRAINAGE THROUGH ABDOMINAL WALL: COUNTER OPENING IN VAGINA. CURED.

Miss D., nineteen years old, was sent to me by Dr. W. A. Dunn and was first seen at my office March 23d, 1885. Six months previous she had had difficulty in micturition: three months later she noticed swelling and pain in the lower abdomen. This had gradually increased. She had been seen by Dr. F. B. Harrington, who informs me that he found her with a temperature of 103° F., and put her to bed. After a month's rest in bed she was able to return to her work. But the pain and swelling soon became much worse. The menstruation had been natural until the last three months, during which time it had been very profuse, so much so that she had been much pulled down from the loss of blood. She was thin and very pale, and in wretched condition.

The outline of a fluctuating tumor was indistinctly felt just below the umbilicus. It had the indistinct feeling that an ovarian tumor might have if a blanket were placed between the tumor and the abdominal wall. The tumor was dull on percussion, while the flanks were tympanitic. The uterus was clearly felt in antiflexion, separate from the tumor but not freely movable.

The diagnosis was ovarian cyst, and she was advised to enter the Free Hospital. The operation was done on April 7th, 1885. On opening the abdomen I found the peritoneum from one-fourth to one-half an inch thick, very red and vascular, and studded with small gray granules. This peritoneum did not look in the least like anything I had ever seen, it was so red and vascular that it resembled liver or kidney tissue. When I opened it, it seemed as if I must have cut some strange organ. It bled profusely at every nick. In fact I should not have been in the least surprised had this patient died within six months of cancer of the peritoneum or tuberculosis. The cyst was finally reached and found to be very firmly adherent in every direction. Its removal was simply impossible. In contained two quarts or more of pus. The cyst was washed and sponged out and its walls stitched to the abdominal wall. A large opening was left through which two large drainage tubes were inserted. Dr. Whitney examined the fluid and reported that it was pus, but was probably from a cyst cavity.

There was very little disturbance from the operation. The temperature was never above 100° F. The cyst discharged freely and was washed out twice a day with carbolic 1-80. The patient was up and about in two weeks. She remained in the hospital until June 11th. The cyst was constantly washed out and the cavity contracted slowly. When she left the hospital the cavity was four inches deep and the tube three inches long. She had gained much flesh and strength. During the summer I saw her every two or three weeks and gradually shortened the tube. The discharge was much diminished. She appeared one day and stated that she had just been married.

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[1] Read before the Boston Society for Medical Improvement, October 25, 1866.

July 30th. The cavity was three and one-half inches deep and barely large enough to admit a one-fourth inch drainage-tube. It discharged freely. Two hard tender lumps could be felt, one on each side of the fundus uteri.

In the fall the condition was much the same. The lumps above noticed were found to contain pus and were opened into the cavity. I washed the cavity with every known disinfectant and astringent, iodine, Heaton's hernia mixture, and finally with spirits of turpentine. All to no purpose, the cavity would not close.

February, 1886. She re-entered the hospital. A counter opening was made from the vagina into the bottom of the cavity and a large tube put through from the abdomen to the vulva. This caused very free suppuration which gradually subsided under constant washing. The tube was gradually shortened and the abdominal wound allowed to close. After the tube had been pulled down out of the abdominal opening it was at first found impossible to prevent it from slipping out through the vagina. It was, however, finally held in place by a silver wire passed up through the abdominal wound where it was fastened to a piece of wood and could be gradually led down by unwinding the wire.

In June she left the hospital with only a very shallow opening in the vaginal wall, all the tubes having been removed.

July 19th. I saw her at my office and found that all the lumps and hardness had disappeared from the abdomen. The openings had healed except that the old scar in the abdomen breaks down and discharges a little blood at each menstruation. She was perfectly well and keeping house.

CASE III.— CYST DISCHARGING PER VAGINA, DRAINAGE THROUGH ABDOMEN AND VAGINA: RELIEVED.

Mrs. W. was advised by Dr. Bush to apply to the Free Hospital. I first saw her at her home on April 23, 1885. She was an actress, aged twenty-eight. In September, eight months before I saw her, she had first noticed an enlargement of the abdomen. She then lived in a small Western town. Her doctor told her that she had a tumor. It grew larger very rapidly, and in November it was tapped, and thirty pounds of fluid drawn off. Six weeks later it was tapped again, and three gallons more fluid drawn off. At the same time, an attempt was made to open the tumor through the vagina, but no fluid was so discharged. After this operation she was sick in bed for three months. She was brought to Boston in March, since which time she had been very ill. Two weeks previous to my visit, the tumor broke and discharged through the vagina. Since then she had had a profuse greenish discharge. She suffered great pain, and had taken a grain and a half of morphia a day for several months. She had always been well before this illness, with the exception of two miscarriages eight years previous.

The patient was very small and thin, and in a deplorable general condition. She was feverish and discouraged. A large, tender, fluctuating tumor filled the whole abdomen, extending so high up that the ribs were lifted. The cyst was discharging pus through the vagina. The uterus was crowded up behind the pubes.

When she entered the hospital the pulse was 150, and very poor; the temperature was 103.5° F. There was occasional vomiting of food. At a consultation of the hospital staff, Dr. Baker, Dr. Davenport, and myself, it was decided that the tumor was a suppurating ovarian cyst, and that the patient was in a very critical condition, and would surely die unless something was done immediately.

On April 27th I operated, without much hope that she would recover. On opening the abdomen, I found the cyst universally adherent, and filled with stinking pus. This being evacuated, the hand was passed in, and a large mass of papillomatous growth scooped out. This caused much bleeding, and sponges were packed into the cyst. After the large cyst was emptied, a small tumor of the other ovary became apparent. An attempt was then being made to dissect out the sac of the cyst when the patient became collapsed, the pulse being almost imperceptible. A drainage-tube was then pushed through Douglas's fossa into the vagina, and the cyst wall was quickly stitched to the abdominal wall. One drainage-tube went through the cyst, and another was only in the abdominal opening. Dr. Green, Dr. Johnson, Dr. Clark, and the late Dr. Lombard assisted me.

The patient was put to bed with heaters. Stimulants were given by rectum and subcutaneously. She rallied in a few hours, and although the pulse was very weak for a few days, she was soon in much better condition than before the operation. The temperature fell to 99°, and stayed there for a time. The vomiting ceased, and the appetite improved. The cyst was washed out several times a day with an antiseptic solution. The discharge was profuse at first, but gradually diminished. She had an attack of bronchitis, and during a paroxysm of coughing, the vaginal tube, which had been cut from the abdominal tube, was forced out.

All went well then until the fourteenth day, when the temperature and pulse began to rise again; temperature 103.4° F., pulse 150. There was also great pain in the side.

March 15th. The patient was etherized, and on exploring the region where the pain was referred, it was discovered that one of the cyst-cavities had closed and formed an abscess. This was opened and drained.

Things looked better after this. She began to improve again, but on May 30th the pulse and temperature began to go up again, and it was impossible to keep the discharges from smelling.

June 2d. Under ether, an examination was made, and an abscess broken open inside the cyst. In searching for more pus-cavities, the cyst wall was accidentally opened, and the finger went into the peritoneal cavity. Fresh drainage-tubes were put into all the cavities, and one was passed again through Douglas's fossa into the vagina. After this operation there was severe pain, requiring much morphia. The pulse continued rapid, and the patient was still in a critical condition.

June 4th. It was evident that an abscess was forming in the peritoneal cavity, around the hole made in the cyst wall at the last operation. There was great pain, some vomiting; almost all food was refused. Pulse 130, temperature 102.° The patient was very low.

June 15th. I etherized her again for the third time since the operation. The intra-peritoneal abscess was opened, and a large quantity of stinking pus evacuated. I then began a systematic search in all directions to find retained pus, and, to my dismay, I found a sponge at the bottom of one of the cavities. This sponge had been crowded in to stop the bleeding from the papillomatous growth, when the patient collapsed at the first operation, and had long since been forgotten. Everything was thoroughly disinfected, and all the tubes replaced. After a time some of the cavities closed, and the cyst was more easily drained. The large cyst-cavity gradually contracted. Finally, we made a desperate effort to break off the morphia, but failed, and I am sure that the patient would have died if we had continued to withhold it. She gradually gained strength until the end of June, when she was moved from the hospital. At home she continued to improve. All the tubes were removed, except the long one, which ran through the cyst.

July 28th. She was so much improved that she was up and about the room; was taking only one-quarter of a grain of morphia a day. The vaginal part of the tube was soon removed, and only a short tube remained in the abdominal opening. She went into the country for the summer, where she improved so much that when she walked into my office in October I did not recognize her. She had gained much flesh and strength. Since then she has been able to go about and enjoy life.

I saw her on October 21, 1886, when she told me that she had removed the tube a year ago, and that since that time the sinus would remain healed for several months at a time, but would suddenly break open and discharge pus for a few days, and then heal again. I found that the old tumor had disappeared, but that the small one on the other side had grown to the size of a cocoanut; I advised its removal.

It should be understood that the deplorable condition in which I first found the patient was due to the tapping which had been done several months previous. In spite of the outcry against tapping, we continue to meet patients suffering from that maltreatment.

Although we know from experience in ovariotomy that patients may tolerate an extraordinary amount of damage in the way of tearing out an adherent cyst wall, we also know that patients not infrequently die on the table, or soon after these most severe operations. Drainage offers a chance for some of the bad cases. I have taken pains to follow out these cases, in order to get a clear idea of the course and results of drainage. With this side of the picture complete, we shall be better prepared to decide in a given case whether to risk a very serious operation, or to go through with the tediousness of drainage. Schroeder and others have objected to drainage, on account of the tendency to recurrence. Rheinstaedter[2] reports seven cases where more or less of the cyst was left and drained; all seven recovered without recurrence. Certainly, there has been no special tendency to recurrence in my cases, and one was papillomatous, operated on one and a half years ago. If any of them recur in the future, I have, at least, the satisfaction of giving them a year or two of comfortable life. It may also be possible to do another operation, under conditions more favorable than the first.

These cases have raised the question of how ovarian cysts discharging into the various cavities are best treated. If the cyst is discharging into the rectum or vagina, an attemp should be made to drain in that direction, as in cases I and II. If the cyst is discharging into the intestine or bladder, it should be removed by laparotomy, and the opening into intestine or bladder closed by suture.

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THE MALE URETHRA.[1]

SOME NEW AND PRACTICAL OBSERVATIONS ON ITS ANATOMY IN RELATION TO ENDOSCOPY, LITHOLOPAXY, AND CATHETERIZATION.

BY OTIS K. NEWELL, M.D.,
Assistant in Anatomy at the Harvard Medical School.

During the early part of the present year, it occurred to me, in observing a case of litholopaxy at the Massachusetts General Hospital, that there could be no reason why the same sized tubes which so readily enter the normal urethra could not be applied to advantage in an endoscopic examination of the bladder, urethra, and other parts. I trust that the results of my investigation in this connection will not fail to be of interest and value. Three years ago, at Professor Dittel's clinic in Vienna, I had occasion to make an endoscopic examination of the urethra, with the instrument there in vogue, and from what I was enabled to see through its small calibre, together with Professor Dittel's rather sceptical views in regard to its general utility, I gave but little further attention to the subject of endoscopy. Having had made a No. 30 tube, however, a more particular description of which will be given further on, I was much surprised and gratified to find with what readiness and satisfaction the surface of the bladder or urethra could be examined by means of light thrown in by the ordinary laryngoscopic mirror. My first examinations were made upon the cadaver, and there the mucous membrane could be plainly seen, and any small body, such as a piece of sponge, a tack or screw, when introduced into the bladder, readily found and recognized. That bodies of considerable size could be easily introduced through the 30-tube naturally led to thoughts of instrumentation within the bladder, and of this I will speak more fully later on. The first tube I had made was one corresponding in length to the ordinary catheter, cut off at the lower or visceral end obliquely, at an angle of about 45°, and closed with a thin plate of glass. This, I later learned, corresponded much with Grünfeld's straight, fenestrated endoscope, and was designed to prevent the entrance of urine into the tube, and admit of inspection by placing the glass against the bladder wall. The rather obscure picture through the glass, however, led me to soon abandon this for a similar open tube, into which a staff, or guide, was inserted for its better introduction.

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[2] Zeitschrift f. Geburt. v. Gynæcol., B. X., 1884.

[1] Read before the Suffolk District Medical Society, October 30, 1886.

Since the clearness of view through the tube depended upon the amount of light thrown in, and this was determined by the length of the endoscope, I next endeavored to ascertain how short an instrument could be, and still admit of ready introduction into the bladder. The examination of a large number of cases for this purpose has led to what has been, to me, an astonishing result, considering the previous knowledge of this subject, at least, in its application. I find, namely, that an instrument, catheter, sound, or evacuating tube, having a length of five inches or more, can be readily introduced through the urethra into the bladder of any normal subject, the requisite manipulation being but little more difficult than that required in the introduction of instruments having the traditional measurement.

The pendulous portion of the urethra, the part anterior to the triangular ligament, can be readily folded together, so that its long axis occupies not more than from one and a half to two inches. I have found no case where an endoscope six inches in length could not be introduced into the bladder, so as to have two inches or more protruding from the visceral orifice. To ascertain this, I have made careful measurements of fifteen adult urethræ in subjects from thirty to seventy years of age, besides examining quite a large number of unrecorded cases. The length of the posterior urethra, made up of the membranous and prostatic portions, varies but little, the prostatic portion averaging about one and one fourth inches, and the measurement of the membranous region three-quarters of an inch or less. An enlarged prostate seldom increases the length of this portion to any great degree, the growth being mostly lateral, and affecting more its calibre and direction, the middle lobe, when much enlarged, standing as an obstruction before the vesical orifice.

We have then, in the male subject, an urethra, the posterior portion of which averages two inches in length, and presents beyond this, as its continuation, a canal which, from its anatomical structure, and that of its surrounding parts, is readily folded together, so as to have the same length, the variation in different individuals, when the urethra is thus apposed, being of no considerable degree.

The applied anatomy of the male urethra, then, is such that we may consider the length of this canal to be, for surgical purposes, but four inches, increased, in cases of enormous hypertrophy, to a possible six. Better than to further attempt the demonstration of this fact, I will leave it to the more convincing investigation of those of you to whom it may be of interest, and consider at once its application to the subjects indicated in the title of my paper.

ENDOSCOPY.

After becoming interested in this subject, I carefully read the admirable and voluminous work of Professor Grünfeld, who, by adopting the simple laryngoscopic mirror as a light source, and making numerous improvements in the endoscopic instruments, together with the most patient and systematic labor, has accomplished more than any of the recent workers on this subject. To all who may be interested in it, his book will prove of great value. It is sufficient to mention here that to the endoscope we owe most of our exact knowledge of urethral pathology, and an idea of what patient work with this instrument in the hands of Bozzini, Désormeaux, Grünfeld, and others has accomplished, may be obtained by quoting from the index to the illustrated plates in Grünfeld's work: 43, Urethritis Simplex; 48, Urethritis Granulosa, with rigid walls; 55–58, Two Ulcers on the urethral mucous membrane of a man; 59, Urethral Chancre; 61, Primary lesion of syphilis during cicatrization, the rigidity of the walls permitting the introduction of the endoscope into the healthy urethra beyond; 66, Epithelial thickening of the mucosa in stricture after partial dilatation; 79, Stricture, with a bridge apparently two openings into the urethra beyond; 81, Stricture of long standing after thorough dilatation (22, Charriere); 82, Urethral polyp on the posterior wall of the urethra; 97–101, Pictures taken from an urethral carcinoma; 103, Posterior portion of a diverticulum on the lower urethral wall; 102, Tumor of the mucous membrane of the bladder in cystitis; 108, Cicatrix following a vesico vaginal fistula.

Notwithstanding all this, however, the endoscope has hitherto been chiefly applied to the examination of urethral diseases, and since the cases where its use in this connection is of great practical value are the exception, I will only consider its application in the modified form which I have ventured to construct.

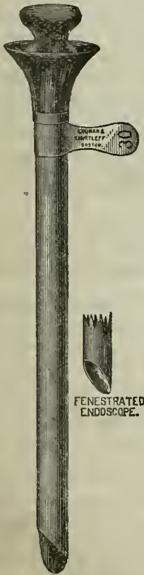
The endoscope which I have had made (Fig. 1) differs from Grünfeld's, first, in having a 30-calibre determined by that of the normal urethra, 30 to 33, Grünfeld's tubes never being made larger than 24, and averaging from 18 to 20. Second, in the obliquity of its visceral opening, so that inspection in all directions is made possible by the protrusion of the bladder wall or mucous membrane into its orifice. Grünfeld's straight, fenestrated tube has the window set in at a slight angle, in order to avoid light reflexes, but that author recommends only the tubes cut off at a right angle to the axis for general use, and never any with more than a slight variation from a right angle. Such tubes are undoubtedly best for urethral examination. Third, in being particularly designed for the inspection of the bladder, and permitting what has hitherto not been done, the introduction of instruments through an endoscope into the male bladder, so that, as with the forceps which I have had constructed for the purpose, a foreign body might be removed in this manner, instead of by operation, or with a lithotrite.

For the female bladder and urethra the instruments are similar, but much shorter, and may be of larger calibre. The external orifice of the female urethra, however, is not always larger than that of the male, and often requires forcible dilatation before admitting the introduction of instruments of large calibre.

My instrument is principally designed for the detection of foreign bodies and growths in the bladder, and as an aid in the solution of obscure symptoms of urethral and bladder disease. The fenestrated tube may be used with advantage in preliminary examination, as the mucous membrane and its vascular supply are much better seen in the full bladder. The open tube is used in the empty bladder, absorbent cotton or sponge tampons may be carried down with the forceps, or tampon holder, to dry the surface or remove any collection of urine.

Grünfeld, on the 208th page of his work, says: *An die Einführung von Instrumenten in die Harnblase unter Controle des Endoscops sowie deren Verwendung daselbst konnte aus begreiflichen Gründer nicht gedacht werden.* "The introduction of instruments into the (male) urinary bladder, under control of the endoscope, as well as their application there, was, for apparent reasons, not to be thought of," and states further on, that his investigations have thus far been confined chiefly to the female bladder, easier of examination, but much less often the seat of disease. I have found no difficulty in introducing this instrument into the bladder of the living subject without ether, but would recommend anæsthesia for all bladder exploration. In urethral examination the local anæsthetic effect of cocaine suffices.

The use of the endoscope is not by any means limited to the examination of the urethra and bladder, but may be employed with advantage in exploring numerous other cavities, such as that of the uterus, the rectum, high up, the nasal and pharyngeal cavities; and, also, sinuses and cavities following disease or injury. I see no reason why, introduced as a trocar canula, or through a slight incision into the abdominal or thoracic cavities, it could not be used to advantage in the diagnosis of obscure and serious affections.



ENDOSCOPE
Fig. 1.

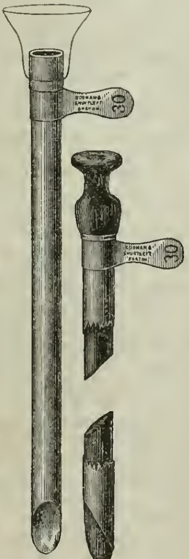


Fig. 2.

The best light to use is reflected sunlight, and the tubes may be darkened on the inside but soon become dull enough on the inner surface to avoid trouble from light reflexes. Any topical applications made in the bladder or urethra with this instrument are much better and more scientific than those made somewhat blindly by other means.

In making the ocular end of the instrument I have preferred a simple funnel-shaped attachment, passed over the end of a tube, made like those for Professor Bigelow's evacuator. The very practical indicator being convenient for manipulation, and simple in construction.

LITHOLOPAXY.

In considering the changes which the above demonstrated fact suggests in litholopaxy, we have mainly to do with the process of evacuation, and here an important alteration in the construction of the evacuator is indicated. This consists in reducing the distance between the orifices of the present tube, that is the combined tube, made up of the part for insertion and the joints connected with the evacuator, from 15 3-4 inches to 10. In order to be evacuated every fragment must be lifted by the exhaust current with the column of water from the visceral orifice to the opening in the trap end of the tube, and that to materially shorten this distance much adds to the admirable working of Professor Bigelow's instrument, is readily understood.

Another, and what seems to me valuable, modification in the evacuating tubes is to have them made so as to be introduced with a staff and have left when this is withdrawn a tube with an orifice representing more than its full calibre and corresponding with it in direction (Fig. 2), so that the fragments, instead of entering the tube at an angle, are drawn directly into its orifice by the exhaust current. The obliquity of the opening is such that the bladder is held away by the extremity of the tube and is only drawn in when the latter is so placed that the orifice lies close to the wall and in a parallel plane, and under these conditions the bladder will be drawn into the orifice of any tube. A most valuable adjunct to the evacuator, however, and one which readily prevents aspiration of the bladder wall, or "fish bite," under ordinary circumstances, is Professor Bigelow's supply-pipe attachment, by means of which the volume of water in the bladder during operation may be quickly regulated to such a nicety that the tension of the bladder wall may be always kept where aspiration is practically out of the question.

In order to shorten the tube to a length of ten inches from the visceral orifice to the end of the trap, it is necessary to omit the first joint, which, with my tube, is not needed. When the guide is withdrawn, the outer end of the tube should be elevated so as to be as much above the bladder level as possible, and the thumb placed over the orifice until the bulb is attached. In withdrawing the tube it is unnecessary to detach it from the evacuator. A little manual dexterity is thus, in part, substituted for a joint which, although it gives a finish and neatness to the apparatus and operation, is not necessary, and increases the distance which a fragment must travel in order to be caught safely within the bulb. The accompanying drawings illustrate the tubes as described. The evacuating tube is readily converted into an endoscope by attaching the ocular piece. This and the staff are made of hard rubber and the instrument is thus very light. It would seem, perhaps, that the edges of the orifice are sharp enough to cut somewhat during manipulation, but such is not the case. The canal of these tubes being perfectly straight any impacted fragment can be readily removed and the tubes can be thoroughly cleansed by forcing through them a tight wad of cotton or sponge with the staff. These tubes also admit of the passage of larger fragments than the other tubes of a corresponding size. Their simple construction makes them much cheaper than Professor Bigelow's tubes. The object of these changes is naturally to increase the rapidity of evacuation, and thus add somewhat to the efficacy of the evacuator which Professor Bigelow has already made so beautiful in its working. To any one who has studied its capabilities, by evacuating coal fragments from a glass globe, for example, and seen with what certainty they, sooner or later, are captured, I am not putting too frequent stress or compliment, if either be needed, upon the Bigelow evacuator.

If it has been my good fortune to contribute somewhat to the efficiency of this instrument, I must refer the same to the opportunities which a double service, as Dr. Bigelow's House Officer gave me, to become familiar with litholopaxy.

Compared under like conditions the modified evacuator removes fragments four or five times as rapidly. In a protracted operation this is, of course, a great advantage. My friend, Dr. Beach, of the Massachusetts General Hospital, has kindly used these tubes in the removal of a small stone, the fragments of which weighed 14.7 grammes. The working of the instrument was most satisfactory. I have also tested them thoroughly in evacuating fragments from the bladder of a dissecting-room subject, Dr. Whitney, the curator of the Warren Anatomical Museum, having been good enough to furnish me with a calculus.

If shortening and increasing the diameter of the shaft of a lithotrite add to its efficiency in any way, it would seem that the same urethral measurement might be taken into consideration in its construction. The length of divulsors should also be diminished so that the possibility of forcing them through the urethra into the bladder wall would be eliminated. Six inches is, I believe, sufficient length for any divulsor, and such a one is now being constructed.

CATHETERIZATION.

While an evacuating tube or an endoscope should be as short as possible, a catheter may be of any convenient length, and just what this is has probably been determined by making the instruments sufficiently long to give a good chance for manipulation, and leave length enough beyond the part grasped by the hand for introduction into the bladder. The standard length of catheters has thus been determined, and it is interesting to notice that nearly all urethral and bladder instruments, such as sounds, evacuating tubes and divulsors correspond in length to the ordinary metallic catheter. When, however, a catheter or tube is to be employed for washing out the vesical cavity, it should be as short, and of as large calibre, as possible, so as to best admit of the free passage of fluids and thick mucus, or other matter. In the introduction of urethral instruments it is perhaps well to remember that any elastic tube as it becomes attenuated diminishes the calibre of its canal, while on the other hand, an approximation of its walls in the longitudinal direction increases the same.

— Sir Andrew Clark has resigned from the staff of the London Hospital, where his service as physician had extended over a long period of years.

— A statue in memory of "Sister Dora" was recently dedicated in Walsall, England, the cost having been defrayed by Miss Lonsdale out of the profits which she had received from her biography of her deceased friend.

A CASE OF SUPRA-PUBIC LITHOTOMY.[1]

BY M. F. GAVIN, M.D.,
Visiting Surgeon, Boston City Hospital.

The so-called modified high operation for the removal of stone from the bladder is still *sub judice*, and every case reported will assist in determining its proper place in practical surgery.

There can be no doubt of the advantage of the suprapubic operation as improved by Professor Petersen in some cases, as with large stones, especially when they are hard, in the very fat where it is difficult to reach the bladder through the perineum and those complicated with disease of the kidneys, or enlargment of the prostate, and where from paralysis or anchylosis of the lower extremities it is difficult to place the patient in the lithotomy position. The present question is not to determine its application to such exceptional cases, but to find out how far the operation should succeed perineal lithotomy and litholapaxy. I suppose the advantage of the high operation are the rapidity and readiness with which the operation can be done, freedom from the danger of troublesome hæmorrhage and no possible risk to the vesicular seminales or their duct. In the following case litholapaxy was out of the question by reason of the diminished size of the urethra, while perineal lithotomy, would have been nigh impossible, owing to the partial anchylosis of the lower extremities, leaving the high operation the only means of ridding the patient of his stone.

M. C., about forty-two years of age, an ex-soldier of intemperate and dissolute habits in the past, an opium-eater at present, and thoroughly broken-down, was first seen June, 1886.

With exception of repeated attacks of gonorrhœa his health had been good until about three years ago, when his spine was fractured in the lower dorsal and lumbar regions, resulting in paraplegia. He was an inmate of the City Hospital for months at that time, being finally discharged as incurable. For about one year after his injury he emptied his bladder by the use of a catheter; the urine becoming ammonical, was recommended to have his bladder washed out, and ever since the greater part of his urine has dribbled away, although he still continues the use of a silver catheter. Of late, he has had great difficulty in passing the catheter; as he expressed it "there is something against which the instrument strikes," and to relieve him I was sent for. His condition was one of extreme filth, contents of bladder and bowels besmeared his perineum, inside of thighs and genitals: his wife having died of phthisis, none but young children had been left to attend to his wants, which accounted for the deplorable condition he presented.

There were two fistulous openings in the urethra, no doubt due to violent use of the catheter; one was in the penile portion and a second at the junction of the scrotum and perineum, through which the urine constantly ran; the perineum appeared fuller than normal. The urethra after division of meatus showed the presence of a stricture in the membranous portion permitting the passage of a No. 10 English catheter: a small size sound was introduced with difficulty into the bladder but could be only partially rotated owing to the constricted and thickened bladder. A large stone (possibly more than one) was detected, and lithotomy recommended. Three months later, on September 8th, 1886, the patient entered the City Hospital. His condition at that time was about that described, except that he had had diarrhœa for several days.

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[1] Read before the Boston Society of Medical Observation, Oct. 4, 1886.

Under the use of salicin, restricted diet and cleanliness, his condition was so far improved as to allow Petersen's operation to be performed on the fourth day after entrance. For two days before the operation unsuccessful attempts were made to wash out the bladder with a warm solution of boracic acid.

Operation. The usual antiseptic precautions were used. The patient was etherized. A pyriform-shaped bag, well greased, was introduced into the rectum and inflated. The bladder was injected with about ten ounces of warm solution of boracic acid. A rubber ligature around the penis was powerless to keep the bladder distended, as the greater part of the injected fluid came away through the fistulous openings. The distension of the bladder was therefore very imperfect, and the advantages of rectal distension not fully attained. A vertical incision four inches long, was made in the median line above the symphisis: after division of skin, linea alba and fascia transversalis, the knife was dispensed with. The bladder was found readily down in the pelvis, and was now seized with tenaculum and held while an incision of about one and a half inches long was made. Two stout ligatures were at this stage passed through the edges of the wound in the bladder and given to an assistant to hold. The finger was inserted into the bladder and detected the presence of two stones. Both fore-fingers were now introduced in the manner recommended by Sir Henry Thompson, and an effort made to extract the stones but without success. The wound in the bladder was enlarged, lithotomy forceps introduced, and another effort made to dislodge the stones from a pocket in the thickened walls of the bladder; the air bag was now removed from the rectum and the finger of an assistant passed within the sphincter lifted the stones, which were then seized by lithotomy forceps and extracted. A large quantity of gravel-like detritus was removed and the bladder thoroughly irrigated. No attempt was made to suture its walls; ligatures were allowed to remain for twenty-four hours. Two sutures were passed through each angle of the wound. a thick pad of iodoform gauze applied with pressure. The peritoneum was not seen during the operation. The fistulous opening in the perineum was curetted and packed with iodoform gauze. The subsequent care of the case resolved itself into irrigating the bladder, attention to personal cleanliness and supporting the patient. No symptoms of cellulitis or extravasation of urine appeared. Urine came through abdominal wound in diminished quantity until October 6th, when the wound was practically healed. The temperature never exceeded 99°. Great relief from pain followed the operation with marked improvement in the general health of the patient. The fistulous opening in the penile part of penis healed over, that in the perineum is not quite healed, but no water comes through it. The patient was discharged from the hospital October 16th. The stones that were removed were very different in appearance; the larger being quite rough and crumbly on surface and of a dirty grayish color, the other being smoother, harder, and heavier in proportion to its size. Total weight, eight hundred and twenty-seven grains.

A CASE OF SUPRA-PUBIC LITHOTOMY.[1]

BY A. T. CABOT, M.D.

The patient, a man of forty-nine years, entered the Massachusetts General Hospital. September 7, 1886, with the following history: He was in good health up to eight years ago, at which time he began to have pain and difficulty in micturition. This trouble gradually increased, the pain being often very severe after passing water, and urination became very frequent. He has noticed blood in the water but once.

During the last two years his sufferings have been extreme; he has been confined to the bed much of the time, and has become addicted to the use of opium.

During the last eight months his stream has been getting very small, and he has been in the habit of using bougies to obtain relief. Attempts by physicians to reach the bladder have been unavailing, and have caused considerable bleeding from the urethra.

He was, at entrance, very much emaciated, and was troubled by chronic diarrhœa, which was accompanied by great pain through the rectum and bladder. The urine, which passed in a very small stream, almost by drops, was extremely foul, ammoniacal, and loaded with pus. A stricture arrested the sound behind the scrotum; the prostate was somewhat enlarged.

On September 11th, ether was administered, a fine filiform bougie was, after some difficulty, passed through the stricture, and it was divulsed. A searcher was then introduced, and a large stone was felt.

The lithotrite did not pass easily, but was caught in false passages, one of which was of considerable length. After a long, careful trial, it finally entered the bladder and grasped the stone, which was hard, and measured two inches in the diameter seized.

It was evident that with so large and hard a stone, and with a urethra offering such obstacles to the passage of instruments, litholapaxy would be unwise, and the size of the stone made the supra-pubic incision the preferable one among cutting operations.

No rectal colpeurynter was at hand, so that nothing further was attempted on that day.

September 15th (two days later), supra-pubic lithotomy was performed as follows: The patient being etherized, a gum-elastic catheter was introduced, and a rubber band was tied snugly around the penis, to prevent the escape of water. The bladder was emptied, washed out, and then filled with a two per cent. solution of boracic acid. Without any forcing, it held sixteen fluid-ounces, and even then, the supra-pubic region was tympanitic to percussion.

The colpeurynter, which had been introduced into the rectum, was now slowly filled with water until fourteen fluid-ounces had been thrown in. As the rectal bag filled, the bladder could be felt more and more distinctly above the pubes, and the percussion over it became duller, though never reaching flatness.

An incision three and a half inches in length was made from the symphysis pubis upwards, and was carried down between the muscles into the prævesical space. The peritoneum was then seen to reach down nearly by to the pubes.

At first this was not easy to draw up, but after incising a thin fascia below it, which seemed to be the prolongation of the transversalis fascia (fascia propria of Velpeau), the left forefinger could be hooked under the peritoneal fold, and this was easily drawn out of the way while the bladder was incised.

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[1] Reported to the Boston Society for Medical Observation, October 4, 1886.

The finger of the left hand then followed the knife into the bladder, and by it the vesical wall was readily held up while the incision was enlarged to the necessary extent. The stone was then seized and extracted. It was very hard, heart-shaped, and weighed 1,180 grains.

There was no hæmorrhage of any account. Two rubber drainage-tubes were introduced, and as the water was allowed to escape from the rectal bag, they were carried down with the floor of the bladder as it sank into the pelvis. They were then secured in place by stitching them into the lower angle of the wound, and the bladder having been again thoroughly washed out, an antiseptic dressing, with iodoform gauze next the wound, was applied.

The drainage-tubes were left of sufficient length to be carried over the side of the bed into a bottle, and by their syphon action they kept the bladder empty. The dressing was changed daily, and irrigation was practised twice a day with a boracic solution. The double tube made this possible without disturbing the dressing.

For the first twenty-four hours after the operation there was considerable pain, probably exaggerated by the patient, and more difficult to control on account of his previous morphia habit.

It is of interest to note how slight and of how short duration was the fever following the two operations. The morning following the divulsion of the stricture the temperature was 101°. The next morning it was normal, and in the evening following the operation for stone it reached 102.4°, but after that never exceeded 100°.

On account of the disabled condition of the urethra, the drainage was kept up longer than would usually be necessary. One tube was removed on the twelfth day, and the remaining one on the fifteenth day after the operation.

A sound (about No. 25 French) was passed, and slipped easily along into the bladder without catching in any of the false passages. The wound rapidly contracted, and the greater part of the urine passed by the urethra.

On the twentieth day after the operation the patient was up and about, with only a small, fistulous opening where the wound had been, and on the twenty-sixth day he went home by his own wish.

There is some interest attaching to the indications for the selection of the appropriate operation in this case. The effect of false passages in increasing the risks of a litholapaxy I have never seen mentioned, and yet, in case of a stone of any considerable size, their existence so complicates the operation as to add greatly to its dangers.

In the case that I have reported, had the stone been of moderate size and of soft consistency, its removal could have been effected with perhaps two introductions of the lithotrite, and two more of the evacuating tube, and with care, this amount of manipulation would have been possible without serious injury to the urethra, but with a stone of the size found, the repeated introduction and prolonged use of instruments would have been required, and would have caused great damage to the parts. Lithotomy was, therefore, indicated, and the size of the stone made the suprapubic method preferable.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

THE PHYSIOLOGICAL FUNCTIONS OF THE MARROW AND ITS RELATIONS TO DISEASE.

THE interest which has been aroused of late years from the discovery by Bizzozero and Neumann of nucleated red corpuscles in the marrow and the changes which have been noticed in it in association with pernicious anæmia have induced Geelmuyden[1] to take up the subject.

It has been known for a long time that in mammals during their fœtal condition the red-blood corpuscles were provided with nuclei, and that this is a persistent condition in the lower vertebrates. In the fœtus they are found in blood, but in the greatest numbers in the liver and spleen, and these two organs have been regarded, therefore, as their place of development. They occur first in the marrow in extra uterine life, while they disappear at this time from the blood and organs. From these premises Bizzozero and Neumann naturally drew the conclusion that this was the source of their supply after birth.

Before giving the results of his own work a brief description of the generally-received details of the kinds and structure of the marrow is given, as essential to a clear understanding of the subject.

Three sorts have been distinguished. The yellow or fatty, the red or lymphoid, and the gelatinous marrow. The last is found only under pathological conditions: the first occurs in the adult, in all the bones of the extremities, even in the spongy ones; while the red marrow is restricted to the bones of the trunk, namely, the vertebral column, ribs and sternum.

The cells of the red marrow vary greatly in form and character. If a fresh preparation is examined in a three-fourths per cent. solution of common salt there is seen a mass of round cells of all sizes. The protoplasm of these is partly homogeneous and in part contains a number of refractive granules. In close relationship with these stand the so-called nucleated red-blood corpuscles. These are small, more or less hyaline cells, more or less colored with hæmaglobine. At times they contain two distinct nuclei and the cell body shows indication of a line through the middle as if about to increase by division. Sometimes the nuclei are found partially protruding from the protoplasm, and even look as if lying free in a saucer-like depression. The author does not assert that the nucleus is lost in this way, but he has found nothing to support the older theory that it breaks up into granules and is dissolved, undergoing in this way, a sort of atrophy. Large granular cells with a complicated nucleus, called myeloplaques, are always found in the marrow. These lie imbedded in the parenchyma and are to be distinguished in many ways from the osteoclasts lying close to the walls of the medullary spaces. Besides these there are spindle and star-shaped connective tissue cells, more or less rich in protoplasm, in large numbers.

Of especial interest are the pigmented cells and those containing blood corpuscles, in as far as they represent marked degeneration of the latter. The number thus contained may vary from one to twenty, but in rare instances as many as fifty have been counted in a single cell. In these all the steps of destruction can be followed, beginning with the perfectly fresh red-blood cell and ending with the clump of pigment.

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[1] Virchow's Archiv., Vol. 105, p. 136.

In order to obtain a clear idea of the distribution of the blood, about which there is dispute, bits of bone were carefully decalcified and sections made from this.

In the yellow or fat marrow there were found widely scattered vessels lying between the fat cells, which were closely pressed together. As a rule the pure fat marrow only fills a part of the cavity of the long bones, and alternates with that of which the color is paler or a more diffused red. This color is found to depend either upon a simple hyperæmia or a partial infiltration with round cells. The walls of the vessels are seen as fine dark lines. These are capable of very little resistance, as is shown by the extravasation of blood, which are frequently found penetrating for some distance between the somewhat atrophied fat cells.

In the lymphoid marrow the fat is reduced to a small number of widely separated droplets. But as a support for the otherwise loosely adherent cells, there is a network of star-shaped anastomosing connective tissue corpuscles. A similar plexus of dilated capillary veins is again noticed, and close to these extensive extravasations of blood. In extreme anæmic conditions the lymphoid marrow consists almost entirely of an intimate mixture of medullary cells and red-blood corpuscles. The thin-walled veins can no longer be recognized.

In diseases which are associated with a marked decrease of fat tissue, that is, cancer and tuberculosis, that in the long bones also disappears. The space thus left is not filled with round cells and blood so as to form a lymphoid marrow, but is replaced by a light yellow, transparent, more or less firm, gelatinous mass. In extreme cases this does not occupy all the space, and the small round fat cells with their nuclei, surrounded by a layer of protoplasm look as if lying in an excavation of the matrix. In the spongy bones this form is rarely seen, the lymphoid cell elements completely covering it up.

In the investigations of the author on the conditions of the marrow in disease, he has paid especial attention to that of the long bones, and to the occurrence of the nucleated red corpuscles and pigmented cells in the spongy bones. The importance of this is clearly manifest, since that of the hollow bones often changes into an embryonic state similar to that of the spongy bones, which are regarded as the source of blood formation. The above-mentioned cells are to be regarded as an expression of regeneration and destruction of the red-blood cells.

If it is really so that the red corpuscles are formed in the bone marrow, then those diseases in which we would expect a characteristic change here, are those associated with anæmia and in which the number of corpuscles has been greatly reduced. Yet in these diseases the hollow bones are found filled with red marrow. In such cases the entire volume of this marrow is increased and all the conditions are present for an increased production of red corpuscles. This increase, therefore, of red marrow must be regarded as a secondary compensatory change, called into existence by the anæmia. And this last can only be explained by an increased destruction of red cells somewhere in the organism.

This assumption is greatly strengthened when the conditions found in pernicious anæmia are taken into account. The chief symptom of this is a marked diminution of the red-blood corpuscles and the development of a lymphoid marrow in the long bones as a rule (82 per cent. of all cases). The nucleated cells present are fewer in number than in normal individuals, but their number is, however, much larger than in most diseases.

The fact that these are occasionally wanting seems at first sight to go against the idea, that places the regenerative power in the medulla of the bones. But when it is remembered that in cases of acute anæmia from loss of blood, they are always present and often in large numbers, their occasional absence in chronic anæmia should have little weight. For in the latter case the individual has been pulled down, and the activity of the cells in general is very much reduced.

In pernicious anæmia there are found great variations in the intensity of color, size and shape of the nucleated cells, and the non-nucleated corpuscles follow very closely upon them, thus pointing to their origin.

Another peculiarity of pernicious anæmia is the frequent occurrence of large cells containing blood and pigment. Surprising as it may seem, it must nevertheless be conceived that a destruction of red cells takes place in the marrow, and may assume such proportions as to equal the regenerative process. This he also regards as a secondary phenomenon dependent upon the exceptional conditions of circulation. The bed of the blood stream is extremely widened, and the current in consequence very much slowed. If, as often happens, extravasations take place, then further difficulties must be thrown in the way, and a true stasis result. As takes place in the other parts of the body, the white cells come in to aid in carrying off this blood, and in this manner the large cells above mentioned are brought into existence.

He closes his paper with an account of his investigations on various animals for the purpose of establishing the presence of intermediate forms. This was chiefly done by rendering the subjects anæmic and then killing them after varying periods. As a whole his results are not conclusive, although they tend to show the presence of such forms.

In union with other observers he found that the spleen became markedly atrophied, but it did not contain red-blood corpuscles more or less deeply furrowed such as were found in the normal spleen. These peculiar bodies he regards as representing a form of degeneration. This, it appears, is interrupted as the individual becomes anæmic, for the organism has immediate need of the entire quantity of hæmoglobine over which it has control to supply the loss from the hæmorrhages. So this atrophy of the spleen must be regarded as a sort of inactive period.

Accompanying the article is an excellent list of the literature pertaining to the subject, and the different forms of cells described are well illustrated in the plates.

ANATOMICAL INVESTIGATION AS TO THE ORIGIN OF VESICULAR EMPHYSEMA OF THE LUNGS.

Two different theories have been advanced about the process lying at the bottom of this. The one takes a purely mechanical activity as point of departure, while the other presupposes a vital, nutritive disturbance. In the first an increased pressure is the main point, whether it is referred to inspiration or expiration. About the nutritive disturbances there is greater difference of opinion. Some regard it as a modification of the blood current, others as a chronic inflammatory process with subsequent fatty degeneration. A third party blame the nerves leading to the lungs, and speak of a trophic neurosis. While yet others think that the disease begins with a primary destruction and thrombosis of the capillaries.

Klasi[2] has made a careful analysis of the different opinions controlled by observations and experiments of his own.

Before summing up the results of his own work he recalls a few of the histological points which seem to have a special bearing.

The alveoli are covered with a continuous layer of epithelium which presents itself in two forms: (1) Large non-nucleated scales, without protoplasm, and (2) small cells containing protoplasm. (Interpolated cells.) All the authorities agree in saying that the nuclei of the cells lie in the meshes of the capillary network, varying in number from one to three. It remains now to be settled whether these cells are confined to the meshes or whether they spread over the vessels with a scale-like expansion. From his studies the author is inclined to the first view.

What are the peculiarities of the epithelium and what are its functions? As to this, his observations support the view of Arnold, who considers that it is of marked thickness, and that it furthermore has elastic properties. This is rendered almost certain when the displacement to which the capillary net is subjected during respiration is considered.

About its functions very little is positively known. The supposition is that it serves as a support to the capillaries, and also aids in regulating the amount of fluid.

The basement membrane is found as a thin, quite homogeneous membrane, provided with scattered nuclei and in which the elastic network of fibres with their branchings are imbedded. Finally, Arnold has made us acquainted with a well-developed lymph system with more or less complete gland-like accumulations. He has further shown how this envelopes the finest arteries and bronchioles like a sheath, and from there sends prolongations between the septa, and are even to be found isolated within them.

The first stage of emphysema shows itself in an increase in the size of the vascular meshes and a heightened activity of the epithelium. This latter is explained as reaction to an irritation, which must be regarded as the excessive expansion. This persistent and continually increasing pressure soon brings about the opposite effect. The epithelial cells are torn through the cement which unites them to each other as well as from the capillaries. This loosening and separation soon leads to a degeneration of the cells, from disturbance of nutrition or of the amount of water contained in them. They are then reduced to a thin lamella, which are capable of very little resistance, especially in the alveolar septa where the defect is first noticed. This disappears by absorption or degeneration, and the finest elastic fibres lying in it either disappear or retract and surround the opening. The larger this is, the thicker will be the surrounding layer of fibres, which can have originated by being pressed one against the other. Where there is abundant connective tissue as between neighboring infundibula, there is also a defect to be expected. This destruction of the epithelium leads at the same time to a loss of the capillaries. They have lost their support. They are exposed in consequence to increased pressure, to greater stretching and pulling, since they are only attached to a thin membrane. By this, their lumen is reduced to a minimum. Finally, this thread, which for a long time has not allowed any formed elements to pass, is broken. The walls collapse, degenerate and disappear. Numerous injected preparations illustrated this finely.

The elastic tissue possesses the characteristics which can increase the process started by the epithelium. The author believes less in a real atrophy of this very resistant tissue than in a pushing aside of it and a displacement of its fibres, which can simulate an atrophy. The connective tissue nuclei which have been mentioned by some as evidences of inflammation he regards as simply lymph cells.

In these observations he differs from the previous observers who thought they saw the commencement of the process in a primary disappearance of the intra-capillary elastic network, rather than in the degeneration of the epithelium with rarefaction of the capillary loops.

As to the etiology, he is inclined to the purely mechanical explanation of increased pressure. Without, however, denying that other diseases may have an influence in weakening the lungs, he regards a nutritive disturbance alone as insufficient.

INVESTIGATIONS ON THE TERMINATIONS OF THE MOTOR NERVES IN THE VOLUNTARY MUSCLES.

Miura[3] has made observations on the anatomical changes after the use of curare, which is well known to cause a paralysis of the nerve-endings on the muscles. For his experiments he employed frogs and lizards during their torpid condition in winter. In this state the failure of the respiration, which ordinarily makes long observation impossible, is not noticed. Thus he could keep the animals alive for from twenty to fifty days after poisoning. By the aid of control observations he found that the nervous plexus of the terminal plates appeared extremely thinned, atrophied. It colored weakly, so that in many places it seemed as if broken through. The so-called granular substance was much reduced, and in like manner was only feebly colored. The basement nuclei as well as those of the muscles were neither increased nor diminished.

This he regards as of the nature of a simple atrophy, and not a degeneration, as has been described. The heart, in spite of the great doses of curare, continued to work uninterruptedly, while the muscles of the body were completely paralyzed.

ON THE NATURE OF THE SO-CALLED HYPERTROPHY OF THE PROSTATE.

Thompson[4] from his own observations post-mortem divides the enlarged prostate found in elderly people into four groups.

(1) An increase of the glandular tissue and stroma in the relations corresponding to the normal. True hypertrophy. This is comparatively rare and causes no especial increase in size of the organ, which can present abundant secretion and large concretions.

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[2] Virchow's Archiv., Vol. 104, p. 353.

[3] Virchow's Archiv., Vol. 105, p. 129.

[4] British Medical Journal, 1886, p. 1156.

(2) A new formation composed almost entirely of connective tissue with a tendency of the gland tissue proper to rarefaction. This gives the fibrous hyperplasia, or where the smooth muscular fibres do not remain behind in their increase, the fibro-muscular hypertrophy. This is the ordinary form, which has great increase in volume, but little secretion and formation of concretions.

(3) Great increase of the glandular part over the hypertrophy of the stroma. Abundant secretion and concretions are characteristic of this rare "glandular hyperplasia."

(4) Increase of the gland tissue and stroma in proportions corresponding to the normal, but with the production of circumscribed tumors. This well-known "local hypertrophy" can be established in a normal as well as any kind of hypertrophied prostate.

ADENOMA OF THE PLACENTA.

Klotz[5] describes a disease which seems to lead to abortion, with retention of the placenta, and consists in new formations of the character of adenoma.

Microscopic examination was made in five cases of retention after abortion, and in three the peculiar formation was found. The point of departure appears to be in the glandular layer (stratum spongiosum) of the decidua serotina. The earliest change is found to consist in the transformation of a portion of its connective tissue into a gelatinous mass of protoplasm, of an embryonic form, and of its glandular epithelium into a stratified layer. This last is composed of elongated flat cells, which are to be distinguished from the decidual cells of the same general shape by their greater length, and by the smallness of their nuclei.

As soon as the epithelium commences to form, there is produced a great number of nuclei. If a double staining has been used, they take the blue color of the hæmatoxylin, while those of the decidual cells retain the carmine color.

The mass of tissue thus run together grows in the form of buds, villi, or knobbed projections. Further growth and repetition give rise to trunks with branching shoots. These twist into each other, on account of the restricted space, forming ball-like masses, and thus the nodules of adenoma are produced.

In one case there was a recurrence in six months after removal, which presented the same histological structure. Repeated removal and cauterization with nitric acid resulted in healing.

The author believes that the adenoma is formed before the expulsion of the fœtus, and that it is the cause of its death and abortion, and he further thinks that the retention is due to this also.

TUBERCULOSIS OF THE TENDON-SHEATH.

Berger[6] gives a clear description of this rare affection, founded on four cases. He distinguishes between the acute and chronic form, and in both separates the purulent from the non-purulent. Of the first, up to the present time there has been no observation, and it can only occur now and then, as the accompaniment of general acute miliary infection.

The chronic disease is either quite diffuse, or else circumscribed. In the former, there appears a swelling throughout the entire extent of the sheath. This increases very slowly, and only causes destruction when it has attained considerable size. The tumor is a soft, sarcomatous-looking mass, surrounded by a sort of capsule, and entirely filling the lumen. On microscopic examination, the characteristics of tuberculosis are to be made out.

The latter form, the seat of which is preferably near the end of the sheath, presents circumscribed nodules, up to the size of a walnut.

In both kinds the subsequent course is the same. A destruction of the capsule and the skin comes on. The fungous masses spread more widely, and can finally suppurate. The general condition becomes worse and worse.

Much more frequent it is a secondary tuberculosis, which may follow a primary form elsewhere (usually of the bone). The sheaths of the tendons of the fingers are affected preferably with the primary form, while those of the peronei and the extensors of the foot are most frequently the seat of the secondary affection. The treatment has to be guided by the form of the disease. In two cases in which the common carpal sheath of the flexors was involved, amputation had to be resorted to. In the other cases, extirpation of the tumors was sufficient.

TUBERCULOSIS OF THE MUCOUS MEMBRANE OF THE MOUTH.

Within a few years, cases of this peculiar affection have been reported, and Hansemann[7] has taken up the subject, in view of the importance of the diagnosis. This is often of great difficulty, and cannot be made by mere inspection, and is easily confounded with cancer or syphilis. None of the symptoms of pain or redness can be relied upon, or the appearance of tubercles at the base of the ulcer to differentiate it from lues, and even the fact of healing under internal treatment is not positive, as tuberculous ulcerations at times heal spontaneously. The previous history and the manifestations in other organs must naturally be important factors.

Still more difficult, is the diagnosis between it and cancer. Age and so-called cacexia are not to be relied upon. Cancer is said to be single, tuberculosis multiple, but cases of the author show that this is not without exception. The quickness of growth, the examination of the bottom of the ulcer, and the possibility of squeezing out epithelial plugs may be indications, if they are present; also the presence of bacilli in the secretion, but this is very doubtful. An absolute diagnosis can only be made by a microscopic examination of a portion of the growth that has been excised.

In the colored preparation, the tubercles can be detected with the unaided eye as small, round spots more deeply stained. These lay usually beneath the mucosa, at times within it. Where the membrane was entirely infiltrated or destroyed, granules were often seen in the subcutaneous tissue, and even within the muscular substance. They differ but little from each other, and all show the characteristic structure of miliary tubercles. They consist almost entirely of lymphoid cells, between which are a few epithelial cells; in the centre, is very apt to be found a giant-cell. In places they are confluent. Cheesy degeneration is rarely present, and in but small amount. Bacilli were found, but, as would be expected, but very sparingly. These lay unmistakably in the giant-cells, and were also found in the midst of the tissue where there were no characteristic tubercles.

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[5] Archiv. f. Gynæcol., Vol. 28, p. 1. Ref. in Fortschritte der Medecin, Vol. 4, p. 564.

[6] Berger. Deutsche Zeitschrift, f. Chirurgie, Vol. XXI, p. 3

[7] Virchow's Archiv., Vol. 103, p. 264.

From his observations, he concludes that the affection is not so seldom as is generally supposed ; secondly, that a positive and early diagnosis can only be made by means of the microscope.

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Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

C. M. GREEN, M.D., SECRETARY *pro tempore.*

October 25th, 1886. The President, Dr. F. W. Draper, in the chair.

Dr. H. H. A. Beach reported the following cases and exhibited the specimens:

STONE IN THE BLADDER: LITHOTOMY.

Patient, a boy of fourteen. He had passed gravel at intervals for four years and complained of pain in the perineum and the glans penis whenever he passed water. This was most easily accomplished upon his hands and knees. There had been no blood voided with the urine. Micturition frequent.

The stone was removed through the usual lateral incision, and weighs 660 grains. Its longest circumference five inches, its shortest four inches.

With the exception of a small abscess in the scrotum, the wound healed without interruption, and he was discharged well at the end of five weeks.

STONE IN THE BLADDER: LITHOLOPAXY.

Patient, a man sixty-eight years old. Symptoms had existed about three years; during the past three months has had almost constant pain in the perineum, extending through to both hips, down the thighs and in the glans penis. Blood has been passed with the urine throughout the time. Stone crushed and removed.

It proved to be phosphatic and to weigh sixty-four grains. Complete relief followed its removal and the man left the hospital well seventeen days after.

Dr. Beach also reported the following case of

TUMOR OF THE BREAST.

Patient, a woman fifty-five years old. The growth first made its appearance when she was twenty years old. It was small (about the size of a hickory nut). It increased some until she was thirty years old, when she gave birth to a child. This was followed by an "abscess of the breast," when the tumor disappeared. Three years later another growth made its appearance which has grown periodically ever since. It was removed by lateral incision and weighed eight pounds.

Dr. Fitz described the appearance of the specimen as follows: the tumor formed an elongated, rounded, lobulated mass, as large as a child's head and weighing eight pounds. It was easily isolated from the subjacent tissue but was closely adherent to the skin. Although dense in the main, several of the projecting lobules were soft and fluctuating.

On section the part nearer the nipple was chiefly composed of a dense, grayish-white, slightly translucent tissue, traversed by numerous fibres. The more remote portions of the growth consisted of lobules of gelatinous material, in places scarcely firmer than thick mucus, which its appearance closely resembled.

Here and there, throughout the cut surface, were irregular cavities, either rounded or slit-like, in which was a thin, watery, or a thick, slimy fluid. The walls of these cavities were lined with a short cylindrical epithelium, and frequently formed large and small polypoid and lobulated masses which projected into the cavity.

On microscopic examination the structure of the tumor was found to be composed of abundant large cells, stellate, fusiform and round, the former anastomosing. These cells were separated from each other by a homogeneous, colorless substance giving with acetic acid the reaction of mucine. Delicate fibres traversed the intercellular substance and were the more numerous in the opaquer portions of the tumor. The bloodvessels were few, for the most part small, and thin-walled. Papilliform growths, covered with cylindrical epithelium, were seen to project into small cavities, analogous to the condition to be observed with the naked eye. The tumor was of the variety to which Virchow has applied the term intracanalicular myxoma. Billroth prefers to retain the old name, cysto-sarcoma, although recognizing that its structure may be composed of other than sarcomatous tissue and that its clinical features may widely differ from those characteristic of the sarcoma.

STONE IN A FEMALE BLADDER.

Dr. Elliot showed the fragments of a stone which he had removed by Dr. Bigelow's operation. The patient was a woman who had been hysterical for several years, and at times had had hystero-epileptic fits. She had suffered from a severe cystitis for four months and had frequently catheterized herself. At the operation the stone proved to be very soft. Among the fragments there appeared bits of paper. On passing the little finger into the bladder several jagged fragments were touched which felt like pieces of mortar; these proved to be bits of paper incrusted with lime salts. The paper clogged the lithotrite and the evacuator, so that the operation was tedious. The lithotrite worked best when used perpendicular to the patient, for in that position the part of the bladder over the anterior vaginal wall was depressed and made a convenient pocket for the fragments in front of the uterus.

The paper had undoubtedly been introduced by the patient and had served as a nucleus for the stone.

Dr. Wheeler had seen a case about a year ago, in which a coil of hair constituted the nucleus of the stone. The patient had used injections very frequently for a long time, supposing his trouble to be simply cystitis. Dr. Wheeler also spoke of a specimen in his possession some years ago, a calculus removed from a young girl, in which a hair-pin was the nucleus, the stone weighing nearly two ounces. It seems that she used the hair-pin to help herself pass urine and lost it in the bladder: some twelve years afterwards the stone was discovered.

Dr. J. W. Elliot reported

THREE CASES OF SUPPURATING OVARIAN CYSTS TREATED BY DRAINAGE.[1]

Dr. Wheeler said: I think it is the experience of all who have much to do with suppurating cysts that the worst thing about them is the difficulty which one encounters with adhesions. Within thirty years I have seen four cases of suppurating ovarian cysts: in three of them the adhesions were not very marked. They were slight in one, and in the other two little or none. The cysts were removed, and the patients recovered. One other case I saw twenty-five years ago, of a gentleman in a neighboring city, who had a patient in that condition. I opened and evacuated the cyst, but closed the abdomen and gave up the patient on account of the extensive adhesions. This operation of course failed, and the patient was in a critical condition; but after a period of three or four months the patient insisted upon another attempt to remove the cyst. At the second attempt I again found it impossible to remove it, and found also that the cyst was suppurating. I evacuated the pus and closed up the cyst, and the patient died in three or four days. No attempt at drainage was made then; it was before the days of the drainage-tube; hence the fatal result. I think from my own observations that a suppurating cyst should be always treated with drainage; the worst difficulty to encounter is that of adhesions. If there are no adhesions, and the cyst, whether suppurating or not, can be gotten out of the cavity, it is very easy to get a favorable result under the present mode of operation.

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[1] See page 441.

Dr. F. H. Davenport said in these cases it seemed as though there could hardly be too much interference; that is, the moment bad symptoms appeared, that was as a rule a direct indication for some active interference. In the first and third cases reported, when the convalescence was disturbed by fever, chills and other bad symptoms, the trouble was found to be the suppuration of secondary cysts, the walls of which had not been broken down at the first operation. Dr. Davenport believed it to be a very important rule to thoroughly break up all such secondary cyst-walls and make the abscess one large cavity at the first operation. By so doing, one element of tediousness can be avoided.

When we consider that this class of cases as a rule is marked by their slow recovery, the sinuses often taking years to heal up, Dr. Elliot's success in these three cases is very encouraging. It is undoubtedly due to the close watching, and immediate interfering at the first bad symptoms.

Dr. J. C. Warren said: It seems to me that these cases are illustrations of the surgical principle which consists in giving free drainage to abscess cavities. I mean by free drainage, such drainage as will not permit the stagnation of pus. If we have such an arrangement of tubes that we always have a flow and no stagnation, then we have conditions favorable to the process of repair. In these cases, it seems to me that it is of primary importance in treatment to drain not only through the abdominal wall, but also some dependent part. These cases are very interesting to the general surgeon as well as to the specialist, and illustrate that the general law of free drainage pertains to the abdominal cavity as well as to the other parts of the body.

Dr. M. H. Richardson asked if Dr. Elliot had ever met with any difficulty in draining through the vagina, and was answered in the negative. Dr. Richardson said that he had aspirated two cases of pelvic abscess situated in the vicinity of the right ovary, and in both cases the needle had first perforated the bladder. The bladder was not emptied in the first case, and it was thought that for this reason a deverticulum of its distended base intervened between the tumor and the vagina.

In the second case this was borne in mind, and not only was the bladder emptied as much as possible, but a sound was introduced to indicate its exact position with reference to the tumor. Yet the same thing happened, and urine flowed from the needle on slowly withdrawing it from the evacuated pus cavity. In both cases it was intended to make a free incision along the needle. In both, some difficulty presented itself so that the needle was withdrawn in time to discover where it had perforated.

The interesting point in these cases is the unusual and abnormal position of the bladder, which might be present in any case, and therefore might be freely incised.

This accident can be avoided in every case by passing the needle slowly through the parts with the vacuum applied. If it enters the bladder at any time the flow of urine will warn us not to make an incision.

In the cases referred to no bad results followed, though the needle used was large. Another case was mentioned which showed the advantage of drainage through the vagina in pelvic abscess cavities, even when already freely opened through the anterior abdominal wall.

The patient, a young woman, had had severe pelvic inflammation resulting from three abortions, which had resulted in an abscess behind and to the left of the bladder and uterus, and had formed beside an intestinal fistula.

An operation was done by Dr. Richardson for closure of the intestine by suture, and drainage of the abscess cavity. The intestine was found already closed of itself. The abscess cavity drained through the vagina. In this case there was no difficulty fonnd in avoiding the bladder because one finger could be put into the vagina and the other at the bottom of the abscess, while an assistant held a sound in the bladder. A remarkable improvement began in the patient's local and constitutional symptoms, and she is now about well.

Dr. Fifield said: The bladder takes wonderful positions: one can hardly tell where it may not be found. Many years ago, in a Parisian hospital, a man was brought in with strangulated hernia. The attending surgeon proceeded to operate, and in doing so cut into an elongated body lying in a sac behind where the intestine had lain: a spurt of fluid followed, which proved to be urine. It is the first and only time that I ever saw the bladder in that situation, and it would seem to be capable of taking very strange positions.

Dr. Fifield then reported the following

UNIQUE CASE OF DISLOCATION OF THE RIBS.

A boy about eight years old, standing near a peddler's wagon, was thrown down by some children underneath the hind wheels of the wagon, the horse started forward, and the wagon wheel went over the child's chest, over the left chest in front. Perhaps half an hour after this, I saw him. There was then a dislocation of some three of the ribs, I don't remember the exact ribs, near the region of the heart; a dislocation forwards, the cartilages of the ribs lying behind, the ribs projecting in front. The child was described as having been very blue, livid, and gasping for breath shortly after the accident. When I saw him he was breathing with considerable ease, but upon any attempt being made to push the ribs backward into their places, he again grew livid, and respiration threatening to cease, I was obliged to desist from my endeavors. I think I tried twice in this way and on each occasion the interference of respiration made me let him alone.

There was obviously no way of placing the cartilages in any position, except by cutting a hole, and putting the hand in. I advised to have him left entirely alone, hoping that this would restore the position. The following day the projection of the ribs was not so noticeable and within three days the projection had almost entirely disappeared, and the cartilages had resumed very nearly their natural place. Upon consulting all the works of surgery in my library, I could find no allusion to this accident, except in one of the volumes of external pathology by Barnes, and some person associated with him. In that work it speaks of the dislocation of the ribs forward, the cartilages being placed behind. It states that there is no well authenticated case on record. But one case is cited, and it is cited with expressions of disbelief in the occurrence of the accident, and the narrator is thought either to have drawn upon his fancy or that the case was so ill-observed that it was unworthy of any notice. I certainly have not ever seen it in the best works of English surgery. I find not the slightest allusion to any such accident.

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BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

Meeting October 4th, 1886. Dr. Ingalls in the chair.

Dr. F. S. Watson showed a patient upon whom he had performed an internal urethrotomy three years previous to date, and said: I wish to show this patient on two accounts, first because he is an extreme example of gonorrhœal rheumatism, and secondly because he shows a good result of the operation of internal urethrotomy by Otis's method. The history of the case, of the operation and its result is briefly as follows: J. O. B., aged forty-nine, came to the Clinic for genito-urinary diseases at the Boston Dispensary in June, 1883. Thirty years previous to this time he had had his first attack of gonorrhœa, and between that time and the present frequent attacks had occurred, each new "case" following fresh venereal exposure had been accompanied by a severe form of arthritis; the first points involved were the toes, then the ankles, knees, wrists, elbows, shoulders, and finally the dorsal vertebræ; no actual anchylosis had occurred except in the great toe of the left foot. One attack of rheumatism had been sufficiently severe to keep him confined to bed for five months.

The last gonorrhœal affection occurred ten months since.

The urethral symptoms were: a gradual narrowing of the stream of urine for a year past, gleet, frequency of micturition, fifteen times during the day, four times during the night, a good deal of pain and scalding attended the act. There was dribbling after its completion.

The normal calibre of the urethra was 30 (French), meatus 27, at 3 inches from the meatus a stricture well formed, of one-half inch in length, and of a calibre of 23 (French).

The urine is normal except for the presence of a small quantity of blood and pus, and some mucous shreds.

He was sent to the Carney Hospital, kept in bed for two days, on a preparatory treatment of potass. citrat. and quinine.

The stricture was then divided to 31 (French), with an Otis's urethratome, and a No. 31 (French) steel sound passed into the bladder. Neither hæmorrhage nor rise of temperature nor any untoward symptom followed the operation. The frequent micturition disappeared in two or three days, and on the fourth day the patient left the hospital greatly relieved. Soluble iodoform bougies were inserted into the urethra for the first three days following the operation, and quinine was given for the same period.

On the second, fourth, sixth day, and every second day for two weeks a No. 31 (French) steel sound was passed.

The patient then went away and was lost sight of for three years; to-day he again presented himself, stating that he had been greatly improved in health in all respects until three months ago, when without venereal exposure, he had another attack of rheumatism, which was very severe, and greatly exhausted him. But that he had never had any return of his urinary symptoms, and considered himself well in that respect. I examined the urethra, and found that a No. 29 (French) sound passed readily into the bladder, and that *no* recontraction had occurred at the former seat of stricture. The meatus had recontracted one number. He has never had an instrument of any kind passed into the urethra, nor has he received any other treatment directed to it since the time that he ceased to be treated by me three years ago.

It is because of the absence of recontraction of the well organized stricture, after its thorough division by the knife. That is, to the permanence of results of a properly performed cutting operation, that I show this patient. Three years ago, Dr. G. H. Tilden and I published the immediate results of this operation in about twenty cases in which he had performed it. Time enough had not then elapsed since the dates of the operations to authorize us to speak from our own experience of the lasting results of the operations. Some of these cases have since reported to us. Of my own cases, three beside the present one, I have seen from time to time, and in these three there has been no recontraction whatever; gleet has ceased, and the patients consider themselves cured. Two other upon whom I operated have proved failures, having recontracted. Of the remainder I know nothing. It is very possible that the failures may have been due to a lack of experience of the operation, they having been among the earlier one. The sum total of my experience to-day enables me to say only, that I believe that in a small majority of strictures anterior to the bulbous urethra, of wide calibre (14 French) and upward, yield results lasting, at any rate, several years without subsequent use of instruments, and perhaps permanent, while the minority will prove failures in the sense that they will recontract, and require repetition of the operation, or subsequent dilatation, at stated intervals.

Dr. Langmaid said that he considered the term gonorrhœal rheumatism in many instances a misnomer, as he was sure in a large percentage of these cases the processes were reversed, the gonorrhœa being a symptom of the rheumatism, not a cause.

Dr. Watson replied that he could not consider the criticism as applicable in the present case as there was never an attack of rheumatism without fresh infection, and every new gonorrhœal infection produced anew the rheumatism.

Dr. Porter inquired as to the changes that had occurred in the urinary symptoms.

Dr. Watson replied that there was no complaint of any disturbance whatever in the genito-urinary tract.

Dr. Cabot stated that the treatment by gradual dilitation showed also a good percentage of permanent cures in the same class of cases as did the cutting operation, that is, when the stricture was of large calibre. In his opinion the important factor in effecting the cure was securing full dilatation of the contracted urethra, irrespective of the means by which this was accomplished, and retaining this full dilatation until the tendency to contract had disappeared.

Dr. Porter stated that divulsion produced permanent cures frequently, even without subsequent passage of the sound.

Dr. M. F. Gavin reported

A CASE OF SUPRA-PUBIC LITHOTOMY.[1]

Dr. Cabot reported a case of

SUPRA-PUBIC LITHOTOMY,[2]

in a patient with a large stone and false passages about the urethra.

He considered it important in this operation to fill the bladder before distending the rectal bag, and showed by drawings from frozen sections, how great an effect the combined distension of bladder and rectum, have in raising the prevesical fold of peritoneum and in so steadying the bladder as to make the incision into it a comparatively simple matter.

He thought that when it was especially desirable to raise the vesical floor, as in cases of tumor, it was best to use a short, pear-shaped colpeurynter which would lie in the lower part of the rectum and press upwards from there, rather than a long sausage-shaped bag which, reaching up behind the bladder would press it forward and would not lift it so much out of the pelvis.

Dr. Watson said that this operation had within a very short time been revived, and from the improvement in technique was destined to take a prominent rank in the operations for stone. In the old operation there were two dangers, septic phlegmon and opening of the peritoneum. These are now overcome by drainage and antiseptics. In the operation as performed to-day, trouble is apt to arise from two other causes, namely: pushing down in front of the bladder with the finger under the pubic bones, and an improper method of dividing the pre-vesical fat which should be cleanly cut through with the least possible disturbance, as any traction exerted upon it will disturb very decidedly the peri-vesical tissues and decrease the chances of good union in the wound.

Dr. Porter said that he wished to direct attention to a point not mentioned previously, that is, the applicability of this operation in cases of tumor of the bladder. Its usefulness was perhaps even greater here than in cases of stone. Compared with operations by other methods he had found it affording greater facility for examining and removing the tumors and devoid of many dangers. He favored injecting the bladder first as giving more perfect control of its position and exhibited diagrams illustrative of this point. Drainage in these cases was sufficiently secured by a soft-catheter after the first three days, as there was no escape of urine through the upper wound a few hours after the removal of the tubes. The operation has been done many times without dilatation of either rectum or bladder. Dittle, of Vienna, constantly operates in this way and has devised special instruments, the important one being a pair of retractors and a knife grooved to enter the bladder upon a guide. The speaker favored the use of broad and firm spatulæ and the small electric light for illuminating the vesical cavity.

Dr. Gavin stated that the question of the best method of drainage was still under consideration. Sir Henry Thompson in his series of eight cases employed drainage-tubes in the wound in four cases, and in the secondary four omitted them. All did equally well.

Dr. Blodgett said that he hoped to hear more in detail the description of methods for securing drainage after the operation of opening the bladder from the abdominal surface. It would seem that perfect drainage might have more to do with the success of the operative procedure when the viscus is opened, than in ordinary and less serious operations.

Dr. Blodgett spoke of a method of securing constant drainage of the bladder which he had seen carried out in Guy's Hospital, in a case operated upon by Mr. Howes, of London.

The patient was a small boy, who was suffering from retention, and in which it was not easy to pass a catheter, or in any ordinary way to relieve the vesical distention. The bladder was opened by the suprapubic method, and a soft catheter was subsequently passed into the cavity of the organ through the wound and gently pushed along the floor of the bladder, until the point entered the urethra. The point of the instrument was felt beneath the perinæum, and by a simple incision was exposed, and the end brought out through the second wound; thus establishing a channel for continuous and complete drainage of urine, as well as for the evacuation of any other products which might collect in or about the bladder. The abdominal wound healed rapidly, without complication. The condition of the child was good throughout, and Mr. Howes was quite satisfied with the method as a means of drainage of the bladder in cases in which for any reason this is to be desired. One point which seemed to be a feature in its favor lies in the fact that by this method the bladder is drained from its most dependent part, from the base, through the perineal floor, without wounding the prostate, or opening the deeper parts of the floor of the pelvis, thus avoiding some of the recognized perils attending any operation upon the bladder from this direction.

Dr. Langmaid read a paper on

FALLICULAR TONSILLITIS.[3]

Dr. Leland said that in those cases where the douche was contraindicated, its employment was not attended by the dangers met with where, according to the readers' views, its use was indicated, because in the former cases the eustachian tubes were closed, but in the latter, in consequence of atrophy, they were patent and fluid could easily enter; thence he never employed the nasal douche.

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[1] See page 446 of this number of the Journal.

[2] See page 447 of this number of the Journal.

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Dr. Langmaid said he referred to extreme cases where the fetor was great. In the majority of cases of disease of middle ear induced by the douche there was associated stenosis of the nostril.

Dr. De Blois said that in many cases the vault of the pharynx alone was affected, and for the treatment of these he preferred the syringe to the spray, for the uvula will get in the way of the latter and too much force is required to clean away the secretion. He teaches the patient to use the syringe, and never the so-called nasal douche. His experience has been that the large follicles are rarely cured.

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ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY.

The Annual Meeting of the Council of the above Society was held at four o'clock in the afternoon of Thursday, October 29th, in the Harvard Medical College on Boylston Street, Boston. A number of new members were elected to the Society, and the usual routine of business was transacted.

At the annual meeting of the Society held at half-past four o'clock of the same afternoon and at the same place the following officers were elected for the ensuing year: *President*, Henry W. Williams, M.D.; *Vice-President*, Richard M. Hodges, M.D.; *Treasurer*, Francis Minot, M.D.; *Secretary*, Robert Amory, M.D.; *Trustees*, Joseph Sargent, W. L. Richardson, F. C. Shattuck, B. S. Shaw, James Ayer, B. E. Cotting, William Mack, J. O. Green, Augustine Shurtleff.

The treasurer reported that he had distributed about fourteen hundred dollars to thirteen beneficiaries who were eligible under the rules of the Society. The invested property of the Society amounts to about $22,000 in current value, but under the restrictions in the methods of investment the accruing income is small.

The object of this Society is to aid members of the medical profession, crippled by age or disease, and their families when in need.

The admission fee to new members of the Society is fixed at three dollars, and the assessment for each subsequent year is two dollars, payable at or before the annual meeting. The payment of twenty-five dollars constitutes a membership for life. The payment of fifty dollars or more at one time entitles the donor to be inscribed as a benefactor of the Society. Any member who shall become a benefactor of the Society, or the widow of any such member shall be entitled to receive the interest of the sum, thus given by him (but not the arrears of interest), as an annuity whenever, and as long as his circumstances shall be such as to lead him to claim said annuity.

No annuity shall be granted to any physician or his widow, if they shall be under sixty years of age, except under peculiar circumstances. But annuities once voted shall not be withdrawn, except on account of misconduct in the recipient, or because this assistance is no longer deemed necessary.

No permanent grant shall be made to any party except upon proof of good moral character, and if granted, it may at any time be withdrawn upon proof of intemperance, improvidence, or immorality; it being the intention of this Society to devote its funds to the relief of distress arising from misfortune and not from misconduct. No permanent grant shall be made to a disabled physician who has, if single, $250 a year, or if married, $300 a year to live upon.

The aid of this Society which was incorporated in 1857, shall be granted for the relief of those only who are or have been members of this Society, and their families; and of other members of the medical profession who are or have been inhabitants of the Commonwealth of Massachusetts, their widows and minor children.

Donations to the general fund of this Society have chiefly come from the members of the medical profession, but in some instances sums of money have been devised from the estate of individuals not directly connected with the medical profession. If some of the experiences of the aid which occasional small sums have rendered in many instances were more generally known, the needs of increasing the general fund and its income would most surely meet with favor among benevolent persons.

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Recent Literature.

Puerperal Convalescence and the Diseases of the Puerperal Period, by Joseph Kucher, M.D. 12mo, pp. 311. New York: J. H. Vail & Co. 1886.

This book is a valuable addition to obstetric literature. The author writes after four years service as assistant in the Second Obstetric Clinic of the Vienna Lying-in Hospital, with the additional experience of several years in private practice: the book may therefore be accepted as reflecting the teachings of the Vienna school.

Nearly half of the volume is devoted to the consideration of puerperal fever. The theory that this affection is an essential disease is very successfully combated, and the views of Semmelweis, who nearly forty years ago urged that puerperal fever always originated from infection by the absorption of septic material through lesions in the genital canal, receive the most complete elucidation and vindication that we have seen in the English language. The section on the treatment of puerperal fever is, though brief, especially valuable. We do not entirely agree with the author as to details, believing with Garrigues and Richardson in the use of the occlusive pad and the omission of the vaginal douche in the absence of definite indications. But methods of treatment may be safely left to individual opinion and experience if based on a correct understanding of the septic origin of the affection.

Other chapters are devoted to lactation and affections of the breasts and nipples; to albuminuria, eclampsia, phlegmasia alba dolens, mania, and other puerperal diseases. Practitioners will find these chapters of great practical value.

The style of the book is at times brusque and dogmatic; rather that of the advocate than of the calm man of science. Still, the importance of the subject and the apathy of many members of the profession in the proper understanding of the nature and prophylaxis of puerperal fever go far in excusing an incisive method of gaining attention. We congratulate the author on his work.

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283 Washington Street, Boston, Mass.

THOMSEN'S DISEASE.

In a recent monograph Erb[1] has given us an exhaustive account of this curious affection, and has made great additions to our knowledge of the subject. He admits but twenty-three typical cases among those yet reported, two of which came under his own observation and have been previously reported,[2] and a third was reported by Fischer.[3] The disease is hereditary, affects members of the same family, and begins in infancy or as late as puberty. After any period of rest there is stiffness of the muscles and slowness of movement in any attempt at muscular contraction. After persistent effort the stiffness passes off. If the patient is asked to perform a movement he can do so promptly, but the contraction persists from five to thirty seconds, rendering it impossible for him to relax his muscles. These persistent contractions Erb terms myotonic disturbances of motion. There is great muscular hypertrophy, but the muscular strength is not equally increased. Erb noted "fascicular" contractions in the muscles, which he says are distinct from fibrillary contractions. In the case reported by Pitres and Dalledet[4] the facial muscles were affected, so that there was difficulty in speaking. Erb's researches into the mechanical and electrical excitability of nerves and muscles are of the greatest importance, however. In the motor nerves he finds the mechanical excitability somewhat diminished; the faradic excitability normal, though a sudden increase in the current may produce prolonged contraction, lasting four to ten seconds after the current has ceased; galvanic excitability normal, though a succession of shocks may caused prolonged contraction. In the muscles the mechanical excitability is increased, a touch with the finger being enough to excite tonic contraction lasting from five to thirty seconds. The faradic excitability is very marked, sudden increase causing prolonged contractions, but opening contractions are never lasting. Galvanic excitability is increased quantitatively (KaSZ and AnSZ with one-fourth to two milliampères). Qualitatively both poles may act alike, but the anode may be a little more marked. The muscular contractions are slow and tonic, and prolonged. The most characteristic sign is the occurrence of rhythmical wave-like contractions produced by stabile currents when one pole is placed on the muscle, best of all when placed upon its tendinous end. These contractions proceed from the kathode to the anode. For these wave-like contractions, which are typical, Erb proposes the name of myotonic reaction (MyR); the analogue of reaction of degeneration. He considers it typical of Thomsen's disease, and suggests that a tap of a percussion hammer, and a few kathodic closures will be enough to establish a diagnosis. Fischer obtained these reactions, about fifteen to twenty seconds apart, with a current of 15–20 milliampères. Eulenburg and Melchert,[5] in an interesting series of four cases in one family, find somewhat similar electrical changes, but fail to get the myotonic reaction. Erb removed a bit of muscle from one patient and found an enormous hypertrophy of the fibres. Cross-section of the fibres showed a rounded almost circular outline, instead of the normal polygonal shape. There was an increase of the interstitial tissue and of the nuclei of the sarcolemma. Fischer found the contour of the bundles uneven and tumefied, due possibly to excision. The transverse striation, too, was not well marked. In Fischer's case Erb found also vacuolization of the individual fibres. Erb is not yet willing to affirm or deny that the disease is a tropho-neurosis. Careful post-mortem examinations of the nervous system are still wanting.

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RECENT METHODS OF TREATING HÆMORRHOIDS.

Internal hæmorrhoids demand more frequent surgical interference than any other variety of this common affection. Situated completely within the rectum, between the external and internal sphincters,—rarely above the latter,—they may be divided into those which are soft, elastic, highly vascular, erectile, and easily engorged, and those in which the tumors, produced by the extravasation of blood into the adjacent tissue and its subsequent coagulation and fibrinisation, are hard and indurated. The powerful contraction of the sphincter muscles upon such tumors, provokes their protrusion: they often become strangulated, and great pain results if operative measures are not adopted. The dilatation of the anal sphincters, while affording great temporary relief and sometimes even more than this, by removing the cause of the strangulation, does not, however, cure the disease.

The modern and successful treatment of hæmorrhoids requires the adoption of measures which shall accomplish their cure in a short time, with little or no pain, and ensure the patient against a return of his disease. Of the methods now in vogue for the radical cure, two, namely, the injection of certain agents — notably carbolic acid — and the use of the clamp and cautery are assuming great prominence.

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[1] Die Thomsen'sche Krankheit (Myotonia Congenita) Studien. Leipsic, 1886.

[2] W. Erb. Klinisches and Pathologisch-Anatomisches von der Thomsen'schen Krankheit. Neurolog. Centralblatt, No. 13, 1885.

[3] G. Fischer. Ein Fall von Thomsen'schen Krankheit. Neurolog. Centralblatt, No. 4, 1886.

[4] A. Pitres and L. Dalledet. Une observation de maladie de Thomsen. Archives de Neurologie, September, 1885.

[5] Eulenburg and Melchert. Thomsen'schen Krankheit bei vier Geschwistern. Berlin kl. Wochenschrift. No. 38, 1885.

The substances which have been, and still are, employed for the injection of internal hæmorrhoids contain,— as an essential ingredient of the solution introduced,— perchloride of iron, ergot, chloral, alcohol, or carbolic acid. The last named is, at present, generally chosen, and in its selection the object aimed at, and claimed to be most frequently obtained, is a solidification of the hæmorrhoidal tumor without attendant sloughing.

By the cautious use of carbolized injections, a cure can, unquestionably, be brought about, but a pile which has thus lost a portion of its vascular supply, though it may consequently become so small and indurated that it neither bleeds nor protrudes, is not as radically cured as one which has been actually and literally removed. The surgeon cannot be sure it will not return.

In the use of carbolic-acid injections, there is, unfortunately, no rule as to the strength or quantity which can be used with impunity in every case. A weak solution will produce a slough in one case, while a stronger solution used in another will not. As the amount of suffering, as well as the length of treatment, is dependent upon the occurrence or non-occurrence of this accident, which certainly is not infrequent, it must still be regarded as an open question whether the method by injection is the beneficial, safe, and certain remedy which it has been represented to be. "Each injection is a surgical operation, and may cause greater pain and longer confinement by its effect upon a single hæmorrhoid than the clamp and cautery will entail" (Kelsey) in effecting the radical destruction of half a dozen. It is practically impossible to form any opinion of the time necessary for a cure, or the amount of pain which the patient will have to endure.

The most satisfactory method yet devised for effecting a complete and radical cure of internal hæmorrhoids, and the one generally adopted, is by the clamp and cautery. It has none of the disadvantages arising from the method by injection. The pain is not greater, the constitutional disturbances are as slight, and the length of possible confinement is likely to be much less. The clamp and cautery do with certainty at a single operation that which it takes many injections to accomplish. When sloughing takes place as a sequence of the latter, a similar loss of tissue results as from the use of the clamp and cautery, and by a process not so rapid or exact in its limitations. It is a rule, in the use of the clamp, to apply it to the mass in a line radiating from the arms, and not to grasp too much at a time. By so doing, injury to the sphincter muscle is less liable to happen, and the danger of undue cicatricial contraction is diminished. By the injection method such details cannot be so accurately limited.

For these important reasons, if for no others, it would seem that the treatment of hæmorrhoids by injection has not yet reached a perfection which entitles it to implicit confidence. Simplicity of method — emphasized by the halo of special virtues once attributed to carbolic acid — and aided, probably, in some degree by mystery and charlatanry, promised more from its adoption than subsequent experience has justified.

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THE TREATMENT OF CHOREA BY CIMICIFUGA.

According to Stillé, Physick of Pennsylvania was the first to prescribe the black snake root in chorea. This was as early as 1821. Cimicifuga racemosa was again brought to the notice of the profession as a remedy for chorea, by Dr. Jesse Young, in the *American Journal of Medical Sciences*, September, 1832. Dr. Young prescribed the powdered root in teaspoonful doses three times a day. It was subsequently recommended by Liudsley, Kirkbride, and Eberle.

Stillé, who considers the utility of cimicifuga in chorea as unquestionable, in summing up his observations on the remedy, remarks that "the cases most adapted for its use are those in which the nervous derangement is independent of any definite disease in other parts of the body. It must be used in doses of sufficient strength to develop its specific effects, particularly vertigo and confusion of sight."

Dr. Hiram Corson, a veteran Pennsylvania physician, has again called attention in the *Medical and Surgical Reporter*, to the remedial virtues of cimicifuga in chorea. He affirms that he has used cimicifuga racemosa in every case which has come to him in more than fifty years, "and always successfully in a brief time." He recommends the fluid extract of the dried root in teaspoonful doses after each meal, and a fourth dose at bedtime. Several cases reported by Dr. Corson were all speedily alleviated by the cimicifuga, and in one or two instances the duration of the disease would seem to have been materially abridged.

Dr. Corson is persuaded that none of the other remedies in general use for chorea (not excepting arsenic), have half the value of the black snake-root. Its effect is, he thinks, that of a "quieter of the general nervous system," and he has found it in half teaspoonful doses of the fluid extract a charming remedy for insomnia.

Ringer and Phillips regard cimicifuga as an excellent tonic of the nervous system, and especially suitable for cases characterized by failure of coördination.

— The cause of death of the late Professor Panum, the distinguished Danish physiologist, is said to have been thrombosis of the coronary artery, with consequent fatty degeneration, softening, and finally, rupture of the ventricular wall. He died at the age of sixty-three.

THE TWO HUNDRED AND FIFTIETH ANNIVERSARY OF HARVARD COLLEGE.

The seventh of November has come and gone and with it the celebration by Harvard University of the 250th anniversary of the founding of the College by the appropriation for that purpose of four hundred pounds by the colony of Massachusetts Bay. The celebration itself extended over four days; the first of which, Friday, November 5th, was devoted to a reunion of the Alumni of the Law School, for whom their Association had provided an oration, and a good one, delivered by Mr. Justice Oliver Wendell Holmes, Jr., as well as a dinner at which there was some excellent speaking by old alumni and present teachers, of a character calculated to awaken and foster a spirit of enthusiasm and solidarity among the graduates of the school.

The second day was set apart as an undergraduates' day, and the third day, being Sunday, was marked by services in the College Chapel, and devoted to quiet social intercourse among the many alumni, who had already arrived from all parts of the country, and the distinguished strangers from our own country and from beyond seas, who had gathered as representatives of other universities and colleges or to receive the honorary degrees which Harvard distributed with no niggard hand.

Monday, or graduates' day, was devoted to the programme previously announced. The morning was entirely consumed by the exercises in the College Theatre, to which the officers of government and instruction, the invited guests and the alumni marched in procession; at which Hon. James Russell Lowell delivered an oration, and Dr. Oliver Wendell Holmes a poem, which those not fortunate enough to be present, should take pains to read; and where the honorary degrees were conferred. Dr. Leidy, the distinguished anatomist of the University of Pennsylvania, Dr. S. Weir Mitchell, of Philadelphia, and Dr. J. S. Billings, of Washington, received degrees of L.L. D., upon the especial recommendation of the Medical Faculty, and were all three personally present.

The afternoon was occupied by a dinner of the alumni in Memorial Hall. Both of these festivities were honored by the presence of the Chief Executive Magistrate of the United States, President Cleveland, and of Mrs. Cleveland.

The evening brought the celebration to a fitting close by a torchlight procession under the auspices of the students, and by a fine display of fireworks upon the College play-ground.

The whole celebration passed off in the pleasantest and most successful manner possible, leaving behind it precious memories, and doubtless some digestive disturbances, for the bond of friendship was cemented around many tempting tables.

The occasion, apart from its many features and lessons of more general interest, offers one suggestion to the Medical Faculty and Medical School, and that is, the propriety of starting an Association of Medical Alumni. The Medical School is by far the oldest and largest department of the University except the Academic, and yet it had no distinctive celebration of its own existence, nor was it even represented in the students' procession of the closing evening, thus in both respects offering a strange contrast to its younger and weaker sister of the Law.

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MEDICAL NOTES.

— The story is again going the rounds of the ingenious physician who traced the cause of a case of lead poisoning to the patient's habit of holding a *lead*-pencil in the mouth.

— In reply to a correspondent asking the best internal finish for a contagious ward in a hospital, the *Sanitary Engineer* answers: "The best finish for walls in such a hospital ward is probably a good sand finish, on which should be placed three coats of paint. This appears to be the least liable to cracks and scaling, and is readily cleansed and disinfected. The best floor is oak or hard-pine, oiled. A painted floor is not satisfactory."

— *Science* speaks of recent experiments with the common tonic, the tincture of the chloride of iron, diluted with water, showing that when thus diluted it acts very injuriously upon the teeth. This is explained by the fact that the peroxide formed in the alcoholic solution is precipitated, when water is present, in such a flocculent form as not to adhere to the surface of the teeth, and consequently, the free hydrochloric acid can act upon the lime-salts of the teeth without let or hindrance. When the tincture is given without water, no action takes place; the peroxide which is then formed is of the anhydrous form, and so compact as to adhere to the teeth, and protect them from the action of the acid. These experiments have resulted in determining that there are three menstrua which can be used as diluents of this tincture, which will produce no injurious effects upon the teeth: they are alcohol in some form, Vichy water, and a simple syrup.

— A story is told by a French paper of Baron von Humboldt, who, during one of his visits to Paris, expressed to his friend, Dr. Blanche, the distinguished authority on matters concerning insanity, a desire to meet one of his patients.

"Nothing easier," said Dr. Blanche. "Come and take dinner with me to-morrow."

Next day Humboldt found himself seated at the dinner-table of the famous alienist, in company with two unknown guests. One of them, who was dressed in black, with white cravat, gold-bowed spectacles, and who had a smooth face and very bald head, sat with great gravity through the entire dinner. He was evidently a gentleman of undoubted manners, but very taciturn. He bowed, ate, and said not a word.

The other guest, on the contrary, wore a great shock of hair brushed wildly into the air; his shabby blue coat was buttoned askew, his collar was rumpled, and the ends of his crazy necktie floated over his shoulders. He helped himself, ate and chattered at the same time.

Story upon story did this incoherent person pile up. He mixed the past with the present, flew from Swedenborg to Fourier, from Cleopatra to Jenny Lind, from Archimedes to Lamartine, and talked politics and literature in the same breath.

At the dessert Humboldt leaned over and whispered in his host's ear, glancing at the same time at the fantastic personage, whose discourse was still running on.

"I am very much obliged to you. Your maniac has greatly amused me."

"My maniac!" said the doctor, starting back. "Why, that isn't the lunatic! It's the other one.

"What! The one who hasn't said a word?"

"Certainly."

"But who in the world can the man be who has talked in this fashion all the while?"

"That is Balzac, the famous novelist."

BOSTON.

— Dr. J. S. Billings, of the Surgeon-General's office at Washington, is probably the first person to be decorated with an honorary university degree for being a "student and writer in public hygiene, and a medical bibliographer."

— The title of Doctor was invented in the twelfth century, at the first establishment of the universities. William Gordeina was the first person upon whom the title of Doctor of Medicine was bestowed. He received it from the College of Asti, in 1329. — *Medical Library.*

— An informal dinner was given at the Hotel Victoria, Sunday evening, November 9th, the anniversary day of the founding of Harvard College, to the three gentlemen recommended by the medical faculty for the degree of LL.D. Drs. Leidy and S. Weir Mitchell, of Philadelphia; Dr. Billings, of Washington; President Gilman, of Johns Hopkins University; Prof. E. S. Morse, of Salem, were guests of fourteen gentlemen graduates of the College and the Medical School. The occasion was quite informal, without speeches, and proved very enjoyable.

NEW YORK.

— Dr. Julius F. Miner died at his home in Buffalo, November 5th, aged sixty-three years. He was distinguished in the profession and for many years ranked as one of the ablest surgeons in Western New York. He was born in Peru, Mass., graduated at the Albany Medical School, in 1847, and settled in Buffalo in 1855. He was for several years Professor of Clinical Surgery in the Buffalo Medical College, and also editor of the *Buffalo Medical and Surgical Journal.*

— At a meeting of the Board of Education held November 3d, a letter (which was referred to the Committee on Course of Study), was received from Miss Cattell, General Secretary of the Industrial Educational Association, in which she said that the association was desirous of affording the board an opportunity of practically testing certain branches of manual training, and offered during the current school year, free of expense, to such children as could be sent to the Association's building, instruction in industrial drawing and clay modelling for boys and girls, simple carpentering and the use of tools for boys, and sewing, cooking, and domestic economy for girls. A course of free lectures on industrial education was also offered to the teachers.

— At a meeting of the Board of Estimate and Apportionment, held October 26th, Col. Emmons Clark, Secretary of the Board of Health, explained the estimates of that department of the City Government for the year 1887. The sum of $420,268 was asked for, as against $319,000 appropriated for 1886. The amount allowed for 1887, however, was only $272,000, and the salary account was cut down from $211,728 to $170,000, of which the sum of $20,000 is to be devoted to the payment of the Sanitary Corps. President Coleman, of the Department of Taxes and Assessments, said that under the present management (General Shaler still being the President), it seemed to him that in the Health Department, the men who did the most work received the least pay. He had known many valuable men to be discharged, and useless ones kept in their places, and did not believe it advisable that a larger appropriation should be made until there was a change in the present organization of the Board.

Miscellany.

DR. CHARLES D. HOMANS.

At a meeting held October 25, 1886, the Boston Society for Medical Improvement, desiring to attest its great regard for its late President, Dr. C. D. Homans, unanimously voted to make the following entry in its records:

"In common with a large number of medical and charitable organizations this Society laments the death of its late associate, Charles Dudley Homans. He was one of its oldest still-active members, and his interest in its meetings never failed. For many years he filled the responsible position of Recording Secretary. Under its more recent method of organization he held the office of President; and as one of the Society's Presidential Committee his excellent and reliable judgment was always faithfully at its service.

"Loyalty to his profession and to his convictions, — never to anything which was unworthy, — unswerving rectitude, unostentatious charity — for the faults as well as for the straits of his fellow-men, — ability and attainments, quick business perception, methodical ways, kindly disposition and manners, and a genial sense of humor, won the respect and favor which placed him in many high positions of honor, of trust, and of medical prominence.

"Doctor Homans died, as he would have wished, with his enthusiasm as keen, his mind as quick and tenacious, as in his best days of health, with all the calmness of one conscious of a well-spent life, and with the affection, the gratitude, and the respect of a large circle of friends, patients, and acquaintances which his personal attributes, and his social and official positions had gathered about him."

C. M. Green, *Secretary pro tempore.*

HYSTERICAL APOPLEXY.

At the meeting of the Société des Hôpitaux, August 13th, (*Medical News*, October 2d, and *Gazette Hebdomadaire*, No. 34), Debove communicated the facts of an extraordinary case of hysterical apoplexy in the male. The patient, a man aged thirty-one, formerly quartermaster in the marines, suddenly lost consciousness and remained insensible for twelve hours; but without convulsions and without involuntary evacuations. For two hours there was complete paralysis of the left side, which gradually disappeared, so that in the morning, on admission to the hospital, there was only an enfeeblement with hemianæsthesia. There was no history of any previous malady, and the patient was a vigorous man, but of an emotional temperament. The diagnosis of a hysterical condition was based on the character of the anæsthesia and its cure by suitable agents. The insensibility involved the skin, mucous membranes, muscles, and organs of sense of the left side. There was limitation of the field of vision, lack of perception of violet color, and monocular polyopia. The application of a magnet caused the return of sensibility in the left arm, and at the same time a disappearance of sensation in the corresponding right limb. It required several days' application of the magnet to restore completely the sensibility of the left side. The motor paralysis followed the anæsthesia in its transference from one side to the other, and disappeared with the restoration of sensibility. Only a hysterical condition could present such features, and be modified and cured by the application of magnets.

PHARYNGEAL AND LARYNGEAL NYSTAGMUS.

In a recent issue of the *Lancet*, were published some notes, in the form of a letter, on rapid rhythmic contractions of the pharyngeal and laryngeal muscles, associated with rapid rhythmic contractions of the ocular muscles, in a case of cerebellar tumor in a girl aged twelve years. Commenting editorially upon the case, our contemporary remarks that the importance of this nystagmus of the pharyngeal and laryngeal muscles lies partly in the interest attaching to the phenomenon, and partly in its suggestiveness. In the case in question, great attention was paid to the state of the rest of the nerves of the body, but nothing in the same nature as nystagmus of any other muscle was observed; nor, so far as known, was there any rhythmical recurrence of sensation in any sensory district. The rate of the rhythm in the pharynx and larynx was perfectly synchronous with the rate of action of the muscles of the eyeball. The ocular nystagmus was of a mixed vertical and horizontal description. It is hardly likely that the symptom which Dr. H. R. Spencer discovered in this case of cerebellar tumor is of common occurrence either in tumors of the brain or in any other disease of the central or peripheral nervous system, but its present recognition will doubtless stimulate observation, and may lead to a still further extension of knowledge. The symptom is a genuine one, and evidently not dependent on a combination of conditions whose balance is easily upset, for the nystagmus has been in constant active operation for at least two months. The rate of the pharyngo-laryngeal contractions, like the synchronous nystagmus of the eyeball, is 180 per minute. It is worth while remembering the circumstance that the muscles which are the seat of the rapid nystagmus in this case are sometimes employed volitionally, and at other times automatically or reflexly. Another feature of the case to which Dr. Spencer alludes is the rate of the pulse, which is unaccountably frequent, being 160 per minute. It may be that this is related in some way to the action of the pharyngo-laryngeal muscles, whose motor fibres in the vagus are derived, in part, at least, from the spinal accessory nucleus, which is also believed to preside over the rate of action of the heart.

INTER-STATE NOTIFICATION IN INFECTIOUS AND CONTAGIOUS DISEASES.

The following resolutions, presented by the National Conference of State Boards of Health, were adopted by the American Public Health Association at Toronto, October 8th, 1886:

Whereas, It is necessary, for the protection and preservation of the public health, that prompt information should be given of the existence of cholera, yellow fever, and small-pox, be it

(1) *Resolved*, That it is the sense of the National Conference of State Boards of Health that it is the duty of each State, provincial, and local Board of Health, in any locality in which said diseases may, at any time, occur, to furnish immediately information of the existence of such disease to Boards of Health of neighboring and provincial States, and to the local Board in such States as have no State Board.

(2) *Resolved*, That, upon rumor or report of the existence of pestilential disease, and positive, definite information thereon not being obtainable from the proper health authorities, this Conference recommends that the health officials of one State shall be privileged and justified to go into another State for the purpose of investigating and establishing the truth or falsity of such reports.

(3) *Resolved*, That whenever practicable, the investigations made under the preceding section shall be done with the coöperation of the State or local health authorities.

(4) *Resolved*, That any case which presents symptoms seriously suspicious of one of the aforenamed diseases shall be treated as suspicious and reported, as provided for in cases announced as actual.

(5) *Resolved*, That any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not pestilential, shall be reported as suspicious.

(6) *Resolved*, That any case respecting which efforts are made to conceal its existence, full history and true nature, shall be deemed suspicious and so acted upon.

(7) *Resolved*, That, in accordance with the provisions of the foregoing resolutions, the Boards of Health of the United States and Canada represented at this Conference, do pledge themselves to an interchange of information, as herein provided.

In addition to the resolutions presented by the National Conference of State Boards of Health and adopted by the American Public Health Association, the following from the Advisory Council of the Association were also adopted:

Whereas, it is necessary for the protection and preservation of the public health that prompt information should be published of the existence of cholera, yellow fever and small-pox:

(1) *Resolved*, That the American Public Health Association believes it to be the duty of each State and provincial Board of Health within whose jurisdiction one of these diseases shall appear, to give immediately notice of the existence of the same to neighboring State and provincial Boards of Health, and to the Boards of towns and cities in neighboring States and provinces which have no central Board. In such States and provinces this duty of notification lies upon the local Boards.

(2) *Resolved*, That it is the sense of this Association that whenever rumors of the existence of pestilential disease in a State or province prevail, and, upon application to the health authorities of said State or province, information respecting the truth of the rumor is refused, the health officials of another State or province are justified in entering the before-mentioned State or province for the purpose of investigating and establishing the truth or falsity of such rumor. In conducting the investigation, every reasonable effort should be made to coöperate with the health authorities of the locality.

(3) *Resolved*, That a case which so nearly resembles one of the specified diseases as to raise a reasonable suspicion of its character, or a case in which concealment is attempted, ought to be reported as a suspected case, in the same manner as if the diagnosis was certain. IRVING A. WATSON,

Secretary American Public Health Association.

AS OTHERS SEE US.

AN entertaining writer in *London Truth* discourses about the "Physician Himself" from the lay point of view. He says: "The easy-going general practitioner, whether in town or country, but especially in the country, has always appeared to me to have a delightful time of it. An income of some £500 to £700 a year, plenty of moving about, plenty of intercourse with all sorts and conditions of men, and the satisfaction of doing a certain amount of good, and (all things considered) not much mischief, and being paid for both — these are the charms of country doctoring. I confess, I like doctors. They are, for the most part, chatty, pleasant, tolerant men, easy to get on with. The fact is, it is their business to make themselves agreeable, and they get into the habit of being so, even with people who are not, and have no intention of becoming their patients.

Of course, now and then a doctor may find it pay to go in for being habitually rude, and a curmudgeon. Some people — women, I think, more frequently than men — rather like a bear for a doctor. But there is this to be remembered about bearishness — it wants some sort of a reputation to back it. "Rough and Ready" are nags that sometimes go well enough in the medical tandem. But Ready must always go first. A doctor must show himself expert in his business before he sets up to be impertinent out of it. Nobody will put up with impertinence in a young man just starting, and with his spurs yet to win — nobody, that is to say, except the very poor. The very poor and ignorant, I think, like their doctor to be unpleasant, just as they like the medicine to be nasty, and do not believe in it unless it is hard to swallow. When the draught is so horrible that it seems to curdle the soul, then only do they conceive that it "is taking hold," as they say, and will do them good. But although the poor may like the physic to be bitter, and the doctor domineering and rough, these are not the tastes, as a general rule, of the more profitable class of patient. Accordingly, the doctor who means to get on makes it his business to be bland himself, and sees that his prescriptions are as little offensive as the combined resources of chemistry and confectionery will allow.

A doctor may very easily make a fair reputation and a good deal of money without much knowledge of medicine; for this reason, that the science of medicine is a closed book to the vulgar. When a man dies, none of the friends (unless there chance to be a coroner's inquest) know in the least degree what killed him. And if you call in some great medical gun at the last moment, the great medical gun is sure (indeed, I believe by the etiquette of the profession he is bound) to tell you that your doctor has "treated the case most judiciously." On the other hand, when a sick man gets well, no one knows what cured him, and the doctor — who was, perhaps, on the wrong track throughout — gets all the credit. Thus, the best — indeed, almost the only — way in which a doctor can convince his patients that he is wise and knowing in his profession is by showing them that he is a clever and well-informed man out of his profession. Of his science as a doctor they are not in a position to judge; but, if he talks sensibly about subjects which they do understand — stocks and shares, and pictures, and last night's debate in Parliament, and has fair luck with his cases — then his patients will trust and swear by him. I remember one very sad illustration of the injury which a doctor does himself who drops behind in his general information. A friend of mine who had married a wife from the county Westmeath (in those days a very "disturbed" district) came home one afternoon from the stock exchange and found the lady in a terrible state of excitement, piling the fire with pill boxes, and throwing "the mixture as before" out of the window. On investigation, it turned out that the doctor had called, and in the course of conversation had innocently and casually inquired: "What is this habeas corpus, can you tell me, Mrs. Blank, which they talk of suspending in Ireland?" To a lady who had grown up from childhood with the habeas corpus perpetually suspended over her like a drawn sword, the ignorance thus displayed was too shocking. Not a drop of that man's medicines, she declared vehemently, should ever pour down the throats of her children. This shows, I think, that the sensible doctor will do well to look into a book occasionally, and to read the morning papers — but, of course, not the leading articles. This is a punishment reserved exclusively for the editor.

Correspondence.

ABORTIVE TREATMENT OF FELONS.

Amherst, October 30th, 1886.

Mr. Editor, — The abortive treatment of felons by the use of collodion has been called for.

In the Journal for March 31, 1881, was a valuable article by Dr. A. N. Blodgett, upon the treatment of strains and sprains by *contractile* collodion, which suggested to me its use for the purpose of aborting felons.

I have used it with success, first upon my own finger in 1881, and afterwards in several other similar cases.

The collodion probably acts by forcing the excess of blood out of the finger and preventing its return, as does the wet rag of Dr. E. T. Williams and the egg-skin treatment of our grandmothers.

It was the remembrance of the latter that led me to try the collodion. Five or six coatings should be applied half way round the finger, and the application is to be repeated whenever the film of collodion breaks or begins to peel off; if applied entirely around the finger the contraction will cause unbearable pain.

I have used the contractile collodion with success in effusions of the knee, in œdema of the hand after fracture of the arm, and in the protrusion of the umbilicus in infants.

I have also used it to hasten the absorption of extravasated blood, especially upon the face and eyelids, after injuries.

Very respectfully,

D. B. N. Fish, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 30, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	667	270	27.15	18.40	8.40	2.55	11.55
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	283	110	21.00	12 20	4.65	1.75	8.75
Chicago	630,000	239	103	27.72	13.02	5.04	3.36	15.12
Boston	390,406	162	40	13.00	21.45	.65	4.55	6.50
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	148	63	21.76	12.24	2.72	2.04	10.88
Cincinnati	325,000	115	53	29.58	13.05	4.35	1.74	15 06
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	76	37	36.96	19.80	6.60	2.64	23.86
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	32	12	40.69	25.04	9.39	3.13	9.39
Charleston	60,145	35	16	11.44	11 44	5.72	—	2.86
Worcester	68,383	20	4	10.00	15.00	5.00	—	—
Lowell	64,051	25	10	12.00	4.00	—	—	4.00
Cambridge	59,660	14	6	7.14	—	—	—	—
Fall River	56,863	23	13	13.05	8.70	4 35	—	4.35
Lynn	45,861	7	3	—	14.28	—	—	—
Lawrence	38,825	9	—	11.11	—	11.11	—	—
Springfield	37,577	12	3	8 33	8.33	—	8.33	—
New Bedford	33,393	14	3	14.28	21.42	14.28	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	3	—	—	—	—	—
Holyoke	27,894	12	6	33.33	33.33	25.00	8.33	—
Chelsea	25,709	2	1	50.00	50.00	—	—	50.00
Taunton	23,674	7	0	—	—	—	—	—
Haverhill	21,795	8	1	25.00	—	—	25.00	—
Gloucester	21,713	8	6	50.00	—	—	25.00	25.00
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	1	25.00	—	—	25.00	—
Malden	16,407	5	3	—	—	—	—	—
Fitchburg	15,375	4	1	25.00	—	—	—	—
Waltham	14,609	3	1	—	33.33	—	—	—
Newburyport	13,716	3	0	—	33.33	—	—	—
Northampton	12,896	4	1	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,949: under five years of age 770: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 460, consumption 245, lung diseases 287, diphtheria and croup 202, diarrhœal diseases 85, typhoid fever 55, malarial fevers 34, measles 27, whooping-cough 24, scarlet fever 23, cerebro-spinal meningitis six, erysipelas two (small-pox (Brooklyn) one. From malarial fevers, New York 15, Brooklyn seven, Baltimore six, Chicago four, Charleston one. From measles, New York 19, Cincinnati and Pittsburgh three each, Chicago and Nashville one each. From whooping-cough, New York eight, Cincinnati, four, Baltimore and Nashville three each, Brooklyn and Pittsburgh two each, Lowell and Fitchburg one each. From scarlet fever, Brooklyn seven, New York six, Pittsburgh three, Chicago and Cincinnati two each, Boston, Lowell and Fall River, one each. From cerebro-spinal meningitis, New York three, Chicago two, Pittsburgh one. From erysipelas, Chicago and Boston one each. From puerperal fever, Pittsburgh one.

In the 24 cities and greater towns of Massachusetts, with a population of 1,067,629 (population of the State 1,941,465), the total death-rate for the week was 18.07 against 20.23 and 17.41 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending October 16th the death-rate was 18.9. Deaths reported 3,287: infants under one year of age 999; acute diseases of the respiratory organs (London) 223, diarrhœal diseases 271, fever 79, scarlet fever 75, measles 51, diphtheria 34, whooping-cough 30

The death-rates ranged from 13.9 in Bristol to 34.5 in Preston; Birmingham 20.1; Blackburn 27.3; Brighton 16.6; Hull 25.9; Leeds 24.3; Leicester 19.8; Liverpool 23.8; London 16.0; Manchester 24.5; Newcastle-on-Tyne 23.5, Nottingham 22.3; Sheffield 18.1; Sunderland 19 2.

In Edinburgh 15.2; Glasgow 23.9; Dublin 22.5.

For the week ending October 16th, in the Swiss towns, there were 34 deaths from diarrhœal diseases, consumption 22, lung diseases nine, typhoid fever three, diphtheria and croup three, whooping-cough and erysipelas each one.

The death-rates were: at Zurich 3.8; Geneva 10.1; Basle 14.1; Berne 16.0.

The meteorological record for the week ending October 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Oct. 30, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...24	30.435	40.7	45.0	35.5	74.0	62.0	68.0	68.0	N.	S.E.	S.W.	10	11	8	C.	C.	C.	—	—
Monday,.. 25	30.211	52.1	60.2	39.0	76.0	61.0	87.0	74.7	S.	S.W.	W.	6	15	6	O.	O.	C.	—	—
Tuesday,..26	30.402	48.3	53.2	46.5	83.0	83.0	85.0	83.7	W.	E.	E.	4	16	18	F.	O.	R.	—	—
Wednes... 27	30.212	45.4	47.6	44.2	94.0	100.0	100.0	98.0	E.	E.	N.	18	22	16	R.	R.	R.	—	—
Thursday, 28	29.948	46.6	49.5	40.8	98.0	95.0	100.0	97.7	N.	N.E.	E.	8	13	14	O.	R.	R.	—	—
Friday, ...29	29.983	49.2	51.1	47.2	100.0	98.0	100.0	99.3	N.E.	N.E.	N.E.	20	24	21	R.	R.	R.	—	—
Saturday, .30	29.914	47.1	49.1	45.0	100.0	100.0	100.0	100.0	N.E.	N.E.	N.E.	13	13	34	R.	R.	R.	68.00	2.74
Mean, the Week.	30.158	47.1	50.9	42.6				88.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 30, 1886, TO NOVEMBER 5, 1886.

Clements, B. A., major and surgeon. Died November 1, 1886, at Fort Leavenworth, Kans.

Middleton, J. V. D., major and surgeon. Ordered from Department of Missouri to David's Island, New York Harbor.

Woodhull, A. A., major and surgeon. Ordered from David's Island, New York Harbor, to Department of Missouri.

Williams, J. W., major and surgeon. Ordered from Department of Colorado to Department East.

Corson, J. K., captain and assistant surgeon. Ordered from Jefferson Barracks, Mo., to Department of Colorado, upon expiration of present leave of absence.

Turrill, H. S., captain and assistant surgeon. Ordered from Department Platte to Department of Colorado.

Munday, Benj., first lieutenant and assistant surgeon. Ordered from Department of Colorado to Jefferson Barracks, Mo., S. O. 252, A. G. O., October 29, 1886.

Owen, Wm. O., Jr., first lieutenant and assistant surgeon. Relieved from duty at Fort Schuyler, New York Harbor, and ordered for duty as post surgeon, Plattsburg Barracks, N.Y. S. O. 170, Division of the Atlantic, October 29, 1886.

Edie, Guy L., first lieutenant and assistant surgeon. Ordered from Fort McIntosh, Tex., to Post of San Antonio, Tex. S. O. 152, Department of Texas, October 27, 1886.

Harris, H. S. T., first lieutenant and assistant surgeon. Ordered from Post of San Antonio, Tex., to Fort Clark, Tex. S. O. 152, Department of Texas, October 27, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 6, 1886.

Neilson, J. L., surgeon. Ordered to the Receiving Ship "New Hampshire."

Drennan, M. C., surgeon. Detached from Receiving Ship "New Hampshire" and granted one years' leave.

SOCIETY NOTICES.

Suffolk District Medical Society. Obstetrical and Gynæcological Section. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, November 17th, at 7.45 o'clock. Communications: Dr. W. E. Boardman, "A Case of Labor complicated by Fibroids, with some Remarks." Dr. E. W. Cushing, "On Erosions of the Os Uteri, with Demonstration by Stereopticon of Photographs from Life and Micro-Photographs." Dr. Cushing will show four ovarian tumors removed in the last two months, and a curiously large mass of glands scraped from the uterus. Gentlemen are especially urged to prepare papers for the Section and to notify the Secretary of their willingness so to do, and are requested to exhibit specimens or apparatus at any of the meetings. Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman.*

Robert B. Dixon, M.D., *Secretary.*

APPOINTMENT.

Dr. T. M. Rotch was appointed during the summer a visiting physician at the Boston City Hospital.

DEATH.

Died in Salem, Mass., November 4, 1886, Frank Albert Durgin, M.D., M.M.S.S., aged thirty-one years.

BOOKS AND PAMPHLETS RECEIVED.

The Curability of Insanity: a Series of Studies. By Pliny Earle, A.M., M.D. Philadelphia: J. B. Lippincott Co. 1887.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume 69. London: Longmans, Green & Co. 1886.

Biennial Report of the Officers of the Vermont Asylum for the Insane for the Two Years ending July 31st, 1886. Rutland: 1886.

In Memoriam. Austin Flint, M.D., LL.D.; James Marion Sims, M.D., LL.D. By Wesley M. Carpenter, M.D., of New York. 1886.

Annual Report of the Commissioner of Pensions to the Secretary of the Interior for the Year ended June 30, 1886. Washington: 1886.

The Amblyopia of Squinting Eyes: is it a Determining Cause or a Consequence of the Squint? By Samuel Theobald, M.D., Surgeon to the Baltimore Eye, Ear, and Throat Charity Hospital. 1886. (Reprint.)

Method of Managing Typhoid Fever. By F. Peyre Porcher, M.D., Charleston, S C. Read at Washington, D.C., July 17th, before the Association of American Physicians. 1886. (Reprint.)

Annual Report of the Boards of Regents of the Smithsonian Institution showing the Operations, Expenditures and Condition of the Institution for the Year 1884. Part II. Washington: Government Printing Office. 1885

Congrès Périodique International des Sciences Médicales 8me Session. Copenhagne. 1886. Compte. Reader. Publié au nom du Bureau par C. Lange. Secretaire-général. Tomes I, II, III, IV. Copenhagen. Libraire Gyldendal. (F. Hegel and Fils.) 1886.

A Manual of Obstetrics. By A. F. A. King, A M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D.C. With 102 illustrations. Third Edition. Philadelphia: Lea Brothers & Co. 1886.

House Plants as Sanitary Agents; or the Relation of Growing Vegetation to Health and Disease. Comprising also a Consideration of the Subject of Practical Horticulture, and of the Sanitary Influences of Forests and Plantations. By J. M. Anders, M.D., Ph.D. Philadelphia: J. B. Lippincott Co. 1887

Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Vol. III. Diseases of the Nerves, Muscles, and Skin. 157 wood engravings. New York: Wm. Wood & Co. 1886.

The Exploration, Excavation, and Illumination of the Interior of Bones in any Part of the Body. By Milton Josiah Roberts, M.D., Professor of Orthopædic Surgery and Mechanical Therapeutics in the New York Post-Graduate Medical School and Hospital; Visiting Orthopædic Surgeon to the City Hospitals on Randall's Island; Member of the American Association for the Advancement of Science, etc. Address to the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 21, 1885.

Lecture.

ON DIET IN DIABETES.[1]

A LECTURE ON ALIMENTARY THERAPEUTICS.

BY PROF. DUJARDIN-BEAUMETZ, M.D.,
Physician to the Cochin Hospital, etc., Paris, France.

In the last lecture we had under consideration the hygienic treatment of gout and gravel. I propose to devote the present lecture to the subject of diet in diabetes. For the diabetic, diet constitutes the sovereign curative means, it being only by the application of rigid dietetic regulations, that we can, in a great number of cases, cause the disappearance of sugar from the urine; hence we need to spend considerable time on this subject. But in order to establish on scientific basis the alimentary regimen of diabetes, it is necessary that I should briefly sum up the data in our possession respecting the pathogeny of this affection.

Till the discovery of glycogenic function of the liver, and the immortal labors of Claude Bernard, the etiology of diabetes was involved in great obscurity. Claude Bernard gave us our first insight into the causes of this disease, and now, for almost forty years his pathogenetic doctrine, despite the most searching criticism, still remains master of the field.

Bernard showed us this capital fact that in the physiological state in all mammals and in man sugar is found in the blood. This is what he calls *physiological glycæmia.* When the figure of glucose in the blood exceeds certain limits — 3 per 1000, it passes out in the urine and determines glycosuria.

Whence comes this physiological sugar? It has two sources: either it results from the food, or it is produced by the liver. In previous lectures, I have shown you that amylaceous substances when modified by the salivary diastase, and by a special ferment of the pancreas, amylapsin, enter the economy in the state of glucose, and that the sugars, inverted by the intestinal juice, also reach the circulation in the state of glucose. We have here a constant source of glucose furnished to the blood. When the quantity of these amylaceous or saccharine aliments is too great, all the glucose formed is not burned in the economy, the figure of physiological glycæmia is exceeded, and there results a temporary glycosuria, known under the name of *alimentary glycosuria.*

The other source of sugar is the liver. In 1848, Claude Bernard first called attention to a new function of the liver, and since then, on many different occasions, he has elucidated his important discovery and its practical consequences. The glucose contained in the blood deposits in the liver a substance similar to starch, *glycogen,* which, under the influence of an hepatic ferment, is transformed into glucose; this constitutes the glycogenic function of the liver.

The liver, with respect to physiological glycæmia acts the part of a regulator of this function. When too much glucose is furnished by the food, the liver stores up, under the form of glycogen, the excess which is not utilized. When elements suitable for making sugar are not furnished by the food, it is then that the liver furnishes it to the blood, so as always to maintain an equal quantity of glucose in the economy. But let some disturbance of a nervous order come in to modify the cellular exchanges in the liver, then this organ makes more sugar than the normal proportion, and this excess enters the blood; the figure of 3 per 1000 is exceeded, and glycosuria results; in a word, hyper-glycogenesis produces hyper-glycæmia. Claude Bernard even realized experimentally this hyper-glycogenesis by wounding in animals certain parts of the fourth ventricle.

Such were the bases on which Bernard established the pathogeny of diabetes, and, as I told you in the beginning, physiologists have more or less modified this pathogenic doctrine, but without overthrowing it.

Thus it is that Pavy has denied the transformation of glycogen into sugar, is a physiological fact. According to him, (as also to Schiff, Meisner, Tschsrinow and Seegen), this is a fact of pathological order; the glycogen accumulated by the liver, serving in the normal state, to make, not sugar, but fat. Bouchard, Jaccoud, Lecorché, and Esbach have also completed the doctrine of Claude Bernard.

Lecorché, to whom, by the way, we are indebted for an excellent treatise on diabetes, assigns an important part to the increased secretion of urea which almost always accompanies glycosuria. According to him, the liver in diabetic persons under an influence which escapes us, undergoes an exaggeration of its glycogenic functions. It now makes sugar, not only out of amylaceous and saccharine matters, but also from all sorts of albuminoid substances, and even from the muscles of the diabetic patients, transforming the albuminoid into glycogen and urea.

Jaccoud adopts the same view; he divides diabetes into two stages. At the onset, there is only glycosuria; then at a more advanced period there is azoturia and glycosuria; this is what he describes under the name of *azotized diabetes.*

On the other hand, Bouchard, returning to the notions of Dechambre, Reynoso, and Mialhe, who considered diabetes as due to insufficient utilization of the sugar produced, labors to show that hyper-glycæmia results from the fact that the organism does not accumulate the sugar incessantly furnished by the liver. He points out the fact that the liver produces daily about two kilogrammes of sugar, of which seven hundred and ninety-eight grammes only are burned by the respiration. The twelve hundred grammes remaining ought to be utilized by our tissues. Let some circumstance intervene to modify the molecular exchanges, these twelve hundred grammes of sugar will not be employed by nutrition, and glycosuria will appear. Hence Bouchard refers diabetes to the general troubles of nutrition, which he has described under the name of *retarded nutrition.*

Lastly, in a very original and quite recent work, Esbach has modified the theory of Claude Bernard. According to him, the diabetized liver produces a particular kind of glucose which loses the property of being destructible. He opposes this non-destructible sugar, which he calls *diabetose,* to the sugar furnished by the liver in the physiological state, to which he gives the name of *assimilable glucose.*

As you see, gentlemen, the new theories of the pathogeny of diabetes have but little modified Claude Bernard's doctrine. Basing ourselves on these data, we can establish on a scientific foundation the alimentary hygiene of the diabetic.

This hygienic treatment must fulfil the two following great conditions: On the one hand, it must reduce to their minimum foods, which introduced into the economy may furnish glucose, and on the other, energize as much as possible the combustion of the glucose formed in the economy.

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[1] Printed from advance sheets.

But before entering into the details of this treatment, I must say a few words about the prognosis of diabetes. This prognosis is entirely based on the effects of an antidiabetic regimen rigorously followed. Never forget, in fact, that it is not the quantity of sugar voided daily in the urine which constitutes the gravity of the prognosis in diabetes; it is the greater or less facility with which the sugar disappears under the influence of diet.

In this respect we meet with three forms of diabetes which I have called *mild diabetes.*

DIABETES OF MEDIUM INTENSITY, AND GRAVE DIABETES.

In his interesting studies on diet in glycosuria, Duhomme has given to these three forms the names of simple uroglycosis, mixed uroglycosis, and complex uroglycosis.[2]

In mild diabetes, by the simple fact of an appropriate alimentary treatment the sugar disappears rapidly and completely from the urine, whatever may have been the quantity previously voided. I have for my part seen great numbers of diabetics who were losing daily from four to eight ounces of sugar, and who, after eight days of treatment according to Bouchardat, excreted none at all. It should be understood that in these patients the least infraction of diebetic rules brought back the glycosuria: these are the mild cases.

In diabetes of medium intensity, you will diminish considerably by rigid dieting the quantity of sugar voided, without, however, causing it to disappear entirely, and there will always be an amount in the urine varying between ten and twenty grammes. Bouchardat calls these cases "*petits diabetiques*, that is, *little diabetics*. Often certain medicines will cause, in these patients, complete disappearance of the sugar.

Lastly, in the grave forms of diabetes, whatever may be the rigorousness of your dietetic rules, the quantity of sugar eliminated is always considerable, and when the food which these persons eat does not contain the elements proper for making sugar, the substance of their muscles is transformed into glycogen and urea. These are the lean diabetics, the azoturic diabetics all condemned to a sure and speedy death.

As you see, the prognosis depends entirely on the results of diabetic treatment. What, then, should be the diet in diabetes? Exclusive regimens, have been proposed, and mixed regimens. The former are two in number; the adipo-carneous, and the milk regimen. Cantani has the most earnestly advocated a rigorous flesh and fat diet treatment; he allows nothing but meat and fat. The fats are designed to take the place of the carbo-hydrates, of which he deprives his patients entirely. The patient can eat no vegetable, no starchy food of any kind, and no eggs. Salt is permitted, as well as salt meats and salt fish. To this treatment, Cantani conjoins the usage of lactic acid. This is administered under two forms: as pure lactic acid, in the dose of fifteen to thirty grains in four ounces of water, and half an ounce of fennel water, three times a day, or in the form of an alkaline lactate, eight grains of bicarbonate of soda being added to four ounces of the lactic acid solution above mentioned. This dose of lactate of soda is repeated every hour or every two hours. Lastly, at the end of a certain time, fifteen or twenty days, if the sugar is not all gone from the urine, Cantani orders a twenty-four hour's fast.

Cantani's treatment has had few partisans, and this for several reasons. First, by reason of the repugnance of patients to eating nothing but meat and fat, a repugnance such that many of these prefer to remain diabetic rather than persevere with such a diet. Moreover, an exclusively meat diet notably augments the azoturia of these patients, already predisposed thereto by the fact of their diabetes. Likewise the uric acid gravel with which many diabetics are affected is markedly aggravated under this regimen. In fact, if we may trust Jaemiche, Caplick, Bond, Windl, and Ebstein, the meat diet determines the presence of acetone in the urine and thereby favors acetonæmia in the diabetic.[3] I discard, then, for these reasons the exclusive adipo-carneous regimen.

Donkin, an English physician, was the first to advise an exclusive milk diet in diabetes. This is his method of treatment; he begins with four to six pints of skim-milk a day, and gradually increases to twelve pints. Of these twelve pints, seven or eight only should be taken liquid, the rest is ingested in the state of curds. The milk should be drunk tepid. At the end of a fortnight, according to Donkin, the sugar will have completely disappeared from the urine.[4]

I do not know whether cases of amelioration obtained by this method are numerous; Kultz, who has tried it, affirms that he has derived no good result. For my part I think it a dangerous treatment. Just think of giving to a polydipsic patient six quarts of milk a day! Think of giving him, moreover, a substance which contains a notable quantity of sugar! Such treatment can but aggravate the malady. I have always seen in diabetic patients that were allowed to drink freely of milk a marked augmentation of their glycosuria, and like Bouchardat, I discard milk from the dietary of the diabetic.

We are indebted to Bouchardat for the principle of the mixed alimentary treatment of diabetes, and in formulating these principles in so exact and practical a manner, my venerated master has earned the gratitude of the entire medical profession, for now we are able by diet alone to cause sugar entirely to disappear from the urine in a great many cases, and in all we obtain a marked amelioration.

In order that you may sufficiently grasp the importance of this regimen, I will consider it under three heads: bread, drinks, and foods allowed and forbidden.

Bread is an aliment which may well be called indispensable, so accustomed are we to it from our earliest childhood, and the introduction of gluten bread into the dietary of the diabetic, for which we are indebted to Bouchardat, is one of the most important parts of this alimentary regimen. Many patients, in fact, refuse to eat when bread is not given them, and you should not forget that voluntary or involuntary abstinence is always prejudicial to diabetic patients. Habitually gross eaters, the diabetic have need of a reparative and substantial diet, and when you come to cut off the necessary supplies of food, grave symptoms on the part of the patient are almost sure to supervene; he grows feeble, emaciates, and becomes a suitable culture soil for bacilli to thrive in. You ought, then, as far as possible, to respect the appetite of diabetic patients, and do nothing to impair it, and this is one of the causes which have led us to abandon the exclusive regimens.

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[2] Duhomme. On Diet in Glycosuria. (Bull. et Mém. de la Soc. de Thérapeutique. Séances des 23 Nov. 1881, 14 Mars., 1883, 13 Jan. 1886).

[3] Ebstein. Arch. f. Klin. Med., xxx, 1881. Cantani. Du Diabète Sucré, Paris, 1876.

[4] A. Scott Donkin, in Lancet, 1877. Kultz. Experimentelles über Diabetes, (in Deutsch. Zeitschr. f. prak. Med., 1876, p. 150–152).

Bread is an alimentary necessity, and you will recognize this fact by ordering gluten bread. But gluten bread is of variable quality, some bakers having more starch, some less in their gluten bread. The French gluten bread, which is dried in slices, contains the least proportion of amylaceous principles. Bouchardat was prone to order Cormier's brand. This kind of bread, however free it may be from starch, and however well it may fill the indications, often fails to satisfy the patient, who is apt to fancy most the bread which contains the least gluten. I am told that the Health Food Company of New York[5] make an excellent flour, which retains well the salts of the wheat, while being comparatively free of the starch.

It is quite a common thing to see diabetic patients, who, despite the augmentation of glucose in their urine, affirm that they have not transgressed their dietitic rules. I have generally found, in the case of such patients, by pressing my inquiries, that they had been substituting for the gluten bread which I had prescribed a preparation like the French rusks (échaudé), which contains considerable starch. This is a great mistake; there is not much difference between this latter product and ordinary baker's bread, the former containing 54.1 per cent. of starch, and the latter 56 per cent.

It has been proposed to replace ordinary bread by almond bread, and this substitution has been especially recommended in Germany. If these almond loaves or cakes constitute a kind of bread that may be taken with safety by the diabetic, they are certainly not very palatable, and in France we make little use of them.

Dannecy, of Bordeaux, has proposed a mixture of bread-crust and meat-powder. Others, taking advantage of the difficulty which most diabetic patients experience in masticating their food, on account of bad teeth or the want of teeth, have advised bread-crust or toasted bread. Esbach, in a late article in the *Bullétin de Thérapeutique* (t. CIV., p. 201), has, however, shown that in equal weights, the crust of bread contains more sugar-producing substance than the crumb, and that it is a mistake to prescribe crust for the diabetic. The following table from Esbach sets this clearly before you:

			Sugar.
100	grammes	of crust of ordinary bread produce .	76 grammes.
100	"	of crumb of ordinary bread produce .	52 "
100	"	of ordinary gluten bread furnish . .	18 "
100	"	of good potatoes, boiled, give . . .	17 "

I call your attention especially to the statement with reference to potatoes, which seems to me a little exaggerated, if we may trust the analyses furnished by Mayet, who maintains that 100 parts of cooked potatoes (baked, it is true, not boiled) yield only 8.30 of sugar, while 100 parts of gluten bread yield 27 parts.

I cannot too much insist on the utility of potatoes in the diet of diabetic patients who cannot dispense with bread. Of all amylaceous food substances, potatoes contain the least starch, and for that reason, produce the least sugar, and the difference between gluten bread and potatoes is so greatly in favor of the latter, that you will do well, in most cases, to subject your patients to the English regimen, that is, suppressing bread, and substituting baked potatoes.

The subject of drinks is also one of importance, polydipsia being one of the results of this disease. Many victims of diabetes become intemperate, and this happens the more naturally, that they resist better than others the effects of alcoholism. Persuaded that they will find in alcoholic beverages a tonic which they need, they drink their wine pure, or mix brandy with their water. The quantity which they add may be small, it is true, but as the spirituous draught is constantly being repeated, a large amount will have been imbibed by the time the day is done.

In fine, so strong is the temptation to indulge in "bitters" and other liquors under which the diabetic patient labors when walking along the thoroughfares where drinking-saloons abound, that he is in danger of becoming an inveterate tippler. One of my preceptors, the late Chassaignac (I have had three who were diabetic), has often told me that he suffered a veritable Tantalus punishment when going through the public streets, and seeing in full view the liquor saloons and the tipplers inside, and notwithstanding the possession of a strong will, he found himself continually yielding to the propensity to quench his thirst at some of the drinking-booths which he passed.

I believe, then, with Bouchardat, that we should restrict as far as possible the use of alcoholic drinks in glycosuria. The patient should be allowed to drink freely, at his meals, of wine diluted with some alkaline mineral water, but he must not be permitted to drink between meals. If he must have something to quench his thirst, let it be weak tea or coffee, without sugar or milk, or some mild bitter ptisasi, like infusion of chamomile or quassia. I prescribe milk for reasons I have before mentioned.

I come now to foods that are permitted, and those that are forbidden. In order to guide you in the choice of foods proper for the diabetic, and such as should be interdicted, you should always have before your eyes the following table, which shows the proportion of starch or saccharine material in various alimentary substances. I borrow the first of these tables from Dr. Nedats. Table I, gives you the proportion of starch in the principal amylaceous aliments:

	Per Cent.		Per Cent.
Rice	74.10	Wheat Bread . . .	42.70
Corn meal . . .	65.90	Oatmeal	39.10
Wheat flour . . .	63.00	Peas	37.00
Wheat (unground) . .	59.60	Rye bread	36.25
Rye meal	59.84	Beans	36.00
Millet seed . . .	57.90	Cucumbers . . .	16.60
Buckwheat . . .	50.00	Potatoes	15.50

You can compare this table with the following by Boussingault, the first column showing the per cent. of vegetable, albumen, gluten, legumin and the like; and the second column the per cent. of starch, dextrim, and the like principles.

Round gluten biscuits	44.9	40.2
Gluten cakes	21.3	64.7
Barley bread	18.9	66.6
French rusks	10.9	51.3
Maccaroni	9.5	76.4
Sago	9.1	74.7
Bakers bread of Paris	7.0	56.3
Rice	7.5	76.0
White Beans	26.9	48.8
Lentils	25.0	55.7
Peas	23.8	55.7
Potatoes	2.8	23.2

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[5] A reliable chemical examination of the diabetic *biscuits* sold by this Company showed that they contain 74+ per cent. of sugar-forming material, and under the microscope, the field was crowded with starch granules. This percentage of sugar-forming material is even higher than that of ordinary fresh bread, the moisture of which counts for much. Diabetics, or their advisers, had better have all so-called "diabetic foods" carefully examined before using them.

Lastly, Mayet has given in terms of sugar the quantity of starch contained in 100 parts of the following amylaceous substances, and these are his figures:—

	Per Cent.		Per Cent.
Turnips	7.00	Lentils	22.05
Baked potatoes . . .	8.30	Rice cakes	25.00
Boiled rice	8.00	Fresh gluten bread . .	27.07
Peas . . .	12.00 to 15.00	Vichy Company bread .	31.00
Beans	16.00	Ordinary bread . . .	60.00
Carrots	16.00	Wheat meal . . .	70.00
Chestnuts	20.00	Starch	83.00

Stews may be permitted with some limitation, especially such as are fatty, and "bouillon" with poached eggs. Broth made with vegetables, and in particular with onions and cabbages is allowable, as well as "Julienne" soups, but neither turnips nor carrots must enter into their composition. You will also allow broth made with potatoes, to which beets may be added, but you will forbid pea-soup, and bean-porridge, also stews containing dumplings. Custards are also to be prohibited, as also other culinary preparations containing milk.

All kinds of meat are allowed, that is, the flesh of animals, fish, mollusks and crustaceaus. Sauces which contain flour are to be interdicted, also those into which milk or cream enters as an ingredient. You will also forbid fish fried in meal.

All kinds of fatty foods are permitted; they may even be eaten very freely in order to furnish to the economy the carbo-hydrates that are necessary. All kinds of amylaceous and saccharine materials are, as before said, to be interdicted, except potatoes, which are even better for the diabetic than gluten bread.

The exclusion of sugar, as I have told you, is absolute, but there are some patients that cannot get along without some sugar; in such cases you can allow them to sweeten their tea, coffee and lemonade with glycerine.

Vegetables are permitted in the regimen of diabetes, and Bouchardat has always insisted on the disadvantages of an exclusively animal diet in this disease. Vegetables are useful because they give variety to the diet of the diabetic, and because they furnish a valuable element, potash, to the economy. Boussingault has, in fact, shown that one kilogramme of the following vegetables contains potash in the proportion here given, the figures indicating grammes:

Cabbage	2.6	Beets	6.8
Chiccory	1.7	Potatoes	3.2
Turnips	3.7	Spinach	4.5
Carrots	2.5		

Taking, then, as your guide the foregoing tables, you will order spinach, sorrel, beans, lettuce, cabbage, asparagus, celery, artichokes, dandelions, all the salads, etc. But you will forbid beets, carrots, and turnips, by reason of the sugar which they contain, and you will caution the patient to be chary of onions, leeks, and cooked artichokes. There remains the question of fruits, and in general they ought all to be proscribed. In fact, if you will refer to the analysis of Mayer, and which I place before you, you will see the large quantity of glucose which fruits contain, and with the exception of currants, they ought to be, as a rule, rejected.

Percentage of Sugar in Certain Fruits.

Currants . .	1.50 to 18.00	Figs	10.00
Melons	7.50	Prunes	16.00
Raspberries . .	8.00 to 10.00	Dried prunes . . .	42.00
Oranges . . .	10.00	Dried figs	71.00
Cherries	10.25	Raisins	79.00
Peaches	10.50		

Such are the indications which will enable you to decide upon the diabetic rules applicable to diabetes. These rules should be followed to the letter, and for a long period, if not during the entire life-time. Often repeated analyses of the urine, will enable you to decide how far the patient may return to his ordinary fare, also to ascertain if your rules are rigorously carried out, the least enfraction of them always producing an increase of the sugar excreted in the urine. Moreover, it will be your duty to point to the patient the great importance of this strict regimen, by which you will be able in a great many cases to clear the urine of sugar, and in all, to obtain a marked amelioration.

But dietetic rules do not alone constitute the hygienic therapeutics of diabetes. We must add varied muscular exercises, to which I shall refer when I come to speak of gymnastics and massage, and which have a large share in the results of the treatment, by enabling us to fulfil the second part of the therapeutic problem which we have to work out, namely, how we may best forward the combustion of glucose existing in excess in the blood.

Original Articles.

A CASE OF UNUSUAL DEFORMITY OF BOTH HIP JOINTS.[1]

BY G. H. MONKS, M.D.

The patient, F. M., is a young man of sixteen years. He came to me some months ago at the Carney Hospital, complaining of pain and stiffness in both hip joints, from which he stated he had suffered for about two years.

On examination of the hip-joints it soon became evident that some unusual pathological process had been at work. As the patient stands facing you (see Fig. 1), you will notice that he is apparently well nourished, and that his muscles as a rule are well developed. The right side of the pelvis is slightly higher than the left, and the right trochanter projects somewhat more than its fellow. At a point about two and one-half inches below the anterior superior spine of the ilium on the right side is a rounded projection; on the left side is a similar one, but less marked. These projections are both on a lower level than the trochanters. The muscles of the thighs are not well enough developed to be in keeping with the rest of the body. There is knock-knee on both sides, particularly on the left, and both feet are flat.

The eversion of the right foot shows that the thigh on that side is strongly rotated out: the left foot is also somewhat everted.

If the patient be turned to the side (see Fig. 2) the first peculiarity noticed is the flattening and almost complete obliteration of the lumbar curve. The distance between the lower margin of the thorax and the crest of the ilium is considerably shortened, a fact easily appreciated by the touch if not by the sight. The trochanter occupies a position too high up and too far forward to be natural, and this observation has been verified by comparative measurements of the same parts on normal bodies.

The axis of support appears, therefore, to be too far forward, and the back part of the pelvis to be somewhat depressed by the weight of the body resting upon it. There is a marked hollow behind the trochanter and the nates are flattened and flabby. The appearance of the left side is much the same as that of the right.

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[1] Read before the Suffolk District Medical Society, October 30, 1886.

Occasionally the heel of the right foot is slightly raised while the patient rests upon the ball of the toes. In walking, however, this will be more evident.

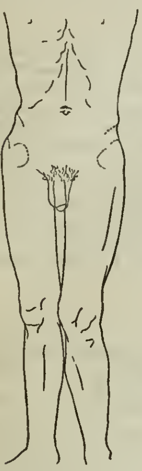

Fig. 1.

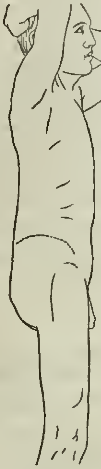

Fig. 2.

Fig. 1 shows that the right side of the pelvis is somewhat higher than the left, and that the right trochanter projects more than its fellow. The dotted lines represent the position of the iliac crests, the great trochanters, and the protrusions in the groin caused presumably by the displaced head of the bone. Note also knock-knee and eversion of foot.

Fig. 2 shows the flattening of the lumbar curve, the position of the great trochanter and the line of the iliac crest; also the depression behind the trochanter. The axis of the femur being farther forward than natural, the weight of the upper part of the body transmitted through the lumbar vertebræ, has depressed the back part of the pelvis and consequently obliterated the lumbar curve.

On looking at the patient from behind (see Fig. 3), the pelvis is here again seen to be tilted up slightly on the right side. The trochanters, particularly the right one, are prominent, and the back in the lumbar region and the nates are flattened so that their surfaces appear to be very nearly in the same vertical plane. (This last deformity is unfortunately not well shown in Fig. 3). The depression behind each trochanter is marked, and is even more so when the patient bends forward.

Now, when the patient lies upon the table, and an attempt is made to manipulate the thighs, it is found that the right hip is so rigidly fixed that it is only with the greatest difficulty that one can detect a movement between the thigh bone and the pelvis. The motion at the left hip joint, on the other hand, is somewhat freer, but that too is decidedly limited. On account of this rigidity the patient finds it impossible to lie down on the floor without assistance, or once there to stand up again. The projection before spoken of on the right side just below the anterior superior spine of the ilium we now find to be due to a rounded bony mass, quite smooth, and this is presumably the head of the bone. When the thigh is moved this mass can be felt, though only by the closest observation, to move with the femur. The presumption that this mass is the head of the femur is strengthened by the fact that a bony ridge of about the size of the femoral neck can be traced from it to the trochanter. The rounded projection on the left side is much easier to examine on account of the comparative mobility of the left hip joint. The bony mass causing the projection moves freely with the femur and is without doubt the head of that bone. The heads of the two bones are then considerably lower than the trochanters, a condition which renders highly probable the assumption that the necks have been the seat of some pathological process by which they have been weakened, thus allowing the heads to be borne down by the weight of the body.

The following are the most important measurements taken on the patient while on the table. From the symphysis pubis to the most prominent part of the right trochanter is eight and one-half inches, to the most prominent part of the left trochanter is only eight inches, thus showing that the right trochanter projects more than the left by a half inch. There is no practical difference in the length of the two limbs, as measured from the anterior superior spine of the ilium to the inner malleolus. The test line of Bryant's triangle proves the right trochanter to be one-fourth inch higher than its fellow. Nelaton's line is difficult to place on account of the tuberosity of the ischium being farther to the front than normal. About one-half inch of the right trochanter is above it, while the tip of the left trochanter just touches it.

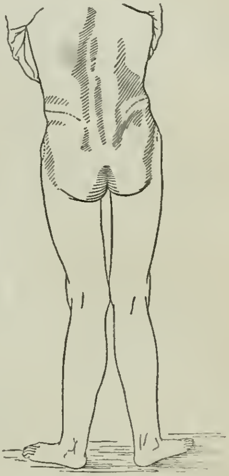

Fig. 3.

Showing the tilting up of the pelvis on the right side, and the prominence of both trochanters, particularly of the right one. The flattening of the back in the lumbar region and up the buttocks is not seen so well here as in profile, but the depressions behind the trochanters are well marked.

The gait of the patient is very peculiar. He walks with a sort of waddling motion, the upper part of his body moving from side to side. More singular still is the gait as viewed from the side. If the patient be now carefully watched it will be seen that there is no apparent motion at the right hip-joint whatever, and that when the right limb is used the joints between the lumbar vertebræ have to do the duty of that joint. Just as the patient puts forward the right leg, then, the lumbar region may be seen (in profile) to curve backwards, and when he puts his foot to the ground this backward curve becomes straight once more.

Simultaneously with the bending backwards of the lumbar vertebræ the pelvis seems to fall slightly downwards behind and to rise in front, as though it were rotating around an axis represented by a line from one trochanter to the other. As this rotation progresses a transverse crease forms in the abdominal wall across the umbilicus, but whether this is due to the rising up of the anterior part of the pelvis or to the sinking down of the thorax, as the patient leans forward to keep his equilibrium, is difficult to say. The left limb, however, appears to swing quite freely from the hip-joint, and there is therefore nothing peculiar in its motion.

In attempting to account for the deformity just described, it is fair to assume that the head of the bone on the right side is not in the acetabulum, but is displaced forwards to a point where a new socket has probably formed about it, and that the condition on the left side is essentially the same, except that the process has not advanced so far.

Now, as the two thigh-bones are displaced forwards, the equilibrium of the pelvis is disturbed. The centre of gravity, instead of falling through these bones, falls behind them, and this means a sinking of the pelvis behind, and a corresponding flattening of the lumbar curve. At the same time, the patient throws the upper part of his body forwards to prevent falling.

The young man's history is briefly this: He was born in Germany, and came to this country with the other members of his family about one year ago. The lad is not very intelligent — a fact which would tend to weaken the value of many points in the history which he gives. The patient declares, and his statement is verified by his mother, that he was always perfectly well until within the last two years; that he could run, jump fences, and climb trees like other boys, and that he had never suffered any injury. No member of his immediate family ever had rheumatism or any trouble in the joints whatsoever.

The patient's first symptoms were pain and stiffness in the right hip, followed, in about three months, by the same in the left hip. These symptoms increased, and to get relief from the pain, he would stand, rather than sit, for, in sitting, flexion of the thighs would cause pain. Even now, he seldom sits in a chair. As the pain continued to increase, the patient took to his bed for five weeks, during which time his condition gradually improved.

When he got about again he would be now better, now worse, and so on, until the time I saw him. The constant use of electricity, probably by its beneficial effect on the muscles, has relieved him considerably. He declares that he is much better, and has been able to take light work.

The history of the case excludes at once the possibility of our having here to do with any form of *traumatism* (such as fracture, dislocation or separation of the epiphysis), or with any disease of the joints *resulting from affections of the nervous system.*

The deformity and the youth of the patient suggest a *congenital dislocation*, which has been overlooked; but a double congenital dislocation forwards must be extremely rare, if, indeed, it ever occurs, and with such a deformity from birth, how could the boy, until within a few years, run and jump fences as well as the other boys.

Dry caries (caries sicca), either with or without diastasis, would have been accompanied by more constitutional disturbance than this case has shown. The patient would have been confined to his bed for months or years, instead of for a few weeks. Moreover, caries could have hardly advanced so far as to cause the deformity noticed here, without suppuration, and there is now, and so far as I can judge, there has never been any sign of pus formation. The conclusion is, therefore, forced upon me that we have here to do with a case of *arthritis deformans.* The remarkable features are that this boy of sixteen years should have the disease at all, and that the process, once established, should advance to such a degree of deformity as we have seen.

The patient suffered in the beginning, and continues to suffer with pain and stiffness in the joints, and this history corresponds exactly with that of arthritis deformans. His family live in a damp cellar in an unhealthy part of the city.

Pathological specimens of the disease show that all sorts of unusual deformities may result, and that partial, or even complete luxations may occur. It is highly probable that, as has already been intimated, the heads and necks of the bones have been so affected by the disease, that the weight of the body has been able to depress the former by the yielding of the latter, and that the anterior rim of the acetabulum, likewise softened, and thus unable to resist the force of the head pressing against it, has gradually given way, and a dislocation, more or less complete, has resulted. That the dislocation is forwards, instead of backwards, is a mystery.

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THE PURIFICATION OF DRINKING-WATER BY FILTRATION.[1]

BY PROF. WILLIAM F. SEDGWICK, MASS. INSTITUTE OF TECHNOLOGY BOSTON.

[PROFESSOR SEDGWICK began by explaining that he had been asked to say a few words upon filtration by way of introducing the subject, and also to show the micro-membrane filter exhibited last spring before the Society of Arts by the late Prof. Wm. Ripley Nichols. He proceeded substantially as follows: —]

Drinking-water is seldom or never free from organic matter. A good quality of deep-well water is probably as free as any other from it, and yet Frankland, by the method of biological examination (gelatine plate-cultures), found rarely more than ten microbes in one cubic centimeter of such water. The same quantity of water taken from the Thames at Hampton contained about one thousand microbes.

We shall probably not be far wrong in supposing the same to be true of drinking-waters generally. All contain more or less of organic matter, if not when first taken from the well or spring, certainly before they enter the mouth. Some of this matter is living, in the shape of bacteria, infusoria, diatoms, etc., and some is lifeless, being either dissolved or suspended. The entire quantity, however, in what is ordinarily called wholesome drinking-water — namely, that from springs, wells, rivers, etc. — is a very small percentage of the total volume of liquid. These waters are by no means necessarily to be condemned on that account, but are still to be regarded as perfectly wholesome.

There is, nevertheless, a *possibility* of danger in this organic matter, and hence the water-supply of a community must always be closely watched, and, if necessary, rarely, in times of epidemics, perhaps even abandoned altogether for a while. But this possibility, once recognized and constantly kept in mind, need not cause great anxiety. For example, the "Cochituate" is by no means free from organic matter; on the contrary, it contains abundant micro-organisms; there is always a possibility of its acting as a carrier of disease germs, and yet we consider it a wholesome and trustworthy drinking-water. It might be improved by filtration, and since Pegan Brook has been purified, one source of serious danger has been removed; if others exist, they should be speedily corrected.

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[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, October 13, 1886.

The reason why so much attention is paid to the microbes in drinking-water is not so much because they are proven to be disastrous to health, as that they belong to the same general category with the established germs of disease, and are, therefore, themselves suspected. Micro-organisms produce certain diseases, and micro-organisms are common in drinking-waters; hence it is, therefore, sometimes hastily concluded that drinking-water and disease yet go hand-in-hand. But so general a conclusion is not of necessity warranted by the facts. The micro-organisms in drinking-water are seldom the same as those present in disease, though the possibility of the presence of the latter must always be granted and kept in mind.

If, instead of asking what things, lifeless or living, *may* flow into the pitcher from the tap when drinking-water is drawn, we inquire what *does* ordinarily come in, we find that various humble plants and animals, along with the smaller micro-organisms, are not wanting, but that the malignant forms are not discoverable; and since this matter goes into the human alimentary canal, as such matter has gone ever since mankind began to drink, we know from experience what, in the majority of cases, will follow, namely, no harm whatsoever. The plants and animals, microbes and micro-organisms, whether dead or alive, mild or malignant, will simply be digested or passed out. The human alimentary tract has been practised in just such work from the time when our savage ancestors first slaked their thirst in stagnant pools until now. Here and there a weakling may be overcome, an invalid affected, or a strong man, under special conditions, upset or destroyed, but the vast majority will drink and feel none the worse. It is even questionable whether the removal of all the micro-organisms from the drinking-water of an ordinary city would perceptibly affect the death-rate.

At the same time, when we speak generally, and of possibilities, it must be laid down as an axiom that the purer the water-supply, the greater is the safety of the citizen. We cannot easily get rid of all the organic matters in drinking-water, nor is this necessary, except from a theoretical point of view. Most of the microbes present are perfectly harmless, and if all were removed, there would still be abundant opportunities for introducing them into the body through other channels.

There are, however, two ways in which organic matters in drinking-waters may be rendered harmless: 1, by removal (filtration); 2, by killing (heat). The latter is an easy, but not a sure method, since the spores of some microbes endure even prolonged boiling. Boiling is, however, a useful, simple, and inexpensive, though rough and imperfect method of protection. Filtration, formerly a mere straining, has, of late, aspired to *sterilize*, that is, to remove from the water all its living substances, however infinitesimal. In this event, the filtrate must be perfectly safe for drinking purposes, even the *possibility* of danger having been removed. Most filters do not claim such perfection, and most which do fail to reach it. The "Chamberland" filter is said to sterilize, and the micro-membrane filter invented by Breyer, of Munich, is claimed to do the same.

[The speaker then exhibited a micro-membrane filtering apparatus imported and previously exhibited by Professor Nichols. An ultra-marine mixture (in water), a fluid which filters with great difficulty, was shown to be perfectly decolorized by the apparatus.]

The essential part of this is a filtering surface of finely-divided asbestos. This is made by grinding the mineral in water, then mixing it with crystallized carbonate of calcium, grinding again thoroughly, and adding hydrochloric acid. The sharp edges of the crystallized carbonate seem to penetrate the asbestos, splitting it up — a process which is carried further by the escaping bubbles of carbon dioxide. In this way, fibres of extraordinary fineness are obtained, and, by other steps, made into filtering sheets or "lamels," which are easily arranged for filtration. Professor Nichols had made some experiments with the filter, but was not convinced that it would sterilize, although he granted its great perfection.

The speaker closed by affirming his full agreement with Professor Nichols in the following statements taken from a paper by the latter, upon the micro-membrane filter, read before the Society of Arts in April, 1886:

"Personally, I am quite content with the efficacy of the filter, and I think, in its larger forms, with attached reservoir, it may serve a good purpose. Of course, in this country, these small filters, which take an hour to filter a quart of water, would be quite useless. No one will wait fifteen minutes for a glass of water to filter through; he would rather take his chances for a few more microbes. I do not lay so very much stress upon this matter of "germs" in the present connection. First, because there is no proof that the number of microbes bears any direct relation to the wholesomeness of the water; second, because a water furnished or used for domestic supply ought not to contain *dangerous* organisms requiring removal; third, because, even if it were possible to obtain a germ-free water by carefully sterilizing the whole apparatus, and receiving the filtered water in sterilized vessels, such water would not be obtained in the ordinary use of the apparatus."

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REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

EXAMINATION OF URINE IN CHILDREN'S DISEASES.[1]

Dr. Alexandra J. Eckert, house-physician to the Elizaretinskaia Infirmary for Children, in St. Petersburg, states that she has made fifteen hundred analyses of urine in one hundred and four children, in order to study its changes under the influence of various affections attacking the child's organism, and to determine quantitatively the albuminoid losses sustained by the system in febrile albuminuria. The albumen in the urine was estimated after a method based on Heller's test and introduced simultaneously by Professor Roberts of Manchester, and Dr. J. J. Stolnikoff, of St. Petersburg, (see Professor V. A. Manassein's Sbornik Rabot, Part II, 1877.)

The author divides her cases into four groups. The first group consists of, (*a*) seven cases of typhus fever in children between the ages of six and fifteen: in this group, during the febrile period the urine was scanty, high-colored, and of a high specific gravity; in five of the seven cases albuminuria lasting from four to twenty-one days was present, the quantity of albumen varying from 0.024 to 0.502 per cent.: it rapidly disappeared with the advent of pyrexia. (*b*) Nineteen cases of enteric fever, between the ages of three and fourteen. In fourteen of them albumen was found during the febrile period from four to fourteen days, its quantity varying from mere traces to 0.7 per cent. (*c*) Two cases of relapsing fever eight and eleven years old: no albuminuria was observed. (*d*) Three cases of intermittent fever between the ages of nine and twelve years; no albuminuria.

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[1] London Medical Record, October 15, 1886. Vratch, Nos. 44, 46.

A second group included, (*a*) croupous pneumonia in twelve patients aged from eight months to twelve years, with scanty, highly-colored, and very dense urine during the febrile stage. In ten of them from a mere trace to 0.101 per cent. of albumen was found at the time of high temperature, for from four to seven days. (*b*) Catarrhal pneumonia in two patients aged seven and eight; in the former, who had fever of an intermittent type and ultimately recovered, the urine was scanty, had a high specific gravity and did not contain albumen; in the latter, 0.064 per cent. of albumen appeared shortly before his death. (*c*) Pulmonary tuberculosis, in four fatal cases between the ages of two and a half and ten years; albuminuria was present in all. (*d*) Chronic pneumonia one case, and exudative pleurisy one case; no albuminuria.

A third group consisted of, (*a*) measles, two cases, aged three and ten, with albuminuria of one to three days' duration, the amount varying from 0.012 to 0.067 per cent. (*b*) Diphtheria, faucial; two cases aged six and ten, with albuminuria of one to five days' duration, varying from 0.024 to 0.144 per cent. (*c*) Scarlet fever, six cases, aged three and a half to eight years; in five, albuminuria was observed and that in two forms (1) a febrile one during the efflorescence, of one to seven days' duration and with 0.012 to 0.044 per cent. of albuminuria, (2) a nephritic one, in the third week of the disease, of a month or longer duration, with 0.012 to 0.244 per cent. of albumen. (*d*) Parenchymatous nephritis, eight cases; in seven, albuminuria of one to six weeks' duration was found with 0.024 to 0.164 per cent. of albumen.

The fourth group consisted of, (*a*) a case of catarrhal angina with erysipelas, no albumen; three cases of tonsillitis 0.052 per cent. of albumen in one; four cases of intestinal catarrh 0.052 to 0.184 per cent. in one. (*b*) Non-febrile internal diseases, one each of scurvy, aortic stenosis, anæmia, cerebral tumor, dyspepsia, chorea, icterus, etc.; between the ages of five and fourteen years; no albumen, but a trace of albumen in a case of syphilitic interstitial hepatitis. (*c*) External affections in twenty cases between the ages of nine months and sixteen years: no albumen was detected, in eczema with nettle-rash, femoral osteotomy, fracture of the femur, and rheumatic synovitis of the knee. Albumen was, however, present in a fatal case of extensive burn, 0.184 per cent.; also of multiple lymphoma, 0.064 per cent.; rachitis with bed-sore, 0.008 to 0.124 per cent.; it was observed also in three of eight cases of caries, its quantity varying from traces to 0.024 per cent. Finally, albumen, from 0.024 to 0.244 per cent. was detected in three cases of vesical stone and cystitis, its source of course not being in the kidneys. The general conclusions reached by the author are given as follows:

1. All affections considerably disturbing the nutrition of the child's system and running their course in association with a high febrile state, give rise to albuminuria in a large majority of cases. 2. The characteristics of albuminuria are usually dependent upon the intensity of the morbid process and the duration of the febrile period. 3. As a rule, the albumen rapidly disappears after abatement or cessation of the fever, 4. Non-febrile affections, as well as those accompanied only by a slight, fleeting, febrile movement, seldom give rise to albuminuria of any considerable degree, and when they cause albuminuria, it occurs only as a phenomenon of very short duration.

ALBUMINURIA IN THE YOUNG.[2]

Dr. Eichhorst states that albuminuria frequently occurs during the period of growth; he has observed many cases which could not be attributed to any local affection, but which were evidently the consequence of a too rapid and precocious development of the body. The urine contained a more or less considerable quantity of albumen. The albuminuria preceded, in some cases, the first symptoms of general disturbance of health, by several hours or days, and ceased with such disturbance. The urine was of a pale yellow color and in only one case were hyaline casts and a few fat globules found. The attacks of albuminuria were repeated at intervals of weeks or months. The duration of each attack varied from one day to a week. The prognosis was favorable. Tonics and a long residence in the country was all the treatment required. The symptoms, according to Eichhorst, which accompany this kind of transitory albuminuria were:

1. Stiffness of the joints, lassitude, inaptitude for work, loss of memory. 2. Irritability, extreme mutability of character, and excitability. 3. More rarely, headache, vomiting, muscular tremors, and epileptiform convulsions of short duration.

[In this connection the investigations of Leroux, a summary of which is to be found in the Report on Children, *Boston Medical and Surgical Journal*, April 29th, 1886, will be of interest].

ACUTE YELLOW ATROPHY OF LIVER.[3]

Professor Monti, of Vienna, reports the following case: A boy, four years old, with a good family history, was taken sick with purpura December 4, 1884. The disease ran a favorable course, and by the 15th of March the child was entirely well. On the 6th of April, the child began to have nausea and vomiting. Temperature 38.5°, pulse 100, respirations 30; slight icterus; decided enlargement of the liver. Spleen normal; urine small in amount and icteric, and no return of the purpura.

The icterus became each day more pronounced, while the liver grew rather smaller. Vomiting next became a prominent symptom, and the child rapidly emaciated. On the 18th of April cerebral symptoms appeared, restlessness, delirium, and occasional unconsciousness. The temperature went up to 41.5° C., the icterus became still more marked, and the liver very little larger than normal; the spleen then became enlarged, and on the 22d of April, small, hæmorrhagic spots appeared on the skin, and there was epistaxis. The urine was small in amount, dark-colored from bile, and contained albumen, leucin, tyrosin, and hyaline casts.

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[2] London Medical Record, October 15, 1886.

[3] Archiv. f. Kinderh., VII, 5, 1886. Schmidt's Jahrb., No. 10, 1886.

On April 23d, there was coffee-ground vomiting and collapse. The temperature sank to 38.5°, the pulse was very weak, 130, and in the afternoon death took place after an eclamptic attack.

The autopsy gave simply the appearances of acute yellow atrophy of the liver. The peculiarities of this rare case lay in the connection of the attack of purpura with the liver atrophy, and the ease with which the daily decrease in size of the enlarged liver could be determined by palpation and percussion. The autopsy also revealed no complicating disease which could account for the high temperature which appeared when cerebral symptoms were first noticed.

SUBCUTANEOUS EMPHYSEMA.[4]

In the "Proceedings of the Vilna Medical Society," No. 12, 1886, a brief report is made by Dr. Roman M. Przybylski, of Vilna, of a rare case in a child, who, for a long period, suffered from cough, and then began to swell. On examination, there was found subcutaneous emphysema over the whole body, the skin being of a normal color and otherwise healthy. According to the author's theory, the occurrence of this phenomena may be explained by the bursting of some pulmonary alveoli in the presence of an extensive adhesion between the costal and pulmonary pleuræ, the air entering into the anterior mediastinum, and hence penetrating through the jugulum sterni into the subcutaneous alveolar tissue of the whole body. No pneumothorax was present. A similar case in a child has been reported by Wittman.[5]

CYANOSIS OF NEW-BORN AND ANILINE INK.[6]

In view of the cases of chromium poisoning reported at the June meeting of the Massachusetts Medical Society, the following cases are of interest: In July, 1885, four or five newly-born children in the Marylebone workhouse were found to be cyanosed, and suffering from very peculiar symptoms. Nothing could be detected to account for these phenomena, and after a few days, the children became quite well. No similar cases occurred until the following December, when seven children were attacked with analogous symptoms. After some time, one of the nurses discovered that these attacks had come on when a new supply of napkins was served out, and, on examining the ink with which they were marked, it was found to contain chloride of aniline. As soon as the napkins had been washed once or twice, the symptoms disappeared entirely. A newly-marked napkin was then applied experimentally to a healthy infant, and at once a train of symptoms arose, similar to those previously observed.

CHOREA MINOR FROM NASO-PHARYNGEAL REFLEX.[7]

Dr. A. Jacobi contributes an article on this subject, in which he states that bad habits are just as well the results of physical changes in the structure of the nerve-centres or their outlying provinces, as morbid changes in the functions of the coarser viscera spring from their anatomical alterations. He alludes to a number of convulsive movements of the face, winking, frowning, twitching of the angles of the mouth, and drawing up of the muscles of the nose, the mild cases sometimes improving spontaneously in the summer months, and getting worse in winter. Besides these anomalous movements, there are others which direct attention to the primary cause of the disorder, such as frequent snuffing and a short, hacking cough, the result of a voluntary effort. In these cases there is pharyngeal congestion, which is observed to ascend in the direction of the posterior nares. The mucous membrane of the nose is congested and swelled, and there is thickening and hyperæmia of the cavernous tissue, particularly of the lower concha. Nasal catarrh is reported as frequent in these cases. The local cause of this local or partial chorea is found in the abnormal condition of the nasal and pharyngeal mucous membrane, with its influence on the terminal sensitive ends of the trifacial nerve. The author assumes that the motor branches and terminal ends of the same nerve are first affected, and before any other nerves participate in the reflex symptoms. The motor branches of the trifacial supply the masticatory muscles, the temporal, masseter, and pterygoid, the tensor of the velum palatinum, the mylohyoid, the anterior belly of the digastric muscle, and the tensor tympani; and it is these muscles which are brought into abnormal play in the reflex symptoms described.

INFANTILE APHASIA.[8]

Professor Bernhardt, in an article on this subject, sums up as follows:

(1) Only about ninety cases of this disease have been recorded.

(2) Its etiological factors are nearly identical with those producing the affection in the adult, with especial reference, however, to the characteristics of childhood. The principal causes are reflex conditions after indigestion, entozoa. psychical irritation, infectious diseases, acute and chronic brain affections.

(3) It is chiefly a symptom of cerebral infantile paralysis.

(4) Hemiplegia does not necessarily exist with the aphasia.

(5) The affection may disappear spontaneously, especially after prudent and systematic physical exercise.

(6) The nature of the cerebral lesion in cases of aphasia existing since birth is not known.

[In this connection, a case of aphasia from fright is of interest: for description, see "Report on Children," *Boston Medical and Surgical Journal*, December 17, 1885.]

HYSTERICAL HEMIPLEGIA AND APHASIA.[9]

At a recent meeting of the Paris Biological Society, M. Gayot reported the case of a child four years of age, and previously free from any nervous symptoms, who, after being violently agitated, was seized with hemiplegia of the right side and aphasia; the motor and sensory faculties were also impaired. In a few days the hemiplegia disappeared, but returned the next morning. The following night, the sensory and motor faculties regained their normal activity, and the child's health has since been good. Each return of hemiplegia was accompanied by aphasia. Both parents were of an excessively nervous temperament.

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[4] London Medical Record, October 15, 1886.

[5] A large series of cases is referred to in Dr. R. Neale's "Medical Digest," Sect. 657, 2, 3, 4.

[6] Lon. Med. Rec., October 15, 1886. Brit. Med. Jour., February, 1886.

[7] American Jour. Med. Sciences, April, 1886.

[8] Deutsche Med. Zeitung. London Medical Record, October 15, 1886.

[9] London Medical Record, October 15, 1886.

DIAGNOSIS OF INFANTILE DISEASES.[10]

In a recent number of *L' Union Médicale du Canada*, Dr. Bradley gives the following summary of points on the diagnosis of disease in infants:

(1) Congestion of the cheeks, excepting in cases of cachexia and chronic disease, indicates an inflammation or a febrile condition.

(2) Congestion of the face, ears, and forehead of short duration, strabismus, with febrile reaction, oscillation of the iris, irregularity of the pupil, with falling of the upper lids, indicates a cerebral affection.

(3) A marked degree of emaciation, which progresses gradually, indicates some sub-acute or chronic affection of a grave character.

(4) Bulbar hypertrophy of the fingers and curving of the nails are signs of interference in the normal functions of the circulatory apparatus.

(5) Hypertrophy of the spongy portions of the bones indicates rachitis.

(6) The presence between the eyelids of a thick and purulent secretion from the Meibomian glands may indicate great prostration of the general powers.

(7) Passive congestion of the conjunctival vessels indicates approaching death.

(8) Long-continued lividity, as well as lividity produced by emotion and excitement, the respiration continuing normal, are indices of a fault in the formation of the heart or the great vessels.

(9) A temporary lividity indicates the existence of a grave acute disease, especially of the respiratory organs.

(10) The absence of tears in children four months old or more suggests a form of disease which will usually be fatal.

(11) Piercing and acute cries indicate a severe cerebro-spinal trouble.

(12) Irregular muscular movements, which are partly under control of the will when the patient is awake, indicate the existence of chorea.

(13) Contraction of the eye-brows, together with a turning of the head and eyes to avoid the light, is a sign of cephalalgia.

(14) When the child holds his hand upon his head, or strives to rest the head upon the bosom of his mother or nurse, he may be suffering from ear disease.

(15) When the fingers are carried to the mouth, and there is, besides, great agitation present, there is probably some abnormal condition of the larynx.

(16) When the child turns his head constantly from one side to the other, there is a suggestion of some obstruction in the larynx.

(17) A hoarse and indistinct voice is suggestive of laryngitis.

(18) A feeble and plaintive voice indicates trouble in the abdominal organs.

(19) A slow and intermittent respiration, accompanied with sighs, suggests the presence of cerebral disease.

(20) If the respiration be intermittent, but accelerated, there is capillary bronchitis.

(21) If it be superficial and accelerated, there is some inflammatory trouble of the larynx and trachea.

(22) A strong and sonorous cough suggests spasmodic croup.

(23) A hoarse and rough cough is an indication of true croup.

(24) When the cough is clear and distinct, bronchitis is suggested.

(25) When the cough is suppressed and painful, it points towards pneumonia and pleurisy.

(26) A convulsive cough indicates whooping-cough.

(27) A dry and painless cough is sometimes noticed in the course of typhoid and intermittent fever, in difficult dentition, or where worms are present.

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Reports of Societies.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, October 21, 1886.

Dr. Francis Delafield read a paper on

PULMONARY EMPHYSEMA.

Having given a general statement of the varieties, causes, symptoms, physical signs, prognosis and treatment of emphysema, as set down in the standard text-books, he remarked that the student, when he came to observe for himself, was often surprised to find that the characteristics of the affection, as it actually occurred in practice, did not correspond with the description given by the great mass of authorities. He would find that it necessarily arises in connection with bronchitis, and that playing on wind-instruments was not one of its common causes. He would find that it did not afford such immunity from phthisis and pneumonia as was commonly taught; and if he made autopsies, he would find that the dilatation of the air-vesicles and air-spaces was by no means always proportionate to the severity of the symptoms that had been present during life.

It was true that chronic bronchitis and attacks of asthma were frequent enough, yet there were other cases in which such conditions were entirely absent, and substantive emphysema was essentially different from what the classical descriptions of it would lead us to believe. It was, therefore, important to decide what we really do know, and what we do not know about the disease. It was well, on the whole, to divide the varieties, according to the recognized classification, into the inter-lobular or interstitial, and the vesicular forms, and to divide the latter into senile, lobular, and substantive.

Senile emphysema was due simply to a senile change in the parenchyma of the lungs; and when it was present there was no obstruction to the passage of blood through the lungs, and no dilatation or hypertrophy of the right side of the heart. Chronic bronchitis was often present, but the affection was not severe, and of no very grave import. In some instances, substantive emphysema commenced in the earlier portion of life, and as the patient grew older, senile emphysema occurred also. It was not always easy to distinguish between the two; and yet the distinction was very important, for while substantive emphysema was a very serious affection, the senile variety, as had been mentioned, was not.

Dr. Delafield then went on to say that substantive emphysema was, in reality, a form of pneumonia. It was, in fact, an inflammation of the same type as that which so often attacks the endocardium, the arteries, the kidneys, and the liver. The walls of the vesicles were first attacked, and while some of them became thickened, others became thin. The dilatation, both of the vesicles and the air-spaces, varied in different cases, and was by no means proportionate in many instances to the severity of the symptoms present. In fact, many of the cases were overlooked at autopsies, because there was no dilatation of the air-spaces visible to the naked eye. Later on the emphysema spread, and attacked other parts of the lungs, including the epithelial cells lining the air-spaces, and the mucous membrane of the bronchi. The pleura also became thickened, numerous adhesions formed, and the whole condition was, in short, that of interstitial pneumonia. In the milder cases, there was but little disturbance of the circulation of the blood, but in the severe cases this gave rise to the worst symptoms. The right ventricle of the heart became hypertrophied and dilated, and venous congestion and dropsy followed. The secondary symptoms were, indeed, the same as those of valvular cardiac disease. Having referred to the various complications liable to arise, he stated that this affection was very frequently met with in New York, coming on, as a rule, in individuals of from forty to forty-five years of age. Hereditary influences were marked. The same causes were active in producing it, as in the case of chronic endocarditis, arteritis, nephritis, etc. It was of more importance to recognize the cases of moderate severity than the very bad ones, because in the latter, comparatively little could be done in the way of treatment. In the moderate cases there was no change in the shape of the thorax, though, in old and aggravated cases, the barrel-shaped chest was not infrequently present. The pulmonary resonance might remain unaltered for a considerable time.

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[10] London Medical Record, October 15, 1886.

Having spoken in detail of the physical signs present, Dr. Delafield said that the emphysema might continue for years without giving rise to any rational symptoms. The condition, however, could be generally recognized by taking into consideration the age and general condition and tendencies of the patient. There were other cases in which the presence of Bright's disease or cardiac trouble caused the emphysema to be lost sight of. The dyspnœa, at its worst, was constant and extremely distressing. In the bad cases there were also severe cough and venous congestion, followed by general dropsy.

The disease might pursue a number of different courses. In the first place, a patient who had suffered a long time from winter cough, and was always a little short of breath on making exertion, would at length develop spasmodic asthma. Then would follow increasing dyspnœa, loss of flesh and strength, venous congestion, dropsy, and death. Another class of patients would be apparently entirely well, except when they had an attack of acute bronchitis. After a time, however, venous congestion, albuminuria, and dropsy would ensue, as in the preceding variety. Still another class would suffer for years from spasmodic asthma before the evidences of emphysema would show themselves. Finally, there was a class of cases in which the symptoms were very slight for a long time, when venous congestion and the other grave symptoms would suddenly become developed. The behavior of the affection was, therefore, on the whole, very like that of the atrophic form of chronic Bright's disease.

In speaking of the treatment, he said that the same general rules as regards hygienic surroundings, climate, mode of life, etc., which had a favorable effect on the progress of other affections of the same class, such as chronic Bright's disease, etc., were applicable in emphysema. It was a question of some importance whether the dyspnœa and asthmatic attacks which so frequently characterized it were not due, in reality, to a contraction of the arteries and capillaries, since it was found by experience that many of the drugs the most serviceable in relieving these conditions were those the physiological effect of which was to produce a relaxation of the walls of these vessels.

The conclusions arrived at by Dr. Delafield were somewhat as follows: Emphysema is not a chronic local disease due to excess of inspired air over expired air, or to fatty degeneration, but a chronic inflammation of the lungs; nor is the dilatation of the air-cells and air-spaces an essential part of the affection. The result of this inflammation is such an irregular thickening and thinning of the walls of the air-spaces as would naturally occasion the dilatation of some of them. The dyspnœa and general venous congestion are not due simply to the dilation, but to the contraction of the pulmonary bloodvessels. Excessive bodily exertion is not the cause of emphysema. In the treatment, the indications are to delay the progress of the chronic inflammation and to overcome the contraction of the bloodvessels present. Chronic bronchitis is, of course, to receive proper attention. [At the conclusion of the paper Dr. Delafield had exhibited, by the aid of the magic lantern, a number of sections of lungs taken from different patients illustrating the points referred to in it].

Dr. E. Darwin Hudson, Jr., said that the author of the paper had given his ideas of emphysema from a pathological point of view. Personally, he was more accustomed to regard it in a clinical aspect, particularly in connection with the physical signs to which it gave rise; although he had had the opportunity of studying the disease to a considerable extent in the dead-house also. His post-mortem experience, however, was, of course, limited when compared with that of Dr. Delafield. He had always looked upon the account of emphysema given by Waters, of Liverpool, as affording a very definite and accurate idea of the affection. In his paper, Dr. Delafield had described other diseases, more particularly interstitial pneumonia, with emphysema. He (Dr. Hudson), was still of the opinion, however, that we had to take emphysema as a distinct type, and that it consisted essentially in rarefaction of the pulmonary structure, as described in "Reynold's Practice" and other standard works. The clinical history of the disease had to be taken into consideration, as well as the pathological conditions found after death.

It was very common for women at the climacteric period to become obese and develop emphysema, with the barrel-shaped chest so often described as characteristic of the affection. Hence the condition could hardly be due to alteration in the anatomical structure of the lung; though no doubt this was the case in other instances. The results obtained from Voldenberg's apparatus, and more recently from Ketcham's pneumatic cabinet, throw considerable light on the nature of emphysema; which was shown to be a disease in a large number of cases in which there was a loss of elasticity and resiliency on the part of the air tubes and vesicles. It was no doubt true that in a certain number of instances that gouty diathesis was present, with interstitial disease of the kidneys, or other characteristic lesions; but there was a very large number of other cases in which the affection was purely mechanical.

Dr. C. Heitzman said it was now fifty years since Rokitansky gave to the profession an accurate knowledge of emphysema, and that ever since then its pathological and clinical characteristics had been well known. It seemed to him that either Dr. Delafield had not seen a pure case of the affection, or had not demonstrated one. The sections which he had exhibited this evening were certainly not specimens from simple emphysema. As Dr. Hudson had stated, they were emphysema combined with interstitial pneumonia. It was, indeed, not a primary, but a secondary disease. He had in his possession an ample number of specimens taken from cases of pure emphysema, and they are altogether different from those which Dr. Delafield had shown. As to the pathology of the affection as interpreted by Dr. Delafield, namely, that it was due to contraction of the bloodvessels, he did not see why we should go to something which we could not prove for an explanation of the trouble. For himself, he was content to believe in the old view of the affection.

Dr. Delafield said that the ideas which he had tried to set forth in the paper were those which he had formed from a somewhat extended study of the disease both during life and after death. The treatment which was found most effectual in emphysema was certainly fully compatible with the views which he had advanced.

Dr. Van Zantvoord said that he had at present under observation two advanced cases of emphysema which seemed to him to bear out the statement of the author of the paper that the affection was of great gravity in many cases; and since he had been in practice he had found out that many of the teachings in regard to emphysema which he had heard when a student were not borne out by the facts. He then spoke of the great value, according to his experience, which caffeine had as a cardiac stimulant in these cases. The right heart was frequently embarrassed, and venous congestion was apt to occur long before it could be caused by tricuspid trouble, or at least before this could be recognized by the physical signs.

Dr. Delafield said that he thought caffeine a useful drug. It appeared to stimulate the right side of the heart more than the left side; and the same was true of convallaria. Just as was the case in pneumonia, it was therefore indicated to stimulate the right heart in emphysema.

The President, Dr. A. Jacobi, spoke of the value of the iodides, and said that the benefit which was afforded by them could only be explained on the ground that they acted as absorbents.

Dr. F. A. Carth said that of late calcium chloride, which had been proposed a long time since in this connection, had been steadily growing in favor for the purpose of causing absorption of connective tissue products. He referred to the value in emphysema of remedies which relax the muscular coat of the bloodvessels, and said that he thought this had a direct bearing on the subject of the paper. For instance, the prompt relief afforded by nitrite of amyl would seem to indicate that the seat of the trouble was in the bloodvessels; for if the dyspnœa were due simply to dilatation or to the presence of mucus in the air-vesicles, one could hardly account for the favorable action of this remedy.

Dr. Delafield said that he agreed with the President that the iodides were among our most valuable drugs in emphysema, and its action might well be supposed to be due to their effect on the bloodvessels, because it was a recognized fact that one of their effects is to relax the swollen bloodvessels. Thus, iodide of potassium was given in cardiac disease for its effect on the small arteries and capillaries. Another drug of the same class which was of great value was chloral hydrate, which acted in a similar manner. Large doses of chloral were extremely useful in acute attacks of dyspnœa, and small doses in chronic dyspnœa.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

Meeting October 13th, 1886.

The meeting was called to order by the Secretary in the absence of the Chairman, and on motion, Dr. V. Y. Bowditch was elected Chairman, *pro tem.* The reading of the records of the last meeting, relating to the subject of the Physical Training of Children in our Schools, was omitted.

The Secretary read a letter from Prof. Raphael Pumpelly, of Newport, in which he expressed his deep regret that an unforseen accident would prevent him from attending the meeting as he had expected to do.

Prof. T. W. Sedgwick read an essay upon

THE FILTRATION OF POTABLE WATERS, WITH REFERENCE TO THE ELIMINATION OF ORGANIC GERMS.[1]

The speaker considers the quality of drinking-water a matter of great importance, but seems to incline to the opinion that many of the impurities in the water we drink, though objectionable to sight, taste, and sentiment, are not directly the cause of serious disturbance to the human organism. A general description of the essential composition of any appliance for the filtration of water, was followed by the exhibition of the Micro-membrane Filter, which was in practical operation in a solution of ultramarine, from which it delivered a filtrate of such purity that it was impossible to tell it from the filtered Cochituate water which had not been stained with this coloring matter. The meshes of asbestos composing the filter were of such a degree of minuteness that the small particles of coloring matter were entirely separated from the water, and a clear filtrate was obtained. [For a more detailed description of the Micro-membrane Filter, see Report of the late Prof. W. R. Nichols, in Proceedings of the Society of Arts, of the Massachusetts Institute of Technology, 1885–86.]

The Chairman called upon Dr. S. W. Abbott, Secretary of the Massachusetts State Board of Health, who responded as follows: There are two things to be borne in mind in the study of filtration of water; one relates to the well-being of the consumer, and is of use only as it modifies the actual condition of the water; while the other relates to the financial success of the company manufacturing the filter. Filters as now made, are all more or less defective, and accomplish the objects for which they are manufactured with more or less completeness. If we could have a filter which would adequately protect the consumer of the water against the contamination which may, and too frequently does exist in drinking-water, we should have a good thing. A filter is a thing which is the subject of many erroneous ideas on the part of the public. All filters containing charcoal, silica, etc., will remove a certain amount of dirt from the water, and the popular idea seems to be that thereby they actually protect the public from the effects of contaminated water. This is a positive mistake, but many people are firmly persuaded that filtration transforms an injurious water-supply to a wholesome one.

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[1] See page 470.

Thus we were recently treated to the authoritative statement from the pen of a clergyman not more than twenty miles from Boston, that if a certain filter made by a certain manufacturer had been employed in the town of Plymouth, Pa., in which there recently prevailed a frightful epidemic of malignant fever, causing more than a thousand deaths, not one person would have died from the disease. We cannot accept such statements as these, and for the same reason we cannot put reliance upon any appliance for the mechanical purification of drinking-water until it is proved to do more than any filter is now doing. In regard to the micro-membrane filter it must be remembered that this is a new instrument, and it might not do so good work after a certain period of use, as it now does. If it could be enlarged, it would seem to offer the promise of a really good and serviceable filter. It looks as if it might exclude bacteria. If any form of filter could be devised which might be applied to the water at its source of supply, instead of at the end of the service, it would be a vast improvement over any present system.

Dr. J. G. Blake said that he was glad to be able to testify to the efforts on behalf of the Water Board of the City of Boston toward improving the quality of the water-supply. There is no question that the character of the water furnished to the citizens is now much better than formerly. The subject of filters is a broad one, and much misapprehension doubtless exists upon their design and usefulness. A filter is no more than a strainer, and will do the mechanical work of a more or less perfect strainer, and that is about all it will do. The ordinary filter is much too small for useful service, and can do only imperfectly the duty of separating the extraneous matters in water, as is usually seen in the action of most filters. The amount of filtering material is ordinarily far too small to properly strain out the foreign substances or to furnish even an approximately pure water. If the micro-membrane filter can be made practicable and be constructed cheaply, it would seem to be a good thing.

Mr. Desmond Fitzgerald, of the Cochituate Water Board, was called upon by the Chairman, and responded by saying that he was much interested in the subject before the meeting, and would gladly add to the knowledge of the matter if it were in his power. The subject of the purification of our drinking-water is one which attracts the attention of the public, as is evidenced by the size of the present assembly. There is one remarkable thing about the whole question of sanitation, which is, that it is only since the time that science has taken the subject in hand that there has been any real improvement in the means of furnishing pure water to urban populations for domestic purposes. It is only since scientific men have devoted their energies to the accomplishment of better sanitary conditions that there has been an appreciable diminution in the death-rate from any of the well-known epidemic or infectious disorders which affect the human race. From the period when sanitation became an established science, there has been a steady improvement in the public health. There is no question that much of the epidemic disease in London was directly or indirectly traceable to the old wells which were formerly the sole water-supply of the city for domestic purposes.

The whole question of the filtration of water will resolve itself into two propositions. First, does it pay? Second, can the various impurities in water be removed by this means?

Can filtration remove the color from impure water? Can it abstract the albumenoid, ammonia and other chemical contaminations? Until a filter can be produced which shall answer these demands, this appliance will not come into general use. In England much of the water-supply for large towns is taken from rivers, and previous to being diverted into the service-pipes, the water is treated with substances which chemically remove much foreign matter which would otherwise pass into the domestic supply. With respect to the micro-membrane filter, the question to be asked is, will it clog? will it remove chlorine? will it still continue to remove these impurities after a period more or less long of active service? At present all forms of domestic filters are simply strainers. We have not arrived at perfection in the manner of distribution of water-supply, and are farther still from the practicable and reliable means of its purification. What we want is to get at the way to deliver to a city of the size of Boston a supply of pure water every day. Filtration to be most effective should be conducted in such a manner that the water may pass slowly through the filtering medium, and thus allow the detention of deleterious matters. Rapid filtration is not in accordance with the principles of perfect separation of impurities.

Dr. Blake asked the probable cost of filtration of service water on a large scale. Mr. Fitzgerald replied that the cost would not probably be so large as to interfere with its practicability, if a useful method could be devised.

Prof. Geo. F. Swain, of the Massachusetts Institute of Technology, being introduced by the Chairman, said that it is not necessary to remove all the germs from the drinking-water, even if this were possible. The place for the removal of organic matter is not at the delivery of the water in the house of the consumer, but it is at the source. The dirt in the state of mechanical suspension can be removed by a simple filter at the point where the water is drawn for use. In regard to filtration on a large scale, it is simply straining, and not filtration in any proper sense of the word. Prof. Swain then described a new appliance for the purification of water for domestic purposes as follows: At the request of the manufacturer, who is unfortunately unable to be present this evening, I will briefly explain the construction and operation of the Diamond Filter. This filter is intended to be attached directly to the supply-pipe, taking the place of a faucet, and it consists of a cast-iron enamelled cylinder, to which a top is screwed, the water entering at the bottom and passing out at the top. The filtering material consists of two layers of quartz sand with an intermediate layer of bone charcoal, closely packed, between two brass gratings to which are soldered screens of fine brass wire. The area of cross-section of the filter being very much larger than that of the inlet-pipe, the velocity of the water through the filtering medium is very much reduced, and the coarser particles settle below the lower grating or are caught on the wire-screen, while the finer ones are intercepted by the lower layer of quartz, very little even reaching the charcoal, which therefore needs renewal but seldom.

The principal peculiarity of the filter lies in the method of cleansing. It is divided internally by a vertical solid partition, and at the inlet a four-way cock is placed. The two upper openings are inlets, and the two lower ones outlets, leading to the discharge-pipe just below the inlet; the inlet and outlet on the right being connected with the right-hand half, and those on the left with the left-hand half of the filter. In ordinary working both inlets are open and both outlets closed, the water entering on both sides and ascending through the whole body of the filter; but if the filter is to be cleansed the outlet valve or cock is closed, and the four-away cock is turned so that the left-hand (upper) inlet, and the right-hand (lower) outlet are closed, the water passing in at the right, up through the right-hand half, down through the left-hand half, and out through the outlet, thus cleansing the left-hand half with *filtered water*, a point upon which the inventor lays great stress. By turning the four-way cock so that the right-hand inlet and left-hand outlet are closed, the course of the water may be reversed, and the right-hand compartment cleansed. Finally, if the water contains such finely-divided particles as to be but imperfectly filtered in the ordinary manner, the usual outlet valve may be closed and the water drawn from the lower discharge, after having been made to pass up and down through the filter.

The filtering material is renewed by unscrewing and removing the top.

The ordinary sizes of this filter, which is made by John G. Avery, in Spencer, Mass., are: No. 1, 4 in. diam., 6 in. high, 4 in. of filtering material, price $10; No. 2, 6 in. diam., 8 in. high, 6 in. of filtering material, price $15; No. 3, 12 in. diam., 15 in. high, 11 in. of filtering material, price $35. Very much larger sizes, however, have been made in special cases.

DR. HENRY J. BARNES spoke at some length of the desirability of securing the utmost degree of cleanliness in the fluid we use as a drink, and continued as follows: The desirability of filtering the water-supply of Boston has been greatly diminished, through the influence of members of this, and the parent Medical Society exercised chiefly through the valuable services of Dr. John G. Blake, a member of "The Commission of Investigation," since which the storage basins on the Sudbury River have been relieved of a large amount of vegetable mould, the decay and disintegration of which loaded the water with a great volume of organic matter. There has been little to complain of in the character of this water. At the present time these storage reservoirs are practically in the condition of "natural ponds," polluted to a greater or less extent by organic matter both animal and vegetable, dead and alive, washed into the basins with every rainstorm of magnitude, beside no inconsiderable amount of sewage which the praise-worthy efforts of the Water Board and engineer have failed to exclude. Nature strives and in a manner succeeds in neutralizing this baneful influence by inhabiting the water with living organisms which devour the dead, prey upon the living, and transform organic into inorganic matter. Insects, fishes, mollusks, crustaceans, diatomes, and other species of animalcules each and all contribute to this end. And it is therefore undesirable, even if possible, to defertilize it at this point.

The bacteria of putrefaction, consuming oxygen, convert nitrogenous matter into plant-food. Vegetation inhaling carbonic acid and exhaling oxygen, renders it possible for animal life to exist.

The algæ selecting food from elements set free by decomposition, the spongilla subsisting upon animalcules and the spores of the algæ are but steps, which, if properly balanced, contribute towards purification. The balancing of these organisms, the ideal condition of a water-supply, is not to be hoped for where so many factors interfere with harmony. Unconsumed animal and vegetable material with the coagulæ of imperfectly decomposed soluble matter finds its way into the service pipes, for which we have no means of elimination except by filtration. It is here shown by the working of these filters to be considerable, and I do not believe its consumption conducive to the best hygiene. Nature strains it all out in converting surface water into spring water. If we can imitate her by artificial devices it is certainly desirable, and it does seem as if many of these machines do excellent service in this direction. While advocating their use, then, for the Sudbury and Cochituate service, I should deprecate the establishment of the notion that any are capable of freeing water from those noxious elements which go to make up six-sevenths of the pollution where sewage is discharged. The dissolved nitrogenous matter in urine, the almost completely soluble fæcal discharge must of necessity pass through any mechanical obstruction the mesh of which is capable of transmitting the liquid vehicle.

For this reason, water contaminated as in our Mystic supply, with human excreta, washings from tanneries, currying-shops, glue-factories, piggeries, etc., cannot be materially benefited by any of these appliances. By chemical treatment, a portion of the soluble matter can be precipitated, but of the great variety of methods employed, but few produce an effluent from sewage which should be discharged even into water not used for domestic purposes. One of the simplest and best plants for this purpose is employed at Strond, Eng.,— and known as the "Bird process." Impure sulphate of alumina and sulphuric acid are the agents. The acid is added to powdered clay a few days before it is used, from a hopper regulating the discharge, into a current of sewage which goes to the first reservoir of deposit. From this receptacle it runs under another hopper discharging clay mixed with sulphuric acid to a second reservoir, and from thence over three lays of filtering coke. Analysis of the influent and effluent water shows in parts per 100.000 in weight, the water before treatment to contain 48.5 soluble and insoluble matter; after, 53.5.

	Before.	After.
Organic Carbon	2.289	2.203
Nitrogenous matter	2.859	1.779
Ammonia	6.000	5.000
Nitrogenous matter in combination . . .	7.800	5.887
Matter in suspension, mineral and organic . .	43.000	4.008

This result, though obviously good, cannot be considered satisfactory epuration for domestic purposes.

Clay will promote decomposition of nitrogenous matter when brought in contact with the lime it contains, and the alum will cause a precipitation. But this has proved an unsatisfactory method in the treatment of sewage at Tottenham, although complete clarification was secured before discharging in the river Lea. A flocculent deposit collected on the bed of the river of highly putrescible character.

It is obviously impossible to treat potable water with clay, even if a more satisfactory result could be attained.

The more complicated methods of chemical treatment, such as Hille's, Goodall's, Holden's, Campbell's, and Scott's processes; the A. B. C. process of Sillar; the lime and chloride of iron treatment afford little assurance of successful epuration, and many of the agents employed would be objectionable in a water-supply.

Dr. Frankland wrote a few years ago, "The actual resources of chemistry do not permit the hope that the dissolved impurities in sewage can be precipitated by any appliance of chemical reaction, and unless new chemical laws are discovered, it is useless to attempt the employment of this agency.

Soil purification, though capable of transforming sewage into potable water, opens up a subject beyond the limits set for consideration this evening, and it is not applicable to the purification of water in open sewage basins, except so far as filter galleries will eliminate a certain amount of material in suspension.

"It is difficult to reconcile the apparent difference of opinion between scientists of America and Europe. In the latter country filtration is almost universally practiced. The British army in Africa was supplied with portable filters presumably by the advice of the medical department. Such men as Lister, Frankland, Alfred Clarke and many others certify to the usefulness of a good filter. I have used one in my family since 1882, and there has never been a time even when water from the unexcavated basins on the Sudbury river was supplied that all the apparent organic matter in suspension was not removed, besides decolorizing the water by the ordinary tests."

Dr. H. C. Ernst said that he desired to protest against the view apparently advanced by Professor Sedgwick, that the indiscriminate and unhindered swallowing of bacteria in any and all forms is harmless, not to say wholesome. No person who has ever witnessed the results of the ingestion of the germs of cholera, either in the way of an epidemical outbreak of that disease, or as a means of research in experimental pathology, could entertain such an idea for a moment. The sterilization of water by filtration has been tried in a very thorough manner in the laboratory of Professor Koch in Berlin. Many different kinds of filters were employed, and the resulting filtrate was tested as to its freedom from germs by means of culture-plates. None of the common forms of filter were found to be bacteria proof. Only one was found which was capable of arresting the germ contents of water. This was the filter devised by Chamberland in Professor Pasteur's laboratory. In most of the filters it was observed that the germs grew rapidly in the filter, and soon penetrated the wall of the filter by direct growth from the other side, and thus appeared in the filtrate in large numbers.

Professor Sedgwick stated that he by no means wished to be understood as believing that it was safe or prudent to employ polluted water for domestic purposes. He said that there was no doubt on the other hand that a vast number of germs were undoubtedly taken into the human organism every day, and there is usually no serious result from their ingestion. Of course there are microscopic germs, which are harmful or even destructive to the animal body, and these can never be taken except on peril of great disturbance to the functions of the body, but there are also a vast number of germs which may be, and are taken into the body without perceptible detriment.

The Chairman announced that he had received a communication from a delegation of the Society upon the subject of Physical Culture, and desired to refer the matter to the Section for their action. On motion of Dr. Bradford the subject was referred to a committee of three to be appointed by the chair, to report on the same at the next meeting. The chair appointed as that committee, the following: Dr. E. H. Bradford, Chairman, Dr. C. P. Putnam and Dr. J. P. Reynolds.

The Secretary announced that he had just received a letter from the Secretary of the Middlesex South District Medical Society, stating that a committee had been appointed from that Society to co-operate with the committee from this Section in the matter of urging the adoption of some plan for the physical training of school-children. The committee so appointed consisted of Drs. E. Farnham, C. H. Cook, and H. P. Walcott.

A variety of filters of various forms and structure was arranged upon the table, some of which were portable, and some of which were attached to the service-pipes of the building. The following filters were explained by representatives of the manufacturers or owners. Micro-membrane Filter, by Professor Sedgwick; Sanitary Improvement Co.'s, by A. P. Howe, Esq.; "Filtre Rapide" (Maignen's), Blanchard, Farrar & Co., by Mr. Blanchard; Cheevans, Jones, McDuffee & Stratton, by Mr. Jones; Diamond Filter, by Professor Swain; American Filter.

Adjourned at 10.30 o'clock.

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PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

HERBERT L. BURRELL, M.D., SECRETARY.

October 30, 1886, the President, Dr. G. B. Shattuck, in the chair.

Dr. G. H. Monks reported

A CASE OF UNUSUAL DEFORMITY OF BOTH HIP-JOINTS, AND EXHIBITED THE PATIENT.[1]

Dr. A. N. Blodgett asked if there were any nervous lesion present in the case that might account for the remarkable difference in development of the upper and lower extremities of the patient. He further called attention to a peculiar, claw-like action of the feet when the patient was walking.

Dr. Monks said that he knew of no nervous lesion.

Dr. R. M. Hodges inquired what evidence there was that the deformity had only existed two years.

Dr. Monks said that careful questioning of the patient and his parents were the basis for the statement.

Dr. E. W. Cushing inquired if the patient had ever had any acute infectious disease; if he had ever had acute rheumatism or gonorrhœa.

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[1] See page 468,

Dr. Monks replied that he had not.

Dr. Prince inquired about the reflexes.

Dr. Greenough asked if the pelvis moved with the femora; if there were complete ankylosis.

Dr. Monks said that the pelvis practically did move with the femora, as there was only a very limited degree of motion.

Dr. Barnes inquired if the flat-foot were acquired.

Dr. Monks said that he could not say how that was.

Dr. Otis K. Newell then read a paper on

THE MALE URETHRA: SOME OBSERVATIONS ON THE ANATOMY OF, IN RELATION TO ENDOSCOPY, LITHOLOPAXY, AND CATHETERIZATION.[2]

Dr. Cabot inquired if the short tube could be introduced without bringing it down to the axis of the body.

Dr. Newell replied that it could.

Dr. Cabot asked if the tube would stay in position after the tube is brought to angle of 45°.

Dr. Newell said that it would, owing to the large size of the tube engaging the circumference of the prostatic urethra.

Dr. Cabot said that in certain cases where there were deep, long prostates, he had encountered some difficulty in making an evacuating tube retain its position.

Dr. Newell said that in ten subjects he had been able to introduce his tube so that from one and a half to two inches of tube protruded from the vesical orifice into the cavity.

Dr. M. H. Richardson said that he had used Dr. Newell's endoscope with success, and felt that with more experience in its use, that he should be able to obtain valuable information. In one case, he said that he had been enabled to settle a question regarding the presence of a tumor in the bladder.

Recent Literature.

Elements of the Comparative Anatomy of Vertebrates: Adapted from the German of Wiedersheim, Professor of Anatomy, etc., at Freiburg in Baden. By W. Newton Parker, Professor of Biology in the University College of South Wales and Monmouthshire. With additions by the author and translator. London: Macmillan & Co. 1886.

This book will be useful to those who desire to find in a convenient form the main facts of vertebrate anatomy. It will also be very valuable as a text-book in a course considerably amplified by the teacher. The defect of overcompression is almost unavoidable in a work of this nature. It is most difficult to know where to draw the line, and we think that the author has shown wisdom in the limits he has imposed. Once in a while a very few additional words would be of great advantage. Thus on page 287, there are figures of five different arrangements of the great vessels from the aortic arch in mammals, but the student is not told in which animals they occur. The plan adopted is the very practical one of following the same organ or system throughout the vertebrate classes. This makes it much easier for the student who wishes to look up some particular point. The book is very thoroughly illustrated, and many of the diagrams are admirable for their clearness and simplicity. We notice a gross error in the figure of the human sternum, which we suspect must have been added by the translator, as it could hardly have escaped the notice of a professor of human anatomy. Many of the illustrations are old friends, but of the kind that we can hardly meet too often. To our mind, a defect in the book is the admission of theories here and there into a work which should be only the record of facts; but this fault is nowadays almost a matter of course. The book is written for students of medicine, as well as for those of comparative anatomy, and we think it will be welcome to both. T. D.

Spasm in Chronic Nerve Disease. By Seymour J. Sharkey, M.A., M.B., etc., of London. 8vo. 99 pp. London: J. & A. Churchill. 1886.

This volume consists of the Gulstonian Lectures for the present year. The subject is treated under three heads: spasm in connection with cerebral motor mechanisms, spasm in connection with spinal mechanisms, and functional spasm. The consideration of the forms of spasm seen in convulsive diseases, like epilepsy is not dwelt upon. Under the first head he considers especially those conditions of muscular rigidity and contracture seen after cerebral disease, such as hæmorrhage, softening, tumors, porencephalia, etc.; and also certain conditions of mobile spasm, like athetosis and post-hemiplegic chorea. "The pyramidal tract stands prominently forth as the great offender in the production of muscular spasm. . . . It only looses the reins of the spinal centres, which it should keep well in hand. Still, it rules the situation. . . . The symptoms of disease of the lateral columns of the cord are the same, whether it follows cerebral or spinal lesions." He also quotes cases of hemiplegia, where there was no direct lesion of the pyramidal tract, and consequently, as he thinks, no signs of rigidity ever appeared. This theory, although very probable, is not, however, universally admitted, and it would seem strange, were it not for the too common ignorance of German work which English writers seem to show, that, in such a treatise no mention is made of the views of those who hold that contracture and late rigidity in hemiplegia have nothing to do with secondary degeneration of the pyramidal tract. Contracture, he says, is seen in peripheral diseases, but many of the cases may be explained by a contraction of antagonistic muscles, as in *main en griffe*, or by contractile processes due to disease of the muscles themselves. Pain, trauma, or joint-disease might not produce contraction if the centres were normal. An involuntary neuromuscular habit may explain such cases. Functional spasm resembles spasm from gross lesions, and is thought to be due to molecular changes analogous to the gross changes. In some of these cases, as in writers' cramp, the part of the pyramidal tract involved is fatigued, the lower centres are "let go," and spasm results. In gross lesions when the morbid process attacks the motor cells the spasm ceases and paralysis ensues. An analogous molecular change may account for the "paralytic" forms of writers' cramp. Molecular changes in the peripheral nerves, rarely if ever, cause spasm. The book is clearly written, and well printed, but unfortunately it lacks an index. P. C. K.

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[2] Published in No. 19 of the Journal, page 443.

THE BOSTON
Medical and Surgical Journal.

THURSDAY, NOVEMBER 18, 1886.

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MEDICAL EDUCATION IN THE UNITED STATES.

The excellent work undertaken half a dozen years ago by the Illinois State Board of Health in the investigation into the requirements for entrance and graduation by the various medical schools of this country has had a fruition beyond the original aim of those who undertook it. The data, originally collected to serve as a basis for deciding what were colleges in "good standing" for the purpose of enrollment, according to the medical-practice requirements for the State of Illinois, have proved of value as standard statistics of the subject of medical education, and the publicity given to the reports has doubtless conduced toward a raising of the standards of institutions, which, but for this turning on of the light, would have been content with their former low grade of requirements. Primarily a police measure, the work has become an educational agency.

The latest report on this topic[1] brings the list of medical schools up to 252, from the 59 schools recorded in the first report. One hundred and twenty-three of these schools have succumbed to *tempus edax rerum.* But time itself has not so sharp a tooth against weak and incompetent medical schools as has the Illinois State Board, which is now supported by those of several other States — among them Minnesota, Missouri, and Iowa — and as a third of the new medical graduates yearly settle in the Western States, the sentry-work done by these organizations is especially useful.

The schedule of Minimum Requirements now in force for admission to all schools which are held "in good standing" includes a thorough examination in English branches, including mathematics, English composition and elementary physics, and natural philosophy. A minimum length of curriculum is two terms, of twenty weeks each. Quizzes or examinations, at least twice weekly, are required, with final tests in ten recognized departments of medicine, among them hygiene and State Medicine. Dissection is obligatory during two courses, and the entire period of study, prior to receiving a degree, must be not less than three years. While these provisions are somewhat less stringent than those of the American Medical College Association, they have the advantage of applying to all schools of medicine, and have been successfully enforced for three years.

As showing the increasing extent to which the Schedule is complied with, the following comparisons are of interest: Of the 129 colleges now in existence, there are 114 which exact an educational requirement as a condition of matriculation; in 1880 there were only 45. Attendance on three or more lecture-courses before graduation is now required by 41 colleges, as against 22 heretofore; and provision is made for a three or four years' graded course by 48 others. Hygiene is now taught in 110 colleges, and medical jurisprudence in the same number, as against 42 and 61, respectively, heretofore. The average duration of lecture terms has increased from 23.5 weeks to 24.8; 9 more colleges have lecture terms of five months or over, and 13 more have terms of six months or over, as compared with the sessions of 1882–83. These changes have all been made in the medical colleges of the United States, no material alteration in the Canadian schools having taken place in these respects.

A part of the report of considerable interest is that which covers the ratio of increase numerically and proportionally in the profession. In 1880, there were, according to the National census, 83,436 physicians in the United States. Since that date there have been added — exclusive of the foreign increment — 23,531 new graduates, not including those of the last session, 1885–1886. This makes a total of 106,947, and is an annual increase of over five and one-half per cent., while the annual increase of population is less than two per cent.

As might be expected, this proportional increase in the numbers entering the ranks of the profession is attended not only by close competition, but by a certain amount of downright failure. As shown by the figures for the State of Illinois, over seven per cent. of the entire number failed as physicians, and sought other modes of obtaining a livelihood. It is noteworthy, by the way, that non-graduates fall out in much larger proportion than the graduates, and that the graduates of three-course schools show the smallest percentage of loss, either by removal from the State, or by abandonment of practice.

The rate at which some of these superfluous men fall out of the ranks is shown for Chicago, thus: In 1880, there were certificates issued to 172 new-comers; five years later, only 84 of these remained — a loss of over one-half. In 1881 there were 183, in 1882, 171; in 1883, 200, and in 1884, 198 new-comers; and in 1885, there remained of each year's group, 97, 116, 145, and 168, respectively. In one year the loss was 15 per cent.; in two years, 30 per cent.; in three years, 32 per cent.; in four years, 47 per cent.; and in five years, over 51 per cent.

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[1] "Medical Education and Medical Colleges in the United States and Canada," 1765–1886, Illinois State Board of Health, Springfield, Ill., 1886.

While there are estimated to be in the State of Illinois from 1,500 to 2,000 physicians more than are necessary to supply the legitimate demand for professional services, and probably an equal proportion in other States, it is gratifying to learn the conclusion drawn from the wide personal experience of the author of this report, whose official position has, during the past nine years, made him familiar with the professional history and status of over 13,000 men, more or less directly connected with the practice of medicine in Illinois. He has followed up, with especial interest and care, the careers of 789 out of 1,000 physicians who studied four years, and attended three terms before graduating. "These are," he says, "with a few exceptions, the successful and prominent members of the profession in the different communities in which they reside. They are well equipped by general education, by an ample period of professional study, by didatic and clinical instruction, and by hospital practice. They are successful, as a rule, because they have fitted themselves to command success."

SANDALWOOD OIL AS AN ANTI-BLENNORRHAGIC.

According to Jaccoud's *Dictionaire Pratique*, that which renders the sandalwood oil valuable, outside of the rapidity and efficacy of its action as a blennorrhagic is that the drug, far from producing upon the stomach and upon the urinary passages the unpleasant effects of copaiba, is perfectly inoffensive and even agreeable, . . . in place of fatiguing the stomach and occasioning regurgitation . . . it stimulates the digestion and possesses a stomachic action without provoking any trouble of the digestive functions. Elimination by the skin never causes an exanthem, and the author of the article adds to these negative virtues very positive attributes in most diseases of the urethra and bladder, so that one is reminded of the historical writers of his boyhood in which the hero of the story is possessed of an unfailing perfection and his enemies of equally great failings.

In the *Annals of Surgery* of a year ago, was an article which extolled the drug in epididymitis, and mentions its value in gonorrhœal rheumatism. At the recent meeting of the Society for Internal Medicine in Berlin, a paper on the drug was read by Dr. Posner, and debated by several gentlemen, in which valuable properties were ascribed to the drug in cases in which injections were improper, namely, those in which the disease manifested its passage beyond the compressor urethræ muscle by inflammation of some of the adjacent organs, as the prostate, bladder, or testicle. It seemed to be the opinion that under all circumstances sandal oil was better borne than the other balsamics.

The report of Posner and the discussion, calls out a broadside from Dr. Letzel, of Munich, who makes a very genuine addition to our knowledge of the drug.

Dr. Letzel reports, from his clinic for skin diseases and syphilis, an abundant and carefully observed series of cases in which sandal oil has been administered for gonorrhœa or some of its complications.

During less than a year past Letzel has used sandalwood oil on gonorrhœal patients ninety-seven times. The drug was given at first in an emulsion with burnt coffee and cinnamon water, but patients had such an aversion to the mixture that capsules were substituted. Decided disturbances in the digestive tract occurred in four out of the ninety-seven patients, twice decided diarrhœa, and twice severe dyspepsia which lasted many days. Burdensome eructations, oppression and burning in the stomach, and a marked feeling of thirst were often noticed, but of transient nature which did not necessitate the abandonment of the drug. Five times occurred congestive pain in the region of the kidney, which reached such intensity in two cases that the subcutaneous use of morphine was necessary. Letzel then quotes from the second edition of Jullien to the effect that many patients complain of a painful sensation which occurs thirty to forty-five minutes after the injection of the remedy and radiates through the loins and even to the testicles, and that there is no trouble to which sandal oil gives rise more frequently than this congestive pains in the lumbar region. Jullien describes also an erythema from the drug, probably the only reported eruption from sandal oil.

Letzel sums up his experience in the following conclusions:

In the beginning of a gonorrhœa sandalwood oil influences the secretion in such a manner that after a few days the discharge becomes decidedly less, and instead of a greenish-yellow color appears only somewhat milky. The pain in urination and erection decrease faster than by indifferent treatment, and disappear freely in a few days. Of forty-two cases so treated, thirty-seven were influenced in the manner noted. In the seven remaining cases the influence of the sandal oil on the gonorrhœa was not noticeable.

If after ten to twelve days the use of the oil is abandoned the disease grows worse in most cases. The use of sandalwood oil gave the best results when it was begun in the third or fourth week of the disease, and when accompanied by a slightly astringent injection. Three out of twenty cases of this class healed without any injection in two to three weeks. In twenty-one cases out of twenty-nine, the excretion disappeared within eight to twelve days and were ended with an injection. Eight patients in whom a favorable result was not reached were indolent careless tramps.

In gonorrhœal cystitis and prostatitis the exhibition of sandal oil was of great use in all cases. The length of the affection was decidedly shortened and the suffering greatly diminished.

Chronic gonorrhœa was not noticeably influenced by the drug alone though local medication seemed to act more favorably with simultaneous internal administration of the oil.

"All in all, sandalwood oil modifies the secretion with decidedly greater promptness and surety than the other balsams, but the stomach does not endure the drug so lightly as most authors are inclined to believe, and further, the eventually occurring congestive condition of the kidneys warns us to greater care, and the last greatest defect in the drug is its too great expense."

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MEDICAL NOTES.

— An order has been issued in Lower Austria forbidding manufacturers and tradesmen to sell nickel-plated vessels for cooking. It is stated that vinegar and other substances dissolve nickel: and that this, in doses of the seventh of a grain, produces vomiting, and is generally more poisonous than copper.

— Professor Ludwig Bandl, of Vienna, has been appointed Professor of Obstetrics and Gynæcology at the University of Prague, to succeed Professor A. Breisky, who has been called to Vienna, to occupy the chair vacated by the retirement, through ill health, of Professor Spaeth.

— In view of the prevalence of cholera at Pesth, Trieste, and other places, the Local Government Board of England, have issued an order prohibiting, until April 1st, 1887, the importation into this country of rags from Austria-Hungary. The Board have also extended until April 1st, 1887, the prohibition of the importation of rags from Italy.

— A German, according to an exchange, had run up a large doctor's bill and called to see the physician concerning it, whereupon the following conversation ensued: "Goot-mornin', dogtor.', "Good-morning, Mr. Mozenthal. How is your family?" "Pretty vell; I gome to ask you sometings aboudt mein bill." "Yes?" with animation. "I don'd haf got mooch money. I vants to know vill you tage id ondt in der trade?" "I guess we can arrange that" (cheerfully). "What's your business?" "Vell — I blay me a leedle on dot trambone; undt I seranadt you more as twendy times!"

— Having found that the compound licorice powder produced very severe griping in many instances where he had ordered it, the griping being particularly severe in some of his younger patients, Dr. Martin Oxley (*Lancet*), has ordered the following formula for some time past, in which anise fruit is substituted instead of the fennel, and one-fourth part of ginger is added. The altered formula runs thus — senna and licorice-root, of each two parts; anise fruit and sulphur, of each 1 part; sugar, 5¾ parts; ginger, ¼ part. This altered preparation is quite as satisfactory in its laxative properties, is less liable to gripe, and is as pleasant to take as the officinal powder, and he would suggest its trial in cases where the powder as now prepared produces the disagreeable effects to which he has referred.

— A curious experience is related in the *Medical and Surgical Reporter*, of Dr. Robert St. George Dryanforth, of Washington. While serving in the War of the Rebellion, the doctor was shot through the lungs and invalided. He subsequently went to Europe for his health, and remained there for some years. When the German war broke out, he became correspondent for the *New York Tribune*, and in one of the battles he was shot through the base of the skull. He caught a heavy cold while lying wounded on the battle-field, and his wound in the lungs troubled him so much that his life was despaired of, and he was considered a victim of rapid consumption. One day during a violent fit of coughing the doctor brought up a piece of his overcoat, which had been shot into his lungs ten years before. The ejection of this cause of irritation so relieved him that he at once became better, and finally completely recovered. He returned to Washington, and has since held the office of Judge of the Court of Appeals. He was also a member of the Board of Examiners, and Assistant Commissioner of Patents.

— *The Medical Press and Circular*, Sept. 8, 1886, vouches for the truthfulness of the following: "A certain operator proposed to remove 'the uterine appendages' from a patient under his care, and he asked a gentleman present if he would like to examine the patient, saying she had been suffering for years with an acute pain, that life was a burden, etc. The gentleman, struck by the full, round, rosy cheeks and red lips of the woman, first asked her how she slept at night. 'Oh, very well, thank you,' was the reply. 'You have no pain at night, then?' was the next question. 'Oh, no,' she answered. 'Have you pain all day long?' continued the questioner. 'Not all the day through,' she replied. 'Have you pain every day?' he went on. 'No, not every day,' was the answer. 'How often does the pain come on, then?' the gentleman continued. 'Oh, three or four days a month,' was the innocent reply, much to the amazement of the questioner. The would-be operator was heard to mutter something about 'getting any answer you like,' but it will be satisfactory to learn that the patient saved her ovaries on that occasion, at least."

— The eminent surgeon, Professor Billroth, of Vienna, has joined the number of German professors who have lately spoken of the necessity of stricter supervision of the university students. He writes, with particular reference to students of medicine: "Sad experiences and observations naturally suggest the thought that our young men are not ripe for the degree of freedom prevailing in our universities. It is to be hoped that by tightening the pedagogic reins some improvement may be effected; the protest of the apostles of freedom surely ought not to be heeded. I would not favor a daily roll-call, but if, for instance, every clinical student had to appear four times instead of once at the practical demonstrations, and should mercilessly lose a semester by his absence when called out of turn, perhaps the students would attend the clinical lectures more frequently." He urges, before all, stricter pedagogic measures on the part of the parents, saying: "We have overrated the average capacity of our students, their ethical force, and strength of character. A continuance of the present state of affairs would be perfectly unjustifiable."

— The propriety of adding salicylic acid to beer as a preservative is, we learn from the *British Medical Journal*, much discussed in Paris at the present time. The beers incriminated are principally of Bavarian origin; and the outcry, whatever may be the justice of the allegations, looks suspiciously like a determined attempt on the part of the influential wine-interest to hamper the import and sale of these foreign drinks, the annually increasing consumption of which has long been a thorn in its side. The addition of salicylic acid to milk is considered an adulteration, less, possibly, on account of its physiological effect than because it enables the dairyman and milk-factor to relax to some extent the extreme precautions of cleanliness otherwise necessary to keep the milk fresh and sweet. The injurious effects alleged to result from the ingestion of salicylic acid in beer have not been demonstrated with legal exactness, but it may, nevertheless, be condemned as an unnecessary and possibly hurtful ingredient. The subject has also been under discussion in Germany, with the curious and instructive result that the addition to beers for exportation has been authorized, but forbidden in beers destined for home use. This is a striking departure from the very excellent maxim about doing unto others as we would have others do unto us, and justifies to some extent the rigorous measures which it is proposed to take in regard to such beers in France.

NEW YORK.

— Dr. Samuel M. Fisk, a prominent physician of Brooklyn, Eastern District, and an inspector for the Brooklyn Health Department, died suddenly of apoplexy at his residence, on November 10th.

— The increase of measles has become more noticeable during the last two weeks. In the last week of October there were reported 162 cases, with 17 deaths, and in the week ending November 13, 288 cases and 43 deaths. Diphtheria is also prevailing to some extent in the tenement-house districts, and out of 79 cases reported in the last week of October, there were 48 deaths. During the week ending November 6, there were reported 83 cases and 32 deaths; during that ending November 13, 117 cases and 47 deaths.

— Dr. Cyrus Edson, of the Health Department, has seized and condemned 5,280 gallons of wine at a factory in the lower part of the city, and asked the authority of the Board for its destruction. He reports that the wine is made by macerating low grades of dried fruits in water, fermenting the product, and then adding four or five grains of salicylic acid to the pint as a preservative. Dr. Edson believes the wine to be deleterious to health, in which opinion he is supported by other officials of the Board; and the matter has been referred to the Counsel for the Department and the Sanitary Superintendent.

Miscellany.

SOME VITAL STATISTICS OF GRADUATES OF HARVARD.

At the recent Harvard Festival, a small pamphlet was distributed, prepared by W. H. Tillinghast, editor of the Quinquennial Catalogue, and revised to the present date, which presents some facts of interest to the student of vital statistics.

The oldest surviving graduates are William Perry, M.D., of Exeter, N. H., born December 20, 1788; William R. Sever, of Plymouth, Mass., born May 30, 1791,— both of the Class of 1811, graduated seventy-five years ago.

The Classes of 1812, 1814, 1816, have no living members; those of 1813, 1815, have each one; that of 1817 has five. The first class in which the number of survivors is in excess of the deceased is that of 1841, the figures being respectively 25 and 21.

The percentage of deaths in the Classes from 1811 to 1880, arranged in ten year groups, is as follows:

Classes.	Per Cent.	Classes.	Per Cent.
1811–1820	97	1851–1860	28
1821–1830	87	1861–1870	16
1831–1840	59	1871–1880	6
1841–1850	41		

The percentage of deaths in the total number of graduates having been calculated for several of the schools, is thus compared with the same ratio for the College for the same length of time:—

Of the graduates of the Medical School, 30.7 per cent. are deceased; of the College, for 1791–1886, 38.9 per cent. Of the graduates of the Divinity School, 43.5 per cent. are deceased; of the College, 1820–1886, 25.7 per cent. Of the graduates of the Law School, 17.05 per cent. are deceased; of the College, for 1823–1886, 23 per cent. Of all who have received honorary degrees, 83.79 per cent. are deceased. Of all graduates of the College since 1642, 51.78 per cent. are deceased.

The average age of deceased graduates, from 1883–86, is as follows: the College, 58.4; Law School, 50.9; Medical School, 57.3; Divinity School, 64.9.

CHOREA CURED BY GYMNASTIC EXERCISES DURING HYPNOTISM.

The *Practitioner*, October, 1886, gives a very careful and detailed account of a case of chorea in an Italian girl aged twelve, published by Dr. Riccardo Pari in *Lo Sperimentale*, July, 1886, lviii. 77–83. When it came under his notice it was not otherwise remarkable except that it had lasted for four years. It came on after a sharp attack of scarlet fever, and there was no accompanying rheumatism or hysteria of any sort. Careful hygiene had been kept up, and the treatment of electricity, tonics, and arsenic fully tried. When examined in October, 1885, there was no anæmia, no cardiac abnormality nor other morbid physical signs beyond moderately severe bilateral chorea. In recent medicine there are some cases of chorea cured by suggestion in hypnotism, and this was first tried by Dr. Pari. The girl was hypnotised by making her gaze fixedly at something in her hand, and it was strongly urged upon her when she was in the hypnotic condition that she should have no more chorea. Two such attempts had no success, which was ascribed partly to her distrust in all methods of cure after her long experience. Then it was remembered how useful gymnastics had been in the cases of Hasse, and at the third hypnotic sitting this idea was taken up, and she was ordered to hold her arm out and keep it still. There was slight tremor after six or seven minutes (when the muscles in a normal state generally begin to grow exhausted), but she was ordered to keep it still, and succeeded in doing so for much longer. In subsequent sittings she obeyed orders to keep both arms outstretched for a quarter of an hour without tremor, to walk quietly, to stand still in all varieties of position, first on one leg, then on the other, etc. Between the sittings there was gradual improvement, and after twenty of them she was quite well.

PERITYPHLITIC ABSCESS DISCHARGING SPONTANEOUSLY AT THE UMBILICUS.

In the *Practitioner* (October, 1886), is recorded the following interesting case by Mr. William Pugin Thornton, M.R.C.S.:

"Early on the morning of August 1st, 1884, I was called to see a youth. He was slightly made, but very tall for his age. Lying on a bed, his face covered with perspiration, his body and limbs were cold, and his knees drawn up, and evidently he was in great pain. He was constantly sick, vomiting an almost stercoraceous fluid. The abdomen was tense and tender to the touch, especially in the right hypogastrium. His temperature was not very high, but having lost the record of the temperature I am unable to give any in connection with this case.

"The account given me was that for a week he had been over-worked, being at his office from 9 A.M., to 9.30 P.M. He then took a day's holiday, walking about twenty miles, and eating very little during the day except some hard apples. On reaching home late in the evening he had a substantial dinner, and went to bed shortly after. He slept through the night, but felt tired the next morning, and had little appetite throughout the day. He went to bed at 10, P.M., and slept till midnight, when he woke up with pain in the abdomen round about the navel; being sick and the pain increasing he called the servant up, who put hot flannels on him, and obtaining relief he fell asleep till 7, A.M. He then woke with intense pain, and was sick about every half hour. I saw him at 8, A.M., and again at 11, A.M., with my partner, Mr. T. Whitehead Reid. We could come to no accurate conclusions. Later on some of the symptoms pointed to typhoid, but taken altogether they did not satisfy us it was that disease. We treated the acute symptoms, sickness and pain, and on hearing the account of apples eaten on an empty stomach we gave castor oil with tincture of opium.

Nine days after it was evident that there was a collection of pus in the right hypogastric region. My partner and I considered the advisability of opening the abdomen. In the middle of the night (the 10th), the patient was alarmed by a gush of fluid through the navel. This proved to be pus, and the discharge continued through the night. In the morning I pressed out from a pint and a half to two pints. After a time he learnt to pass a catheter through the umbilical wound, and to syringe out the abscess cavity with Condy's fluid. The catheter disappeared a distance of nine inches."

On September 18th, the visits to the patient were given up and shortly after he went away. On November 6th an umbilical fistula, three inches deep, was all that remained. At Christmas time the wound was healed.

It would seem that in this case there was ulceration through the appendix vermiformis, followed by a deep abdominal abscess, and that it belonged to one of the interesting class which Dr. Fenwick mentioned in his Clinical Lectures at the London Hospital, published in the *Lancet* in December, 1884.

OBITUARY. — PAUL BERT.

M. Paul Bert, the statesman and scientist, died in Paris, November 11. Born at Auxerre, October 17, 1833, he lost his mother when a child and was brought up by his father, who was the son of a serf on the church lands of Auxerre, whom the revolutionists emancipated. He received a collegiate education and early developed an inclination toward the sciences. He entered Sainte-Barbe with the intention of preparing himself for admission to the Polytechnic at Paris, but owing to a change in circumstances, altered his plans, applied himself to the study of law, and received a license to practice. He then relinquished the law for the study of medicine. Licensed in 1863 as doctor of medicine and as doctor of sciences in 1866, he was made instructor in zoology to the faculty of sciences at Bordeaux in place of M. Flourens, and in 1868 he succeeded the celebrated M. Claude Bernard at the Sorbonne.

Among the earlier scientific works of Paul Bert were experiments with the physiology of breathing at high altitudes, and discoveries then new, now commonly known, as to the nature of asphyxia and the rôle of oxygen were made by him. The first thesis of M. Bert on animal grafting. won for him in 1865 the prize of experimental physiology. The result of his researches on the atmosphere was published under the title of "La Pression Barométrique" For this he was awarded the grand biennial prize of the French Institute. Like some other men distinguished in science, M. Bert developed a taste for political life. After the downfall of Napoleon III, in 1870, M. Bert was at first secretary of the prefecture, and then perfect of Yvonne, his native department. He was elected to the National Assembly in 1872, continuing its member for ten years or more. Politically he was an ultra radical, and evinced hostility to monarchs, monarchists and Catholics. Gambetta made him minister of instruction in the cabinet of 1881–82. In April, 1878, he was elected a member of the Academy of Sciences, and in January of the present year he was appointed to the post of minister resident of France at Hué, the capital of Annam. Among his scientific works are "De la Greffe Animale," published in 1863; "Revue de Travaux d'Anatomie et de Physiologie," published in 1864–66; "Notes d'Anatomie et de Physiologie Comparé," 1867–70; "Recherches sur la Mouvement de la Sensitif," 1867–70; "Leçon sur la Physiologie Comparée de la Respiration," 1869; "La Pression Barométrique"; "Recherches de Physiologie Expérimentale," 1879. Beside this, for many years he furnished the "Feuilleton Scientifique" for M. Gambetta's journal, the République Française. M. Bert's embassy to Tonquin which he undertook in the hope of adjusting the somewhat complicated diplomatic relations of the Republic with China, is understood to have been in its results somewhat of a disappointment to him.

Correspondence.

ABORTION OF FELONS. WRINKLES, NEW AND OLD.

New York, November 13, 1886.
18 West 30th St.

Mr. Editor, — My father was a medical man, who graduated from the University of Pennsylvania in 1816 or 1817. In 1839, I learned from him that a felon could, if seen early enough, be made to abort by wrapping the finger-end with narrow strips of adhesive plaster.

When pus has been formed, I learned twenty years ago, from a country doctor, that immediate relief and speedy cure would follow the gentle, slow separation of the nail from its envelope by means of a pen-knife blade, not too sharp, at the point nearest the seat of greatest pain. Very soon a drop of pus shows itself, and relief comes.

I am aware that the plan described is known to many medical men. It was not known to me at the time referred to, when the country doctor showed me how to treat a paronychious patient, whose finger I was about to lay open by the "free incision down to the bone," taught in the lessons of my great masters.

What a lot of valuable information a man decently furnished with humility can learn from our "one-horse-shay" brethren, who practice and *do their own thinking*, far removed from Poly- or Molly-clinics, and proximity to big batteries of consultation celebrities! And what a pity that so much of the knowledge they have slowly and painfully acquired should die with them!

In such intercourse as consultation practice brings me, I have been much impressed by the small number of medical men who know or practise Fuller's system of prescribing, enabling us to do away with the "uncertain, coy, and hard-to-please" vials, from which medicines are directed in *drop* doses. Have you not in your mind's eye, a blear-eyed Sairey or Betsey, of the Gamp or Prig family, as she endeavors to give three drops of tincture of aconite root, by the light of a poor tallow candle, or poorer oil-lamp, "every three hours?" It is needless to insist upon the difference between a drop and a minim; nor is it less so to say what different potency the same tincture (by name) has, according to its age, evaporation, or primary value.

Not long ago, in writing to an old pupil, now a prominent physician of the Pacific slope, I recommended Fuller's tablet triturates. In reply, he said, "What are they? none of our apothecaries know about them."

Just here, in my note to you, my mail-box gives me a letter from an old graduate of the University of Pennsylvania, to whom I had sent a small pocket-case of tablets, containing the medicines most often needed in general practice. The letter was one of thanks for the "new wrinkle," and gave me the following piece of personal history: "Some years ago, I went into a drug store, and told the man to give me a dose of salts, with twenty drops of laudanum in it. I was suffering from dysentery. So far as the epsom salt went, the prescription was all right, but he dropped the opiate tincture from *a gallon bottle*. I swallowed the dose, went home, and went to sleep, and *it took twelve hours to wake me up*. The family thought I was poisoned, and if I had died, the boys would have killed that druggist, *sure*."

I am well aware how many of our brethren confine their medical reading to the text-book published when they were students — in one case, in the year 1835 — and to what they can gleam from periodicals of the day. In that loyal legion there may be one or two, who, turning over the leaves of your excellent weekly, can find something new or useful in what I have written you. The abolition of tinctures and fluid extracts, when possible, would be a great emancipation for us doctors, who live and work without a trade-mark. Very truly yours, J. T. M.

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DISLOCATION OF THE RIBS.

Boston, 138 Boylston St., Nov. 12th, 1886.

Mr. Editor,—In the Journal for Nov. 11th, 1886, is a very interesting account of the traumatic dislocation of the ribs, by Dr. W. C. B. Fifield. After referring to the rarity of this injury, Dr. Fifield says: "I could find no allusion to this accident except in one of the volumes of external pathology, by Barnes, and some person associated with him. . . . I certainly have not ever seen it in the best works of English surgery. I find not the slightest allusion to any such accident."

At a meeting of the Boston Society for Medical Observation I had the honor to report one case of similar character to that here mentioned by Dr. Fifield. The patient was a man who was injured by the effect of a sudden and unexpected great strain upon the extended arms, from weight, one end of which he was carrying. The sternal ends of the two upper ribs were dislocated forward upon the sternum, and the sternal end of the clavicle was also dislocated forwards into the interclavicular notch. I at that time collected all the well-authenticated cases of which I could learn, some five in number, and tabulated the character of the injuries with their causes.

This particular class of dislocations, as Dr. Fifield truly says is very rare, but the case he reports in the Journal is not entirely unique, as the reading of his description would seem to indicate, for besides my own case above spoken of, there are no less than four other recorded instances of this injury, affecting a variable number of ribs, all of which are undoubtedly authentic. I am led to call attention to the facts in the case from the lack of mention in many standard works of surgery, of the cases now known, and the apparent need of again alluding to the really undoubted instances of this very rare lesion. The case reported from my own practice, together with those collected from other sources is published in the *New York Medical Journal* in the issue for July 14th, and July 21st, 1883.

Yours respectfully,
Albert N. Blodgett, M.D.

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A CURE FOR NEURALGIA.

Everett, Mass., November, 1886.

Mr. Editor, — The experience of over fifty years in the practice of medicine ought to enable a person to give some facts or opinions that might be of service to the younger members of the profession. Judging from the various remedies and their combinations, prescribed for pure neuralgia, it must be a difficult as well as a perplexing disease to treat.

As the medication that I have used has been efficacious in my hands, it seems worthy of publicity.

℞ Tinct. Cinchona Comp. . . . . . . ʒ ij.
Tinct. Nuces Vom. . . . . , . ʒ ss.
Morphic Sulph. . . . . . : . grs. ij
M. Dose, one teaspoonful every three hours.

This may be varied according to the susceptibility of the patient. It may be thought incredible, yet nevertheless, it is true, that I have never seen a case of pure neuralgia that it would not cure.

The following case may have some influence in convincing the profession of the efficacy of the medicine. A gentleman from Massachusetts came into my office in New York city, and introduced himself by saying that he had come to see me because he promised a friend that he would; and that he expected that I could benefit him. After examining him I said that his difficulty appeared to be simple neuralgia, and that I had never seen a case that I could not cure. He thought his would prove an exception.

To convince me of the gravity of his disease, he said that he had suffered from it for five years, four years in this country and one while absent in Europe for treatment. For the first six months while absent, he was under Brown-Séquard's care without any benefit. He then went to Paris and consulted Nélaton, but he was equally unsuccessful. From Paris he went to Vienna, and returned home after a year's trial, no better than when he left.

I prescribed for him. After two weeks, he wrote me saying, "your first prescription cured me, you hit the nail on the head the first time." This must be considered a strong case and one that had tested the skill of a large number of eminent physicians, both in this country and in Europe. I have other cases that had been treated for years in this country, without permanent relief.

I gave an old gentleman, who had given up all expectation of ever finding any relief, a small vial of medicine; on meeting him the next day, he joyfully remarked that he had not had such a night's rest for years; that he slept quietly all night.

I will here remark that physicians should know the strength of the tinctures prescribed, as many of them are worthless. Yours very truly,

Henry G. Davis, M.D.

◆

REDUCTION OF COPPER IN FEHLING'S SOLUTION WITH CHLORAL HYDRATE.

Woodstock, Vt., November 12th, 1886.

Mr. Editor, — On applying Fehling's test to a specimen of urine sent to me for examination, I found the copper reduced as with diabetic urine, while the specific gravity was only 1015. On inquiry, I found that a few grains of chloral hydrate had been added to the urine to prevent decomposition. On further trial I found that a very weak solution of chloral hydrate in clear water would reduce the copper. I have since experimented with it in different solutions and varying strength, and always with the same results. In two cases, after the internal administration of medicinal doses of chloral, the characteristic reaction was produced on testing the urine with the copper solution. Two days afterwards, the urine in neither case showed any signs of sugar.

The fact that chloral hydrate would reduce the copper solutions if added to urine, was new to me, and I think is not generally known. I do not remember seeing any mention of it in the text books or journals. Further investigation regarding the effect on the urine of the internal use of chloral is desirable. Very truly yours,

O. W. Sherwin, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 6, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	680	265	21.90	14.70	3.60	1.95	9.45
Philadelphia	971,363	378	130	16.47	17.01	2.16	4 32	9.72
Brooklyn	690,000	293	108	21.08	11.90	3.42	2.72	9.18
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	180	63	12.10	12.10	2.20	1.65	7.15
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	124	57	12.15	11.34	4.05	.81	5.67
Cincinnati	325,000	135	61	34.04	15.54	6.66	2.22	14 80
New Orleans	238,000	110	32	29.09	13.65	10 92	6.37	2.73
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	57	—	7.00	19.25	3.50	1.75	—
Pittsburgh	190,000	80	37	27.50	7.25	—	7.25	8 70
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	20	7	25.00	20.00	40.00	40.00	—
Charleston	60,145	37	13	14.80	5 40	—	—	2.70
Worcester	68,383	18	9	38.88	11.11	—	11.11	16.66
Lowell	64,051	24	11	20.80	12.48	12.48	—	4.16
Cambridge	59,660	15	3	6.66	26.66	—	—	6.66
Fall River	56,863	17	8	5.88	5.88	—	—	—
Lynn	45,861	14	2	21.42	14.28	—	14 28	7.14
Lawrence	38,825	13	—	—	30.76	—	—	—
Springfield	37,577	1	5	26 66	13.33	—	—	13.33
New Bedford	33,393	10	3	—	10.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	16.66	8.33	—	16.66	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	6	1	16.66	—	—	—	16.66
Taunton	23,674	10	0	—	50.00	—	—	—
Haverhill	21,795	14	4	21.42	7.14	—	7.14	7.14
Gloucester	21,713	5	2	40.00	40.00	—	—	20.00
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	2	0	—	—	—	—	—
Malden	16,407	8	2	12.50	12.50	—	—	12.50
Fitchburg	15,375	3	1	—	—	—	—	—
Waltham	14,609	3	0	—	66.66	—	—	—
Newburyport	13,716	7	2	14.28	—	—	—	—
Northampton	12,896	8	3	12.50	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,298: under five years of age 833: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 421, consumption 320, lung diseases 277, diphtheria and croup 173, diarrhœal diseases 79, typhoid fever 59, measles 33, malarial fever 25, scarlet fever 23, whooping-cough 11, cerebro-spinal meningitis eight, puerperal fever seven. From scarlet fever, Cincinnati eight, New York five, Pittsburgh four, Brooklyn three, Philadelphia, Gloucester and Newburyport one each From measles. New York 20, Cincinnati and Pittsburgh five each, Brooklyn one. From malarial fever, New York 10, New Orleans seven, Brooklyn and Charleston three each, Baltimore two. From whooping-cough, New York and Brooklyn three each, Boston, District of Columbia, Worcester, Springfield and Haverhill one each. From cerebro-spinal meningitis, New York three, Pittsburgh, Worcester, Lowell, Fall River and Northampton one each. From puerperal fever, New York two, Boston, Cincinnati, Pittsburgh and Springfield one each.

In the 22 cities and greater towns of Massachusetts, with a population of 1,018,514 (population of the State 1,941,465), the total death-rate for the week was 14.74 against 18.07 and 20.23 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending October 23d the death-rate was 19.3. Deaths reported 3,371: infants under one year of age 909; acute diseases of the respiratory organs (London) 290, diarrhœa 183, scarlet fever 83, measles 56, fever 49, whooping-cough 35, diphtheria 32.

The death-rates ranged from 12.7 in Nottingham to 33.5 in Preston; Birkenhead 14 8; Birmingham 17.8; Hull 20.2; Leeds 21.5; Leicester 18.3; Liverpool 24.0; London 17.7; Manchester 24.5; Newcastle-on-Tyne 22.2; Sheffield 20.5; Sunderland 21.3.

In Edinburgh 18.0; Glasgow 21.7; Dublin 20.5.

The meteorological record for the week ending November 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Nov. 6, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...31	29.887	50.5	54.1	46.8	97.0	88.0	94.0	93.0	E.	N.E.	N.E.	20	15	16	O.	O.	R.	—	—
Monday,... 1	29.943	50.9	58.0	47 3	93.0	85.0	87.0	88.3	N.E.	S.E.	N.W.	7	4	4	O.	C.	C.	—	—
Tuesday,.. 2	30 095	49.3	59.1	46.2	77.0	76 0	95.0	82.7	N.	S.E.	S.	7	8	4	C.	C.	G.	—	—
Wednes... 3	29.991	56.5	65.6	45.1	100.0	65.0	89.0	84.7	S.	S.	S.W.	6	11	4	G.	F.	C.	—	—
Thursday, 4	29.983	52.1	65.5	42.4	90.0	34.0	56.0	60.0	S.W.	N.W.	W.	10	20	10	O.	C.	C.	—	—
Friday, .. 5	30.228	49.8	58.8	38.3	67.0	40.0	85.0	64.0	S.	S.	S.W.	2	14	8	C.	C.	C.	—	—
Saturday,. 6	29.902	53.0	58.9	46.4	98.0	100.0	94.0	97 3	S.	E.	S.W.	3	14	4	G.	R.	O.	22.00	0.69
Mean, the Week.	30.004	51.7	60.0	46.3				81.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 6, 1886, TO NOVEMBER 12, 1886.

Wright, J. P., major and surgeon. From Department of Texas to Department of Missouri, for duty as attending surgeon at Leavenworth Military Prison, Fort Leavenworth, Kan.

Formard, W. H., major and surgeon. From duty as attending surgeon headquarters, Division of the Missouri, and examiner of recruits at Chicago, Ill., to Department of Dakota.

Hubbard, V. B., major and surgeon. From Department of Arizona to duty as attending surgeon at headquarters, Division of the Missouri, and as examiner of recruits at Chicago, Ill. S. O. 257, A. G. O, November 4, 1886.

Loring, L. Y., captain and assistant surgeon. Sick leave of absence further extended three months on surgeon's certificate of disability. To be relieved from duty in Department of California, and, on the expiration of his present sick leave of absence, will report by letter to the Surgeon General of the Army. S. O. 262, A. G. O, November 10, 1886.

Moseley, E. B., captain and assistant surgeon Assigned to duty as attending surgeon in San Francisco, Cal. S. O. 94, Division of the Pacific, November 1, 1886.

Perley, Harry O., captain and assistant surgeon. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 257, A. G. O., November 4, 1886.

Barrows, Charles C., first lieutenant and assistant surgeon. Ordered to report to commanding officer St. Francis Barracks, St. Augustine, Fla., for duty at Fort Marion. S. O. 180, Division of the Atlantic, November 10, 1886.

Phillips, Jno. L., first lieutenant and assistant surgeon. Granted leave of absence for one month with permission to apply at headquarters, Division of the Missouri, for an extension of one month. S. O. 116, Department of Dakota, November 2. 1886.

Ewing, Charles B., first lieutenant and assistant surgeon. Ordered from Fort Supply, Ind. Ter., to Fort Leavenworth, Kan., for duty. S. O. 126, Department of Missouri, November 6, 1886.

Ives, Francis J., first lieutenant and assistant surgeon. Ordered to proceed to and take station at Fort D. A. Russell, Wyo. S. O. 145, Department of Platte, November 4, 1886

PROMOTION.

O'Reilly, Robert M., captain and assistant surgeon. To be major and surgeon, November 1, 1886, *vice* Clements, deceased.

APPOINTMENTS.

Clendenin, Paul, first lieutenant and assistant surgeon, November 5, 1886.

Anderson, Charles, L. G., first lieutenant and assistant surgeon, November 5, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING NOVEMBER 6, 1886.

Ames, R. P. M., passed assistant surgeon. Relieved from duty at Marine Hospital, New York, to assume charge of Marine Hospital, Vineyard Haven, Mass., November 1, 1886,

Urquhart, F. M., passed assistant surgeon. To proceed to Norfolk, Va., for duty, November 4, 1886.

Yemans, H. W., passed assistant surgeon Relieved from duty at Marine Hospital, San Francisco, Cal., to assume charge of the Service at Galveston, Tex., November 1, 1886.

Wasdin, Eugene, passed assistant surgeon. When relieved, to proceed to New York, for duty at Marine Hospital, November 1, 1886.

Williams, L. L., assistant surgeon. Relieved from duty at Marine Hospital, Wilmington, N.C., to proceed to Pittsburgh, Pa., for temporary duty, November 5, 1886.

Perry, T. B., assistant surgeon. Relieved from duty at Marine Hospital, St. Louis, Mo., to proceed to San Francisco, Cal., for duty at Marine Hospital, November 1, 1886.

SOCIETY NOTICE.

Guild of S. Luke.— There will be a meeting of the Guild of S. Luke, the Evangelist and Physician, at Calvary Chapel, 4th Avenue and 21st Street, New York City, at 12, m., Friday, November 19, 1886. At 2, p.m., a public service will be held in the chapel, to which physicians and medical students of the regular medical profession who are communicants of the Protestant Episcopal Church, and priests and deacons of the same, are cordially invited to be present. Addresses are expected concerning the objects and working of the Guild, by Bishop Quintard, of Tennessee, and others.

W. Thornton Parker, M.D., *Provost*,
Newport, R. I.

DEATHS.

Died in Portland, Me., November 12, 1886, Francis Patrick Scully, M.D., M.M.S.S., aged thirty-four years.

Died in Webster, Mass., November 8, 1886, Frederic Davis Brown, M.D., M.M.S S., aged sixty-two years.

BOOKS AND PAMPHLETS RECEIVED.

Meconeuropathia. By C. H. Hughes, M.D., St. Louis, Mo

The Surgery of the Pancreas, as based upon Experiments and Clinical Researches. By N. Senn, M.D. (Reprint).

Fifty Cases of Abdominal Section. (Second Series). James B. Hunter, M.D. (Reprint).

Medical Education and Medical Colleges in the United States and Canada, 1765–1886. Illinois State Board of Health. Springfield, Ill.

Observations and suggestions in regard to the Method of Operating during the same Anæsthetization for Lacerations of the Cervix Uteri and Ruptured Perineum. By Thos. A. Ashby, M.D., Professor of Gynæcology in the Baltimore Polyclinic and Post-Graduate Medical College, etc. Baltimore: 1886.

The Curette as a Diagnostic and Therapeutic Agent in Gynæcology and Obstetrics. By B. Bernard Browne, M.D., Professor of Diseases of Women in the Woman's Medical College of Baltimore, etc. Baltimore: 1886. (Reprint.)

Hog Cholera. D. E. Salmon, Chief of the Bureau of Animal Industry: His Investigations into the Cause and Nature of Hog Cholera critically considered by Frank S. Billings, Director of the Patho-Biological Laboratory and Experiment Station of the University of the State of Nebraska.

Lecture.

TWO CASES OF MALIGNANT OR ULCERATIVE ENDOCARDITIS.

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL,

BY JOHN H. MUSSER, M.D.,
Physician to the Hospital, and Pathologist to the Presbyterian Hospital.

I HAVE here some specimens showing the lesions of malignant or ulcerative endocarditis as seen in a case recently in the wards of the hospital, and also some photographs of a case which came to my notice in the Presbyterian Hospital some time ago. I also have here the specimens from the latter case, and shall demonstrate to you as well as I can, the pathological lesions. In this heart there are seen on the leaflets of the mitral valve, a fringe of soft vegetations which were very friable when first removed, and in fact still are easily broken. They project into the ventricle and auricle, interfering seriously with the circulation. They are also seen on the aortic valves, and in this instance we find the rather rare occurrence of the lesions on the tricuspid and pulmonary valves. On microscopical examination of a teased preparation, these larger masses seemed to be made up of a granular substance in which were innumerable micrococci. In addition to this hyaline structureless appearance of the mass, a croupous or fibrinous exudation, cell proliferation was seen, with leucocytes in large numbers. The micrococci not only invested the proliferating membrane, but also dipped deeply into the lymph spaces of the neighboring structures looking not unlike the penetrating pegs of epithelioma. The smaller masses were less free from granular material and contained more of the cellular structure, and showed especially, old connective tissue elements most markedly. These proliferating structures while to a certain extent limited to the valves, are in this case also seen on the chordæ tendineæ, and on the wall of the heart itself, budding out from the endocardium.

In cases of malignant or ulcerative endocarditis, not only do we find these proliferative masses, but quite frequently we also find ulcerations with or without fungoid growths of inflammatory material. These ulcerations are found in the valve and in the heart muscle, and may lead to perforation. Microscopical examination of such ulcers shows abundant micrococci and the presence of round cells and granulation tissue. The ulceration may perforate the valve or the heart muscle itself, and lead to the development of aneurism, or to leakage from one cavity to another, or from the cavity of the heart into the pericardium, causing a fatal result. In addition to the fungous growths and these ulcerations, there are found in some instances, minute abscesses. The pus in these abscesses contains an abundance of micrococci.

In this second specimen the mitral valve is affected alone. The enormous degree of proliferation of the new growth can be readily seen. That on the anterior leaflet of the mitral valve projects into the ventricle, while that on the posterior leaflet projects into the auricle.

The presence of this granular material and the existence of micrococci in the new growths, would of necessity lead us to infer that the blood was infected, and such is the case. Microscopical examination shows abundance of micrococci floating free in the blood, and some are also found in the leucocytes. The infection of the blood and the presence of micrococci in these free situations where they can be readily disturbed by the blood current, lead us to expect structural changes in the peripheral circulation. By the force of the blood current, micrococci, cells and granular debris are carried into the distal circulation and form infarcts. When the disease is on the left side of the heart, these infarcts are seen in almost all parts of the arterial circulation; for instance, in the case recently under observation, there were innumerable infarcts in the skin, and nearly all the internal organs. Microscopical examination would show in addition to the hæmorrhage of the infarct, the presence of micrococci, occluding some minor capillary. The mucous membrane and the serous membranes may also be similarly affected in these cases. In this instance, infarcts were seen in the peritoneum and in the pericardium over the surface of the heart. The mucous membrane of the gastro-intestinal tract, showed numerous infarcts. The nature of these infarcts depends largely upon the nature of the primary infecting material. If there is an abundance of pus, they rapidly change into abscesses. In other instances, they remain as simple hæmorrhagic infarcts, and if the patient lives, undergo the changes usually seen after emboli. Here is a section of the intestine which shows the hæmorrhages in the mucous membrane. In this case, the most remarkable lesions were the number and extent of the infarcts in the stomach, particularly toward the cardiac end. In the first case, the only infarcts found were in the kidneys. There was also most marked glomerulo-nephritis. In the second case, the renal infarcts were not so large, but there were innumerable small ones in the capsule of the kidney, and microscopical examination would in all probability reveal the evidences of glomerulo-nephritis. The spleen, you observe, shows the infarcts very distinctly.

Not only are the lesions found in these structures, but capillary emboli may also occur in the brain. And not alone are the capillaries involved, but large plugs may be broken off and carried into the cerebral arteries, cutting off the circulation of a large portion of the brain structure producing hemiplegia and other grave cerebral symptoms. In the second case, a large thrombus had formed in the iliac artery, with obstruction to the blood supply of the lower extremity. It was evidently a recent formation, as it had produced no symptoms during life.

In addition to these changes which are noted in most cases of malignant endocarditis, namely, the changes in the structure of the valves; of the endocardium and of the heart muscle and changes in the blood, and secondarily, the presence of emboli and infarcts throughout the arterial circulation, there are often other lesions. For instance, in many cases the lesions of rheumatism or pneumonia or diphtheria are present. In other cases there are found in some portion of the body small abscesses, disease of the bones or some suppurative process. In such cases the endocarditis is secondary to the disease in the peripheral structures. Many cases, for instance, have been reported in which a pelvic abscess had been the primary origin of the disease. In the same way, in disease of the bone and in rapidly growing cancer which has undergone inflammatory changes, malignant endocarditis may develop.

These anatomical conditions have led to the division of the disease into three classes: First, those cases in which there are present only lesions of the heart and of the blood, and lesions due to emboli, are classed as cases of idiopathic or spontaneous malignant endocarditis; Second, those cases in which the lesions of rheumatism or pneumonia are found in addition, are classified simply as cases of associated malignant endocarditis; Third, those cases in which the disease is due to the presence of suppurative inflammation in the distal circulation or to a general septic process, are classified as cases of secondary malignant endocarditis.

By the knowledge of the anatomical characters of the disease, one can readily trace and keep well in mind the clinical history of these cases. First, from the fact that micrococci are found in the blood and in the inflamed structures, we should infer that there must be some general symptoms due to the septic process, and such is eminently the case. Second, the severe local cardiac lesion produces symptoms characteristic of obstruction in the orifices, while finally, the character of the primary lesion determines the presence and nature of the third class of symptoms, namely, those arising from peripheral infarcts and inflammations.

Cases of malignant endocarditis are characterized by rigors, irregular fevers and sweats, and by the occurrence in the later stages, of jaundice due to disorganization of the blood. There may also be vomiting and diarrhœa which examination shows is not dependent upon organic lesions of the stomach and bowels, but on the septic process. Enlargement of the spleen, another accompaniment of the septic process is also observed. The affection is sometimes accompanied by inflammation of the serous membranes, especially of the brain. Indeed, the only prominent symptoms of malignant endocarditis may be cerebral.

From the blood lesions, depending upon the extent to which the blood has become disordered and infected with the micrococci, and secondarily, upon the reaction of the structures to the micrococci in the blood, we have different types of the disease. Clinical experience has led us to divide the cases into four classes, the pyæmic, the typhoid, the cerebral and the cardiac. The pyæmic type, as its name indicates, resembles pyæmia in its symptoms and course. The cerebral type simulates inflammation of the meninges of the brain in its symptoms. Possibly without any symptoms referable to the heart, there will be pain in the head and in the back of the neck, with high fever, drowsiness, stupor, convulsions and coma. In the typhoid type, the symptoms simulate those of typhoid fever in many respects, the affection beginning with irregular chills, irregular fever, and being accompanied by profuse perspiration, emaciation, low muttering delirium, a dry, brown tongue, and even the occurrence of diarrhœa. In the cardiac form of the disease, the symptoms depend not so much upon the condition of the blood, as upon the primary cardiac lesions. While a healthy heart may undergo the changes which I have demonstrated to you, a diseased heart is much more likely to do so. In many cases of cardiac disease, the diseased structures seem to furnish a hot-bed for the development of the micrococci. More cases of malignant endocarditis are found in old cases of cardiac disease than in any other class. In the cardiac type, we have in addition to the symptoms referable to the heart, namely, dyspnœa, pain and distress about the præcordia, and palpitation,— also irregular fever and sweats.

The local symptoms due to the presence of this severe and extensive inflammation of the cardiac structure are pronounced and distressing. From the appearance of this enormous outgrowth on the mitral valve (second case), you can infer considerable obstruction to the blood-current, and hence the production of a murmur. So, in all cases, a murmur is heard at the orifice affected. Sometimes it is heard at several points, according to the diverse seat of the lesion. The murmur is usually strong and low in pitch. It may be systolic or diastolic. It is conducted or transmitted in accordance with the laws that govern murmurs, but differs in the variation of its character. From time to time it may be high or low pitched, loud or soft, strong or feeble, indeed, may temporarily disappear, such changes depending on the change of the outgrowths by loosening and floating off in the bloodstream. With the murmur, would arise other evidence of obstruction, such as dilatation of one or more of the chambers of the heart, with increase in the area of dulness and of impulse. Under these circumstances, the heart acts more violently, is likely to be irregular and very frequent, while palpitation and cardiac dyspnœa would be present.

Finally, we look to the nature of the central lesion for the character of the symptoms developed in the peripheral circulation. If largely purulent in character, the infarcts would rapidly be converted into abscesses. In most instances, simple hæmorrhagic infarcts are observed. In both, crococci abound.

The infarcts or capillary hæmorrhages are observed in the skin, the conjunctivæ, and the external mucous membranes. They are seen in the retina, and their presence in the gastro-intestinal or urinary tracts may be inferred from the occurrence of blood in the natural discharges, or of hæmorrhages from these localities. Their presence in the brain is determined by the phenomena common to cerebral emboli. In the skin, these infarcts are most abundant, and are distinguished by their bright red color and their persistence on pressure.

The case from which the first specimens were removed was a typical example of malignant endocarditis, and I shall ask your attention to the prominent points in its history: W. J.,[1] white, was admitted to the medical wards of the Presbyterian Hospital, October 3, 1884, suffering with rheumatism, localized in the left knee and the right shoulder and elbow. He stated that he had been feeling badly for some time, and had been losing flesh and strength. Previous to the recent illness he had had small-pox, syphilis, and gonorrhœa. The fever was very high, and out of proportion to the local symptoms. It was irregular, and at times there were profuse, exhausting sweats. This case was typical in its marked remissions and intermissions, the temperature sometimes going as high as 105°, and on one occasion, going as low as 96.5°. Some time after admission, the patient complained of pain about the præcordia, and, on examination, a murmur at the mitral valve was found. No particular stress was laid upon the cardiac trouble, which was regarded as a simple endocarditis, which often arises in the course of rheumatism. During the course of the rheumatism, he had, one month after admission, an attack of pneumonia of the lower lobe of the right lung. The fever continued and the exhaustion became extreme, and finally, one day, after a chill, congestion of the lungs took place, and death resulted. The duration of the illness was sixty-eight days.

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[1] See Transactions College of Physicians of Philadelphia, 1886.

An interesting feature of this case was the development of malignant endocarditis in the course of rheumatism, and the occurrence, during the disease, of pneumonia.

Pneumonia is often a primary affection in this disease. Moreover, in those cases in which the right heart is affected, an infarct may form in the lung, causing pulmonary apoplexy and associate pneumonia, and such was possible in this case. Otherwise, it is not liable to complicate endocarditis.

The irregular fever, the exhaustive sweats, and the diarrhœa due to sepsis were marked. The cardiac murmur and the dyspnœa caused by the local lesion were present, but the occurrence of infarcts was not demonstrated during life. Such is a summary of the interesting clinical features observed.

The case from which the second specimens were removed was N. S., aged twenty-seven years, a German, who was admitted to my wards in this hospital, August 26, 1886. At the same time, her husband and children were admitted suffering with some febrile complaint, thought to be malarial. This is important, as indicating that the family were in straitened circumstances, and probably living in an unhealthy locality. The patient had been ill for six weeks with an irregular fever, said to be malarial. At this time she was nursing an infant one year of age. The labor had been natural, and she had a good getting up. Three years ago she had an attack of malarial fever, and at one time had rheumatism of the leg. She never had any other ailments, and was strong and hearty, and of temperate habits. The family history was good. The parents and several brothers and sisters are still living. One sister died of pneumonia; the cause of death of another is unknown.

On admission, it is noted that the patient is prostrated, and complained of chilly sensations and of nausea, and sweat profusely. The tongue was clean and moist. The bowels were loose, there being five movements in the twenty-four hours, the stools thin and greenish in color. The nausea disappeared in the course of twelve hours. There was some tenderness in the epigastrium, but none in the iliac fossa. The spleen extended in the axillary line, from the sixth rib to the margin of the ribs. There was no eruption. Both cheeks were flushed, the skin and mucous membranes were pale, the hands quite anæmic, and the body somewhat emaciated; the mind was clear. The lungs and heart were normal. A nutritious diet, with stimulants and quinia, were ordered. Five days later a cardiac murmur was detected. The general condition and symptoms were about the same. The apex-beat of the heart was in the fifth interspace, in the nipple line. The impulse was moderately feeble; there was no thrill. The pulmonary second sound was somewhat accentuated. A low-pitched, systolic murmur was heard at the apex, and transmitted into the axilla. There was no murmur at the aortic orifice. The pulse was rapid, small, and feeble. There was no cough nor dyspnœa. Ulcerative endocarditis was suspected.

September 8th. It is noted that the fever has continued, in spite of the use of quinine. There were profuse sweats during the day, but not at night. The anæmic appearance of the face was marked, and the patient was evidently losing flesh and strength. The diarrhœa continued. The cardiac murmur had increased in intensity, and could be loudly heard at the angles of both scapulæ, especially on the right side. There was marked tenderness on pressure, and some pain in the third left intercostal space. At the base of the right lung, impaired resonance and fine, moist, crepitant râles were observed. A few râles were also found at the right apex. There was short, high-pitched, jerking inspiration and prolonged expiration at the right apex, and high-pitched inspiration at the left.

September 12th. Two days ago, two small, purpuric spots were observed on both upper eyelids, and to-day, hæmorrhagic infarcts are seen all over the trunk and on the upper extremities, pin-head to split-pea size, bright red in color, not disappearing on pressure. Hæmorrhages in the bulbar and palpebral conjunctivæ of both eyes, at the inner and outer canthus, were also seen. The patient was rapidly losing flesh and strength, and the sweats continued. The abdomen was distended in the epigastric and umbilical region, and a large, wavy impulse was detected in the epigastrium. Nausea and vomiting had recurred during the past five days, and the diarrhœa continued. The spleen was tender, and could be readily felt below the margin of the ribs. The pulmonary signs had disappeared. There were no cerebral symptoms. The heart's action was irregular, and the pulse small, feeble, rapid, and dicrotic. In the second interspace to the left of the sternum, a perceptible thrill was present. The systolic murmur was not so loud at the apex as it had been. Over the third rib, a loud, booming, systolic murmur, with a "grinding" element, was heard. In the second interspace to the left of the sternum, there was heard a loud, rough, high-pitched murmur. The pulmonary second sound was muffled. The murmur over the tricuspid valve was not so distinct as over the mitral valve. There was no œdema, and the mind continued clear.

The day following there was a chill. The urine was scanty, high-colored, and contained blood and a small quantity of albumen. Blood and epithelial tube-casts were found in abundance. The chill was repeated the next day (14th). The patient was a little more drowsy, but there was no delirium. New capillary infarcts were seen about the neck. Infarcts also involved the lips and end of the tongue. The conjunctivæ were slightly icterode. For half an hour there was severe dyspnœa. The exhaustion increased, and the patient died in the early morning of September 15th.

I have here the temperature chart showing the course of the fever during the disease. As will be seen, there were marked remissions. Twice the temperature was above 105°, and on one occasion it reached 105.8°. At the same time the pulse was excessively rapid and feeble.

You will observe here again symptoms due to the general process, symptoms due to the local cardiac trouble, and symptoms due to the infarcts. The case presents a most typical example of the evolution of the clinical phenomena of malignant endocarditis.

It is of interest on account of the difficulty of diagnosis. It was at first thought possible that the case was one of malarial fever of a remittent type. The failure of large doses of quinia to control the fever, the appearance of the infarcts and the development of the cardiac murmur, led us very soon to abandon the idea of malaria, and look upon the case as one of ulcerative endocarditis. Until the development of the hæmorrhagic infarcts in the skin and the occurrence of renal emboli, there was not sufficient evidence to warrant a positive diagnosis, however. Typhoid fever was thought of. Many of the cases of malignant endocarditis which have not been regarded as cases of intermittent fever have been considered to be cases of typhoid fever. In this case there was diarrhœa, enlarged spleen, and the occurrence of fever with prostration. In other cases the typhoid symptoms are more marked than in our case, so that a mistake in diagnosis is readily made. In this case, as in most instances, the temperature was not characteristic of typhoid fever. In the latter disease, the temperature follows a certain regular course; further the abdominal symptoms are more marked than in ulcerative endocarditis, the lesions of the heart are absent, the pulse is not so frequent, the sweats are not so profuse, the hæmorrhagic infarcts are wanting, and the rose-colored spots characteristic of typhoid fever are found. By bearing these points in mind a mistake is not apt to be made. A mistake is most likely to be made in those cases of typhoid fever in which the temperature range is very irregular.

There are some cases in which typhoid fever occurs in a person who already has heart disease. This may obscure the diagnosis, but the uniform character of the murmur, the absence of capillary infarcts, the absence of jaundice and the presence of marked abdominal symptoms would lead us to a correct diagnosis. A point in the diagnosis of recent malignant endocarditis from long-standing heart disease complicating typhoid or intermittent fever is, moreover, the presence of either hypertrophy or dilatation in the latter case. You may not be able to differentiate the cases from the seat or the character of the murmur, but if these changes in the structure of the muscles were noticed, you would infer that the cardiac lesion was of long standing, and that a febrile affection had occurred in a subject of chronic heart disease.

At one time, before the cardiac symptoms appeared, it was thought that this might be a case of tuberculosis. The sweats, irregular fever, prostration and the occurrence of râles in the lungs pointed in this direction, but in our case, as in other cases of malignant endocarditis, there was wanting a symptom which is usually present in tuberculosis; that is, excessively rapid respiration. There was also absence of cause which is, however, not of much significance in acute miliary tuberculosis. The appearance of the cardiac symptoms and the peculiar range of temperature, led us to eliminate this affection.

I have already mentioned that malaria is often simulated by ulcerative endocarditis. Many cases treated as ague, have turned out to be instances of the pyæmic variety of malignant endocarditis. The presence of the germ of Laverran in the blood, would at once confirm the diagnosis of ague, or the presence of pigment in the blood and tissues would point to malaria. The cases are sometimes very difficult to settle, and due attention must be paid to their minor details.

Where a murmur develops in the course of articular rheumatism, it is sometimes difficult to decide whether it is due to a septic process or to a simple endocarditis which frequently complicates rheumatic affections. If in the course of rheumatism ulcerative endocarditis sets in, the temperature will be out of proportion to the rheumatic manifestations. The physical signs differ from those of simple endocarditis. In the latter there is a soft, blowing, low-pitched murmur which is not so widely transmitted as in the former. The murmer of simple endocarditis is persistent and of one character continually, while the murmur of malignant endocarditis varies in seat and in intensity from day to day. One day it may appear to be limited to the mitral valve, the next day, to the aortic valve. This variation depends upon the amount of exudation present, and whether or not it is set free in the course of the disease. If a large mass of vegetation disappears from the valve, the symptoms will change in character. This is not the case in simple endocarditis. Bearing in mind this difference, and remembering that in simple endocarditis, infarcts do not occur, that jaundice does not develop, and that the spleen does not become enlarged, the differential diagnosis can usually be made.

The case which I now bring before you is one of rheumatism extending over a long period of time, and presenting some features which might lead one to infer the occurrence of malignant endocarditis, but there are some other features which negative that idea entirely. The points suggesting malignant endocarditis are the irregular temperature, as is seen from the chart, the long continuance of the case, the frequent exacerbations after a short period of normal temperature and the presence of cardiac lesion. There are, however, two or three points which are in opposition to this view. In the first place, each exacerbation of fever occurred at a time when there was a fresh attack of joint pain. During the past two weeks, the joint symptoms have been limited to the knee, and have not been very marked. The pain complained of is, I think, at present largely of an hysterical nature. The patient has been under observation six weeks. There is present a murmur which during the whole time that the patient has been under observation has not changed its character. The murmur is limited to the mitral valve, is low pitched and soft and blowing in character. These are the characters of the murmur of recent endocarditis. Moreover, the murmur is not accompanied by the profound disturbance of circulation that is found in cases of malignant endocarditis where there are large vegetations projecting into the lumen of the valves.

A method of differential diagnosis which might be of value has not been referred to. Capillary hæmorrhages are known to occur in the fundus of the eye before they appear in the superficial structures, and an examination of the eye-ground would therefore be of great service in the recognition of endocarditis.

The prognosis of malignant endocarditis is, of course, extremely grave. There are some cases which are said to have recovered, but in these cases, there is an element of doubt. It seems impossible that a mistake could be made where the local cardiac trouble, with the infarcts and the pyæmic symptoms are present. The reason that the disease has not been oftener diagnosticated is because it has not been suspected.

The treatment, as will be inferred from my remarks, is unsatisfactory. In the large number of cases it can only consist in the treatment of symptoms. The presence of micrococci in this disease has only recently been demonstrated, and its septic character shown. Remedies to counteract the septic process have been administered. One case has recently been reported by Dr. Samson, in which the administration of sulpho-carbolate of soda in thirty grain doses three times a day, had been followed by cure of the patient. Apart from the administration of the sulpho-carbolates, the use of carbolic acid and the bichloride of mercura in minute doses I believe would be valuable. Stimulants and iron in large doses, if the stomach will bear it, are indicated. It is, however, usually not possible to give iron, on account of the vomiting. The treatment of the pyrexia also requires attention. In our patient it seemed that the administration of antipyrine in five grain doses every third hour with a stimulant to prevent the depressing effects of the drug, was of advantage. Certainly the temperature range was not so great after the use of this drug as before, but as we have seen from the chart of the first case, the temperature is very variable, so that it is difficult to judge as to the effect of drugs. The patient also received three drops of tincture of belladonna three times a day, for the control of the exhausting sweats. The diet was of the most nutritious and stimulating character, but as happens in most of these cases, all treatment was without avail.

Malignant endocarditis is a disease that was not recognized until within recent years. It is a rare disease. This is shown by the fact that Dr. William Osler, in a thorough search of the literature, was able to find only 209 cases. Since his admirable lectures were delivered in London two years ago, a great impetus has been given to the study of malignant endocarditis, and many cases are now recognized which before was entirely overlooked. The lines of investigation which have been pursued and which are still being pursued are in the direction of the explanation of the septic process, and the relation of malignant endocarditis to pneumonia, rheumatism and other infectious diseases.

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Original Articles.

MEDICAL EXPERT TESTIMONY, AS GIVEN IN THE COURTS AT PRESENT.[1]

BY A. F. HOLT, M.D.,
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Some time after I had the honor to receive the appointment of orator, or reader for this occasion, I called on the secretary of the Society for the purpose of informing myself as to the nature of the papers presented by my predecessor at these annual meetings.

The principal object of this inquiry was to determine, if possible, why the reader, at these annual gatherings, is styled the orator. While this investigation did not quite satisfy the object of the research, it did inform the writer that some of the papers, from the subject, the eloquent and masterly manner of treatment of the subject matter, were well worthy the name of oration or essay; still a very large majority of them were descriptions of practical experiences, bringing together the results of careful observation and painstaking research, some on one subject and some on another, but all presented to the Society in a clear and forcible way, bringing to the members such profit as can only come from the relating of actual experiences, practical lessons to assist us, one and all, in our every day work.

I am sure the Society, made up, as it is, almost wholly of busy, hard-working practitioners of medicine, who have snatched an hour or two from their daily rounds of work to assemble here, much prefer to hear from me the result of some practical personal observation, rather than such a discussion as must of necessity very largely make up the oration or essay, even were I able to present the latter in an acceptable manner; for this reason, I have chosen for my subject one in some phases of which another more able than myself might be eloquent in oratory, or profound in essay, but which I purpose to treat in a plain, practical way, giving personal experiences and personal observation that have come to me in the last dozen years. That subject is medical expert testimony, as given in the courts at present.

The principal reason for selecting this subject for discussion is the standing, or rather, want of standing of the medical expert witness, not only before both the court and the bar, but also in the eyes of the community; the position of such a witness, as he stands to-day, can be described in a few words. With no influence toward bringing about the high purpose for which he has been summoned — that of an instructor of the court — without the respect of either the judge, the bar, or the jury, he is a discredit to himself and the, great profession to which he belongs.

During quite an experience in court, with a single exception, I have never heard medical testimony commended by the presiding justice, and that exception, I am happy to say, Mr. President, was in relation to evidence given by one of the oldest and most eminent members of this Society. Often I have heard the judge, in his charge to the jury, refer to such testimony in a way anything but complimentary to the medical witness, and quite as often it is ignored altogether.

Dr. Phelps, in an annual address delivered before a medical society in Ohio, quotes the following: "Professor Chaille, speaking for the medical profession, declares that with the power of medical science crippled at coroner's inquests, then prostituted by the partisan opinions of incompetent experts, then presented by interested advocates, and at last, when emasculated of all vigor, submitted for decision to those unable to estimate its weight, what wonder that such gross misapplication of medical knowledge brings upon it that public contempt which belongs to methods so monstrous, and to which true medical knowledge is a helpless, pitiable, disgusted victim?"

Lord Campbell says "that skilled witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence." Chief Justice Chapman, of this State, observes: "I think the opinions of experts are not so highly regarded as they formerly were, for while they often afford great aid in determining facts, it often happens that experts can be found to testify to anything, however absurd." Judge Davis, of Maine, goes even farther, and says: "If there is any kind of testimony that is not only of no value, but even worse than that, it is, in my opinion, that of medical experts."

Judge Redfield, of Vermont, also says: "There is but one opinion as to the fact that this kind of testimony is extremely unsatisfactory."

Only a few months ago, I heard one of the most learned and respected members of the bar state to the court. "Medical men are employed in these cases (suits for damages for personal injuries) just as lawyers are employed, to work up their side of the case, so far as the medical facts are concerned," and he went on to argue that it was perfectly right and proper that they should be so employed. This statement, of course, cannot be denied, but the argument is in no way in keeping with the purpose for which the expert is summoned.

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[1] Address delivered before the Middlesex South District Medical Society, April 21, 1886.

As I have said before, my reason for selecting this topic for discussion is this discreditable standing of the medical expert as he appears before the courts to-day —a standing, as may be seen from the above quotations, recognized on all sides as a disgrace to our profession, a blot on the fair name of truth and justice, and a byword and reproach in the eyes of the world. Who are the men, and what are the causes that have brought about this discredit upon the medical expert witness? Are they the quacks, the charlatans, the pretenders in medicine? From my own observation, I must answer emphatically, no; these irregular practitioners rarely appear on the witness stand. For nearly a dozen years I have been particularly interested in this matter, and during that time have taken every opportunity to hear and read medical testimony. This experience has taught me that the medical men who appear in our courts as witnesses are members of the regular profession. Some of the causes which have led to this condition of things I shall discuss farther on.

What is the nature and object of expert testimony, and who are the experts? Bouvier, in his law dictionary, gives, as a definition of the word expert, the following: "Persons selected by the court or parties in a cause on account of their knowledge or skill to examine, estimate, and ascertain things, and make a report of their opinions; witnesses who are admitted to testify from a peculiar knowledge of some art or science, a knowledge of which is requisite or of value in settling the point at issue."

Greenleaf, on evidence, says: "On questions of science, skill, or trade, or others of the like kind, persons of skill, sometimes called experts, may not only testify to facts, but are permitted to give their opinions in evidence. Thus the opinions of medical men are constantly admitted as to the cause of disease or of death, or the consequences of wounds; and as to the sane or insane state of a person's mind, as collected from a number of circumstances, and as to other subjects of professional skill; and such opinions are admissible in evidence, though the witness founds them not on his own personal observation, but on the case itself, as proved by other witnesses on the trial." Smith, in his leading cases, says: "It appears to be admitted that the opinion of witnesses possessing peculiar skill is admissible whenever the subject matter of inquiry is such that inexperienced persons are unlikely to prove capable of forming a correct judgment upon it without such assistance; in other words, when it so far partakes of the nature of a science as to require a course of previous habit or study in order to an attainment or knowledge of it."

Elwell, in referring to this matter, says: "Extra knowledge on questions of science, skill, trade, business, or other matters requiring special knowledge, qualifies the person thus informed to give opinions in courts of justice; this is contrary to the general rule that the witness must confine himself to facts, and leave the conclusion of those facts to be determined by court or jury under oath. An opinion is the judgment which the mind forms on any proposition, statement, theory, or event, the truth or falsehood of which is supported by a degree of evidence that renders it probable, but does not constitute absolute knowledge, truth, or certainty. These opinions, or conclusions of judgment, which make up such opinions of experts are the same in substance as the verdict of a jury or judgment of a court, which is nothing more than the opinion of such jury or court as to what is established by the facts in the case. This conclusion or opinion, in the latter case, is given under the sanction of an oath; so is that of the expert."

The professional witness to a certain extent assumes the duties of the jury in that he makes up opinions for them.

Reese speaking of legal medicine, says: "It should require no argument to show the importance of the knowledge of this science to the student and practitioner of both the professions of medicine and law. The former cannot entirely evade its claims, although he may seek to do so, since the very nature of his profession together with his assumed public position as an accredited physician renders him liable at any moment to be confronted with a case involving the intricate questions of homicidal, suicidal, or accidental death, of infanticide, of criminal abortion, of rape, of drowning, and of numerous other similar cases, all of which when they become the subjects of legal investigation must necessarily depend for their proper elucidation chiefly, if not solely, upon the physician who has previously given his professional attendance in the case, and who must subsequently give his evidence before the court and jury. How important then that the practitioner of medicine, even though he may have no special leaning toward legal medicine, should become acquainted, at least with the general principle and leading facts of this science."

What higher and more honorable position could a member of the medical profession occupy than the one indicated by the above extracts from the writings of the most able authors on this subject; provided the medical witness had the high standing he should have in the courts, a position that makes him, not only an instructor to the court and jury, but one that often compels him to assume the function of the latter, a position that in some respects is higher than that of the judge himself, for he in his judicial capacity, can give to the jury only the principles of law by which they are to be guided in making up their decision, and he can in no way give his own opinion as to what that decision should be.

How much depends upon what the medical expert may do and say on the witness stand! A single answer, and that answer purely a matter of opinion, may determine the disposition of thousands of dollars, yes, or upon a single answer may depend the life of a human being. An eminent writer has said, "No class of witnesses disposes by their testimony, of larger amounts of money than this class, the greatest fortunes ever collected together by financial ability have been distributed by medical men upon the witness stand in contests over the validity of wills. The law books are full of illustrations of this fact." Dr. Rush, in closing a lecture, delivered at the University of Pennsylvania in 1810, says: "To animate you to apply yourselves to the study of all the subjects enumerated in the introduction to our lecture, I beg you to recollect the extent of the services you will thereby be enabled to render to individuals and the public, fraud and violence may be detected and punished, unmerited infamy and death may be prevented, the widow and the orphan may be saved from ruin, virgin purity and innocence may be vindicated, conjugal harmony and happiness may be restored, unjust and oppressive demands upon the service of your fellow citizens may be obviated, and the sources of public misery in epidemic diseases may be removed by your testimony in courts of justice."

Elwell, in his work on "Malpractice and Medical Evidence," in relation to the history of medical evidence, says: "Although medicine itself is as old as history, the learning of that science in its application to jurisprudence is of but very recent date. Not until the time of the Emperor Charles the Fifth of Germany, was there ever a recognition publicly of the value of medical evidence. In the Caroline Code framed at Ratisbon in 1832, it was ordained that the opinion of medical men should be received in cases of death by violence or unnatural means, where there was the least suspicion of criminal agencies having been used.

"The publication of this code encouraged the members of the medical profession to more fully qualify themselves for the new duties thus recognized and imposed. The result was that many books appeared very soon upon the subject of medical jurisprudence, and the importance of medical evidence.

"At first, the surgeon was only permitted to give testimony in courts of justice. Thus, in 1606, Henry the Fourth, authorized his first physician to appoint two surgeons in every city and town, whose duty it should be to examine all wounded or murdered persons and report the facts in the case, and as late as 1667 no such report was valid unless at least one surgeon sanctioned it." In 1692, it was admitted that physicians also knew something about medical matters that might be auxilliary to jurisprudence, and by law they were permitted to give testimony in the same case with surgeons. During the eighteenth century a large number of able writers devoted their lives to medico-legal investigation in Italy, France, and Germany. The Germans have especially excelled in this department, and furnished extensive and important contributions to its stores of learning, from Henke to the great Caspar. The proverbial, patient German research is not, perhaps, better illustrated in their theology and metaphysics, than in their investigations in, and contributions to, medical jurisprudence. A list of distinguished names also adorn the history of the science in France, headed by the celebrated Ambrose Paré and culminating in the distinguished Orfila. England has not been noted for her writers on medical jurisprudence until quite recently, but during the last few decades the very able works of Doctors Guy, Taylor, Christison, Woodman and Tidy have abundantly atoned for past short-comings in this direction.

The celebrated Dr. Rush of Revolutionary fame, was among the first in this country to call attention to this important subject, which he did in an introductory lecture already referred to.

In 1823, the first edition of Beck's Medical Jurisprudence appeared. Since that time many other enlarged and extended editions have been published, until now it is complete and exhaustive, standing in the very front ranks of medico-legal works everywhere. Also within the last fifty years a large number of other learned and able writers have published works on this subject, some treating of legal medicine generally, and others treating of special departments of it, until to-day America stands as well as most European countries, so far as the literature of this subject is concerned.

Notwithstanding we have so many comprehensive medico-legal works, the authors on this subject have nearly all confined themselves to the discussion of matters relating to criminal practice, and except in cases of will or other disposition of property where the question of sanity is the issue, I find but little has been written in relation to the giving of medical testimony in civil suits, and almost nothing in that particular class of cases where claims are made for money damages for personal injuries. When, and where, the custom of calling medical men to give expert testimony in such cases originated, I am not able to say. During my early professional experience, twenty-five years ago, I occasionally heard of medical men being called as expert witnesses in civil cases, but this was of rare occurrence, possibly, however, for the reason that such cases were then very rare. Since then, owing without doubt, largely to the very great increase in railroads and other corporations, suits for damages for personal injury have steadily increased, until to-day the courts are crowded with them, and as such claimants rely, of necessity, very largely upon medical evidence to support their cause, scarcely a day passes during the sittings of the courts, without one or more medical experts appearing on the witness stand. So far as the good name and honor of the profession are concerned, these civil suits, in which so much depends upon the medical testimony, are all-important, and in my opinion the medical evidence that has been given in such cases has had more to do toward bringing the medical expert witness into the humiliating position he occupies to-day, than any other cause.

What are the causes that have brought our profession to such a pass as experts, a profession in all other respects whose integrity and honor are above question or suspicion, even by the courts themselves?

To give all the causes that have helped to bring about this result, would take us far beyond the limit of this paper, and therefore I can only mention some of those that seem to me to be the most important. One of these is the training the medical man gets in his everyday life-work. This work, unlike that of any of the other learned professions, is done in the privacy of his office, or that of the sick chamber, away from the world's scrutiny, away from the world's criticisms, and the physician is accountable only to his own conscience, as to what he may do; he forms his own opinions and sustains them in his own way, having as an audience only his willing patient who accepts without question his conclusions as wisdom and truth.

In that close communion with himself, which is a necessity of his professional life, he draws further and further away from the outside world, creates and develops ways of his own of discussing such questions as are presented to him in his daily work, thus forming habits of reasoning purely the result of the bent of his own mind.

Such a training is little calculated to sustain or help him in the most difficult and trying position in which he can be placed, that of the witness box, where, if he would do credit to himself and honor to his profession he must not only state his opinions clearly and distinctly, but must also, as clearly maintain them. That, too, he must do under the immediate eye of the judge, standing face to face with the jury and the bar, one member of which at least, is watching every word, every expression, every answer and every opinion that he may give to find some weak place in his testimony, some vulnerable point where he can make a successful attack; and often, I am sorry to say, this interested advocate is assisted in his assault upon the medical witness, by a brother doctor who sits at his elbow. I say such a training as the physician or surgeon gets from the experiences and necessities of his professional duties are little calculated to sustain him in the contests that await him on the witness stand. Another one of the principal reasons why doctors make such bad witnesses, as the lawyers say, is I believe the neglect to study the case as well as everything relating to or having a bearing on the medical questions involved thoroughly and carefully. I am sure it is quite common for medical experts to testify in cases where thousands of dollars depend on the medical facts and their proper interpretation, without ever giving the matter any real thought or study, or without even looking up the literature of the subject involved. Time and time again have I heard medical witnesses asked what books they have read on the subject, when they could not give the name of more than a single author, and often, not that. Some years ago I heard a doctor, who was on the witness stand as an expert in a case where damages were claimed for an injury producing the so-called pendulous bowels, asked, "What keeps the bowels in place?" After some hesitation, he answered, "The walls of the abdomen." Yes, "but what else keeps them in place, so that they do not get displaced or tied up"? After great hesitation, and embarrassment, he answered, "I don't know." This man was not an ignoramus but an educated physician, a member of the Massachusetts Medical Society, but who had come into court without the remotest idea as to the real purpose for which he was there; he had come there thinking perhaps he could tell the story to the jury, just as he had told it to his patients, without being asked the why and the wherefore of his opinions other than as his patient had asked them, and that they could be answered in the same way. Had such a witness been about to perform an important surgical operation, either alone, or in the presence of one or two physicians perhaps, where he was not quite sure of his anatomy or of his diagnosis, would he have brought his patient to the operating table until he had thoroughly looked up the anatomical points involved? Most certainly not, the most reckless surgeon would not trust himself to that extent. Still, he steps on to the witness stand, where he is to give opinions that are to be the foundation of justice between man and man, where he is to stand for the honor of his profession, under the trying ordeal of a sharp cross-examination before the world, with no especial preparation for such a contest; in fact, he goes there just as he would go to see one of his patients suffering from some trivial disease. I am sure that this case is not an exceptional one, and that careful painstaking study of the question about which the medical expert is to give evidence, is rather the exception than the rule. What wonder then that the medical witness sometimes leaves the stand he has taken a few moments before with so much assurance, defeated and humiliated.

(To be continued.)

ON RUPTURE OF THE TENDON OF THE LONG HEAD OF THE BICEPS BRACHII MUSCLE.[1]

BY GEORGE H. MONKS, M.D.

Case I. P. O'D., laborer, aged fifty-two, came to me at the Out-Patient Department of the Carney Hospital about one hour after falling to the ground, while attempting to get off a street-car. He said that he struck upon his face and left shoulder. The shoulder was painful, and as if to keep it at as perfect rest as possible, he supported the left arm with the right. The belly of the biceps muscle was much more prominent than its fellow on the other arm, but did not impart to the touch that sense of resistance noticed in a well-contracted muscle; for it was, in fact, quite flabby. There was considerable tenderness along the bicipital groove, and active flexion of the forearm caused pain. The long tendon of the biceps could be distinctly seen, as well as felt, below the lower margin of the deltoid muscle. Figure 1 well represents the appearance of the deformity.

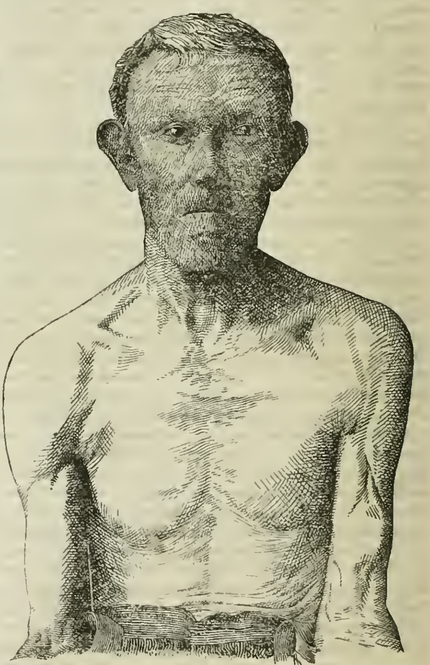

Fig. 1.

Case II. T. L., a laborer, aged fifty-five, was sent to me by Dr. W. N. Bullard. The patient was shovelling snow into a city cart, a few days before, and while doing so felt something snap in his right shoulder. Sudden and severe pain caused him to stop work at once. When seen the deformity was characteristic; and is well shown in Figure 2. There was a marked depression above the biceps on the outer side, and in this depression the tendon of the long head of the muscle could be distinctly felt.

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[1] This is substantially the same paper as one read at a meeting of the Surgical Section of the Suffolk District Medical Society, on March 3, 1886. Since the reading, one new case has come to my notice, and is here recorded.

Case III. For this case I am indebted to Dr. H. L. Burrell. J. W., aged seventy, while lifting up a cooking-stove on one side, felt something give way in his right shoulder, notwithstanding which, he kept on working for about half an hour. The pain was never at any time severe, and the only reason he sought medical assistance was because he knew "by the look of the arm that something was wrong." The deformity was exactly like that already described in connection with the first two cases.

Case IV. J. A., a German, fifty-three years of age, who had met with an accident a few weeks before, which had apparently caused both dislocation of the head of humerus and rupture of the tendon of the biceps, was referred to me by Dr. H. W. Cushing.

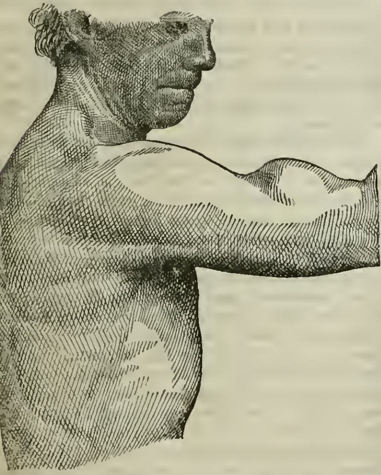

Fig. 2.

While the patient was at work a heavy chest fell upon him. He put up both hands to protect himself, and managed to throw off the chest to one side. In doing so, however, he felt a distinct snap in his right shoulder, accompanied by a stinging pain and inability to use the arm. The dislocation of the shoulder (subcoracoid) was reduced at the City Hospital, and it was not until this had been done that the rupture of the tendon was noticed.

The tendon of the long head of the biceps muscle has its origin at the upper part of the margin of the glenoid cavity. From this point it passes over the head of the humerus and between the greater and lesser tuberosity to the bicipital groove, down which it passes to end in muscle at about the middle of the tendon of the pectoralis major muscle. To hold this long tendon in its place, a special band of fibres continued down from the capsule of the shoulder-joint stretches across the groove. An offset from the synovial membrane of the shoulder-joint lines the upper two inches or so of the bicipital groove, and is then reflected back upon the tendon itself, as far as its point of origin at the margin of the glenoid cavity. The biceps tendon, therefore, covered by its own synovial membrane, is within the cavity of the shoulder-joint.

A rupture of this tendon appears in all cases to be due to an overstretching by a *violent contraction of its muscle*, or by *a sudden protrusion of the head of the humerus forwards*, or by *both causes* acting together.

A normal tendon whose strength is in proper proportion with the parts connected with it is very rarely ruptured. Cases are occasionally met with in the young and robust, where this accident has occurred.

A rupture occurring in those advanced in years, however, is a different matter. Here the tendon is presumably weakened by senile atrophy or shoulder-joint disease, so as to require only a slight force to completely tear it through. It is to ruptures occurring in such tendons that Volkmann has given the name of "spontaneous ruptures."

The four patients whose cases I have reported are elderly men, all over fifty years of age. Two of them declared that for several years previous to the accident they had had rheumatism in the same shoulder, where subsequently rupture took place. A third had partial anchylosis of one hip from chronic rheumatoid arthritis. Dr. C. B. Porter has told me that in a patient of his, who was advanced in years, he had found rupture of the long biceps tendon on both arms.

It is not an infrequent occurrence that one finds in the dissecting-room shoulder-joints of old persons, which have been the seat of chronic inflammation where the tendon of the biceps is worn away to a mere shred, and ready to break on the application of slight force.

Edmund Owen reports dissections of four such joints.[2]

Vogt,[3] in his treatise on surgical diseases of the upper extremities, gives an excellent wood-cut, taken from Rapp. Rupture of the tendon has occurred near its upper extremity. The lower end has fallen down the sheath while the upper one has a fibrillated extremity, suggestive of the wearing-away process which was taking place before the actual rupture occurred.

It seems to me that this weakening of the tendon, and consequent tendency to rupture must be more frequent than is usually supposed.

When we view the injury we are considering from a clinical point of view, we find that here again, we must distinguish between those ruptures resulting purely from violence and those in which the tendon has been previously weakened. There seems to be the same relative difference between the symptoms of these two different injuries as is observed between those of a fracture of the neck of the femur in the young adult and the same in the aged. When a rupture of the tendon occurs in a young and healthy individual, the injury is quite severe. A distinct snap is generally felt, followed by a stinging pain in the shoulder, and along the bicipital groove. The tenderness is marked. The patient holds on to the injured arm, and fears to move it. All motions are painful, particularly active flexion of the forearm upon the arm; *and when the*

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[2] Med. Chir. Transactions, Vol. lviii, page 377.

[3] Die Chirurgischen Krankheiten der oberen Extremitäten, Stuttgart, 1881.

forearm is supinated, flexion is almost, if not quite impossible (Hueter).

The explanation of this appears to be that in flexion of the pronated forearm, the biceps has little to do, and that the flexion in such a case is accomplished principally by the action of other muscles, such as the brachialis anticus and the supinator longus, the biceps itself remaining comparatively at rest. In flexion of the supinated forearm, however, the biceps is obliged to do most of the work, and it is for this reason, therefore, that flexion of the forearm during supination causes so much pain and distress, and is often impossible. In addition to the above-named symptoms, an ecchymotic streak will sooner or later appear along the course of the bicipital groove.

What has been described as characteristic of the rupture of a strong, healthy tendon is also true of ruptures occurring in tendons previously weakened, except that the symptoms are here much less marked, and some of them may be even wanting entirely. Thus the snap of the breaking tendon is often not noticed by the patient, the pain and disability not marked, or may even be so slight as to enable the patient oftentimes to pursue his work without serious inconvenience, as is seen in Case III. The appearance of ecchymosis is rather the exception than the rule.

I have been able to apply Hueter's test in two of the cases reported here, soon after the injury. I placed a weight of two or three pounds in the hand of the affected side, and directed the patient to raise the weight to the shoulder by simply bending the elbow, with the forearm first in pronation and then in supination. Flexion in supination caused more pain, but the difference was not marked.

All cases of ruptured long tendon of the biceps, no matter what the cause be, show essentially the same deformity. The belly of the affected muscle is unnaturally full, so much so at times, as to suggest the idea of a tumor. Above the swelling is an abnormal depression, in which the tendon can be felt. The muscle, though apparently firmly contracted, is soft and flabby, and the patient is unable to make it as hard as the muscle of the other arm.

One should, in *all cases*, be able to feel the tendon running upwards from the collapsed muscle in the direction of the bicipital groove. I mean in all cases, except where that very rare injury, namely, rupture through the junction between the tendon and the muscle, has taken place. If we examine the outer head of the biceps muscle just as it issues from under cover of the deltoid, we find it is muscular, not tendinous. The tendon is entirely covered by the deltoid. If this tendon ruptures high up, the lower fragment slips down the groove, and can by felt below the margin of that muscle.

The diagnosis of a rupture of the tendon during life, when the deformity is marked, is a simple matter. Where, however, a partial rupture, or only a laceration of the sheath has occurred, the diagnosis is beset with difficulties, for the sign of most importance is entirely wanting, namely, the deformity. In such cases, reliance must be placed on localized pain and tenderness, and altered function of the muscle, following an injury which would, in favorable cases, be likely to cause a rupture. Gerster has reported a case in which he considers that a partial rupture occurred.[4]

The treatment of ruptured biceps is rest. A circular bandage around the arm, below the flaccid muscle, will raise it up slightly, and tend to relieve the ruptured tendon of all unnecessary weight. The elbow should be kept at the side, and the arm in a sling.

Pain and disability may exist for months, though this is rare, but eventually the function of the part is pretty sure to be restored. The torn end of the tendon acquires a new attachment, upon which the muscle learns to act. We lack proof that such an arm will ever again be as strong as before the accident, but we may be quite certain that it will eventually be a useful one. Such being the case, operative interference, such as laying open the joint and suturing together the two torn ends of the tendon, is contraindicated.

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[4] New York Medical Journal, Vol. 27 (1878), p. 487.

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RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

EXPERIMENTAL OBSERVATIONS ON THROMBOSIS.

EBERTH and Schimmelbusch[1] have continued their researches, a summary of which has been published in the JOURNAL.[2] Hitherto they had worked directly upon the small vessels of the mesentery and omentum, but now their attention was turned to the large ones of the body.

The thrombi, which were seen to be formed in the former, were composed essentially of blood plates among which were mixed red and white corpuscles, while fibrin was rarely found. This same composition was in the large vessels, after ligature, punctured or incised wounds. On the other hand, fibrin appeared in the clot between the three elements. This was found especially in the thrombi which had been produced after extensive cauterization, and where a wide destruction of the inner lining of the vessel had resulted, and also in those formed after the introduction of a foreign body (thread or bits of pith). During the first few minutes, in the later case, the plates alone adhered, while in from four to six minutes the fibrin was added. Even here they appear as the first cause, but in no case was there any reason to suppose that their alteration or destruction called forth the fibrin formation. Further, the mere fact of the presence of older clumps of plates, without the smallest trace of fibrin in the same clot is a refutation of this. Therefore it must be assumed that the running together of the plates and the clotting of the blood, are two entirely distinct processes, which are not only wholly independent of each other, but are essentially different. The blood plates are one of the normal constituents of the blood, and their thrombosis is simply a sticking together, a *conglutination.* While *coagulation* depends upon fibrin, which is a solid body formed from the plasma of the blood, (a crystallization).

When the fibrin takes part in building a thrombus, it does it in a very characteristic way. The appearance of the simple thrombus of plates is modified by it in a peculiar manner. The strings and threads unite the larger and smaller plates, and mingle with the small balls; they hold the red and colorless corpuscles fast, and produce in this way a series of new pictures. But in itself the quantity of fibrin is very small compared with the amount in an extravasated coagulum, or with the compact mass of the so-called buffy coat.

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[1] Vichow's Archiv., Vol. 105, p. 456.

[2] Boston Medical and Surgical Journal, Vol. 113, p. 508.

Coagulation is a process which occurs in circulating blood only in restricted amount, while conglutination is extensive and frequent. This is practically the most important, from the simple wounding of the wall of the vessel, by which it can be produced. For the streaming by of the blood, carrying with it the corpuscular elements can give rise to the large accumulation of the blood plates, to be met with here. On the other hand, coagulation is the method by which the clot is formed in stagnating blood. If this was absolute, then the clot made out of an included quantity of blood would present only the appearances of coagulation and not of conglutination. The possibility of an extensive contact of blood plates and possibility of their running together would be excluded. But perfect rest is impossible, for even the sinking of the corpuscular elements can make weak currents by which the plates can be brought in contact and undergo the viscous metamorphosis and thus conglutination arise, but it will never reach any marked degree. For in a given quantity of blood the number of plates is small, and there is wanting the continual addition of new elements, which can only be derived from the circulating blood.

It has been recognized for a long time that thrombi which has been formed in the living body by persistent circulation appear white or pale red, while simple blood coagula are of a dark red. This corresponds in the main with what has been said above, the conglutinations being white. But this is not absolute, but is dependent in a great measure on the number of included corpuscles in both cases.

Their experiments were commenced with the idea, founded on the generally accepted theory, that injury of the walls of a vessel led to the formation of a clot within them. The most varied injuries were therefore inflicted upon veins and arteries to find out the law that governs this. It soon became evident that the expected thrombosis did not follow the lesion, and as the cases multipled they were forced to the conclusion "that injury of the vascular wall does not always lead to thrombosis."

In those cases where it was formed, examination showed that the destruction of the wall, or alteration or defect of the endothelium had no direct influence on the formation of the clot. This was best judged of when nitrate of siver had been used as an escarotic, for its coloration showed how far its action had extended. Here blackened endothelium, or uncovered muscularis, or even necrotic shreds laying free into the lumen of the vessel were found to be without clots, while it was from their wrinkles or jagged edges that the point of departure was taken.

From this they infer that it is not alone the lesion of the vessel which leads to the clot formation, but that other factors are necessary. If all the rough points and projections are immediately covered with a clot, while the smoother but not less injured places in the wall remain free, it certainly points to a mechanical factor, and this is to be sought in the relations of the circulation. Over the smooth surface the blood can flow unhindered, while it finds obstruction in the uneven places. They think, therefore, that a vascular lesion leads only to thrombosis when a disturbance of the circulation is provoked by this at the same time. This can happen in two ways. First, eddies can be formed by abnormality of the lumen, by diverticula or prominences. Secondly, the speed of the stream can be so reduced that the cohesion about the axis disappears. Just as of bodies of different weights which are shot off with equal velocities, the specifically heavier preserve their original direction longest, while the lightest sink first to the ground. So the white corpuscles leave the axial stream the quickest, the blood plates after a marked slowing of the stream, while the red corpuscles still continue to move, when the current is almost at a standstill. If by the little eddies or by a reduction of the energy of the stream the plates are diverted from the centre and driven against the wall, then it is only a question whether these plates come in contact with a normal endothelium, which protects them from viscous metamorphosis till they can be hurried back into the current, or whether this has been injured. In the latter case they cohere, and a thrombus is the result.

ON THE DEGENERATION OF MUSCLE ASSOCIATED WITH HYPERTROPHY, AND ALLIED FORMS OF DISORDER.[3]

In the first part of the treatise there is given the clinical history and pathology of a peculiar case. It was that of an adult, without the history of any hereditary influence, who suffered from extensive progressive muscular atrophy, even involving the diaphragm. It was preceded by a marked increase in the volume of certain muscles, especially of the legs. The strength of these, however, in distinction to pseudo-hypertrophy, was very great. Later they became atrophied, and at last, in some, evidence of degeneration were shown by their reaction. A bulbar paralysis was never evident at any time, nor were the muscles of the head and larynx implicated.

There were no sensitive disturbances, beyond an occasional shooting pain in the extremities. Spastic symptoms failed utterly.

The author ends the history with the following words: The picture presented above cannot be made to fit any of the existing classes. Doubtless there is a great similarity to pseudo-hypertrophy, in which an increase of the volume of some muscles with true hypertrophy of the fibres has been shown. But in this case the small muscles of the hand were affected from the beginning as well as the deltoid, while certain muscles gave the reaction of degeneration. Further, the age of the patient at the commencement of the disease was far beyond the age of childhood, when the false hypertrophy occurs. Just as little did it agree with the juvenile form described by Erb, for in that disease there is no such early implication of the palmar muscles and the reaction of degeneration. On the other hand, it did not agree with the typical picture of atrophy of the anterior cerebral lobes (Duchenne-Aran's disease) from the failure of the bulbar paralysis. He regards the case essentially as one of primary myopathia.

In the carefully made anatomical investigation there was not seen, either with the eye or with the microscope any change in the spinal cord. The peripheral nerves were perfectly normal. The muscles were found to be altered in a manner similar to that in pseudo-hypertrophy. In general there was found an accumulation of a great number of fat cells in the majority of the muscles, while in a few there was a marked increase of connective tissue, as well as the remains of hypertrophic, or atrophied, usually striated, fibres. The increase of nuclei in the diseased fibres was more pronounced than has been recorded by any one for pseudo-hypertrophy. But there was also wanting that regular distribution of growing nuclei in the universally extremely atrophied muscles, such as is found in poliomyelitis and in degeneration of the peripheral parts of the motor nerves. He also signals the presence of peculiar giant cell-like formations, which have not been recorded in any of the above-mentioned diseases. These are regarded as the remnants of muscular fibres, and he had met with them once before in a muscle penetrated by fibrosarcoma. Besides this, there were present in the degenerated muscular fibres, extensive formation of vacuoles, which recalled the tube-like atrophy described by Martini. They differed essentially from that form mentioned by Letten, as the result of embolic change, for in his case the striations were obliterated, while here they were preserved. Moreover in the longitudinal sections the vacuoles had not the form of sinuous prolongations such as have been generally depicted. Since in the initial stage of the disease many muscles were found to be increased in power, and that besides this, markedly degenerated fibres were found in apparently normal bundles, and such as failed to show an increase of connective tissue with the microscope. Therefore the author comes to the conclusion that the fibres are primarily changed, and are independent of the nervous system as well as from any possible influence of the fat and connective tissue, which develops later.

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[3] F. Shultze, Wiesbaden, 1886. Ref. in Fortschritte dur Medicin, 1886, p. 592.

In the general part which follows is given a complete description of the anatomical conditions in the different forms of progressive muscular atrophy. They are separated into the following classes: (1) cases of pseudo-hypertrophy with the results of the autopsies; (2) conditions found in the hereditary or ordinary form of progressive muscular atrophy; (3) conditions in atrophy without pseudo-hypertrophy or heredity, and without marked nervous symptoms, but with previous true hypertrophy; (4) cases of muscular atrophy with very few symptoms on the part of the nervous system and slight degeneration in the central nervous system; (5) cases of marked disease of the anterior cornua of the spinal cord alone, accompanied by a slowly-developing muscular atrophy. His own cases he refers to the first division. He disregards the division of the atrophies according to the principle of localization, which he regards as something secondary.

In respect to the distinction between neurotic and non-neurotic atrophies he holds that the presence or absence of true hypertrophy of the muscle to be the deciding point. "The hypertrophy has been found in neurotic atrophy up to the present time, very rarely or only in the later stages of the disease. It can also be absent in pseudo-hypertrophy and allied disorders, if at the time of examination a general marasmus has ensued, but in all other cases can be detected upon microscopic examination." Also, the early occurrence of an increase of connective tissue and fat speak in favor of primary myopathia. The presence of the reaction of degeneration (in the latter stages of the disease); of fibrillary twitching (to a limited degree), and of slight pains do not speak unconditionally against this. The appearance of atrophy at an early age and heredity are on the side of primary disease of the muscles. Where the first localization is in the muscles of the face and in the lower extremity their primary affection is probable, when it is in the muscles of the hand improbable, but not absolutely excluded.

CONTRIBUTION TO THE ÆTIOLOGY OF THE FREE BODIES IN THE CAVUM VAGINALE OF THE TESTICLE.[4]

According to Luscka, free bodies are formed by degeneration of papillary growths upon the tunica vaginalis (at the anterior edge of the epidydemis) through incrustation of epithelial plugs, from blood clots or deposits of fibrin.

Virchow and Kocher regarded them as the consequence and manifestation of a kind of inflammation of the tunic, designated as periorchitis prolifera, and the former also considered them as arising from the hydatids of Morgagni. In three out of eight cases the author found peculiarities in the structure of the cavum vaginale, which seemed to be of ætiological importance. Here it was the case of their production in pre-existing pockets, resembling diverticula. If such have originated from malformation or inflammatory adhesions, the epithelial plugs, fibrin and coagula could easily be deposited there. By the rubbing of the testicle and the tunica parietalis they can undergo change of place, till they are reabsorbed, or reach a spot where there is no movement. This is the sac of the epidydemis. If abnormal recesses of this are present, they may even reach them.

When they have reached the sac or one of its diverticula, the factors are wanting for their reabsortion. Namely the disintegration from movement and their contact with new parts of the serosa. And in the course of time changes take place in them resulting in the production of cartilage-like masses, often calcified in the interior.

CONTRIBUTION TO THE PATHOLOGY OF ADDISON'S DISEASE.

Nothnagel[5] has found that the pigment in the rete Malphigi was imported from the colored cell of the corium, which stood in close relation to the bloodvessels. Demiéville[6] observed that in these pigment spots there was an increase of nuclei in the vascular walls. Both authors arrived at the conclusion, that, in all probability, the pigment came from the blood, and was not formed in the corium cells.

Riehl[7] goes a step further. In the neighborhood of the cellular infiltration of the adventitia were often seen a larger or smaller number of migrated red-blood corpuscles, proper hæmorrhagic foci. In regard to those, different parts of the skin were found to be differently related. The most markedly pigmented were not necessarily nearest to the extravasations. Diffuse hæmorrhage, extending to the boundary of the subcutaneous tissue, or into the fat or connective tissue were most often met with. The separate corpuscles appeared either normal or with the well-known retrograde aspect. There was never noticed any scaly or crumbling masses of blood pigment. On the other hand, there were more or less strongly tinged cutis cells in the hæmorrhagic foci, or in their neighborhood. The corpuscles themselves or any parts of them were never seen in such cells.

[4] Hochenegg. Med. Jahebuch. der k. k. Gesellschaft der Aerzte, 1885.

[5] Zeitschrift f. Kl. Med., 1885.

[6] Revue Med. de la Suisse Romande, 1884.

[7] Zeitschrift t. Kl. Med., 1886.

In several places the lumen of some arteries and veins was stopped by thrombi. Such vessels showed regularly a disease of their walls, and almost always hæmorrhages in the adventitia.

Thus the idea of the deriving of the coloring matter from the blood has obtained a further support. The author regards the changes in the bloodvessels as the primary cause, as the second the extravasation of the red blood coloring material, and as the third, the change of this into the pigment of the cutis and its transportation into the epidermis. From his investigations it appeared that these hæmorrhages and the taking up of their coloring matter was not continuous, but intermittent. For near spots which were equally deeply stained, there were seen only fresh hæmorrhages, while in others only old extravasations.

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

March 3d. Dr. G. W. Gay presiding.

Dr. John Homans showed a specimen of

FIBRO–MYOMA OF THE UTERUS.

Dr. Homans spoke as follows: This fibro-myoma was removed ten days ago from a single woman, aged forty-six years. The presence of a tumor in the lower abdominal region had been known for two years. The hæmorrhagic flow at the catamenial periods has been growing more and more profuse. In size the tumor had increased rapidly during the past three months, until at the time of its removal it had reached a point three and a half inches above the umbilicus, at which point the abdomen measured forty-two and a half inches in circumference. In the vagina little or no neck to the uterus was felt, and the os lay high, the sound extended five and a half inches, but this was not the true uterine depth, as will be seen on an examination of the tumor. The weight of the tumor at the time of its removal was sixteen pounds, but it was very succulent and filled with fluid lymph. The tumor was dragged out through the abdominal incision by means of a large corkscrew and was held up while this wire, which I show you, and which came off to-day, was passed round it, and was fastened on an écraseur and tightened. The patient has done very well except for considerable abdominal distension from wind. The intestine was punctured twice with a small aspirating needle, but the greatest relief has been obtained by passing the faradic current through the abdominal walls several times a day, and giving subcutaneous injections of 1-20 grains of strychnia occasionally. Dr. James J. Putnam kindly showed me how to use the electricity and lent me a battery. This is the only case of laparotomy I have had out of some three hundred where the meteorism has been so great as to suggest obstruction, and necessitate mechanical interference. I do not show this specimen to encourage the operation of hysterectomy except in very exceptional cases, such as rapidly growing tumors, or those causing great hæmorrhage or great pain.

I have had two successful cases of hysterectomy in the last month, and I was prompted to operate on them because of a death from hæmorrhage in a case of fibroid tumor, which I saw a few weeks ago with Dr. Goodell, of Lynn. The patient was a fat married woman, about thirty-five years old, and Dr. Goodell was called to her on account of flooding. He summoned me later, and I found a large hard heavy fibroid, weighing, I should guess, about twelve pounds, and occupying the uterus pretty symmetrically. At the time I saw the patient there was no hæmorrhage, but the case seemed a very difficult one to operate upon. I had never known personally of a case of death from uterine hæmorrhage due to the presence of a fibroid, although I had seen women very exsanguine and feeble, and dragging along an existence which could hardly be called life, moreover, Keith had told me that he had never known of one, and that the authenticated cases were very rare. So I said to the patient and to Dr. Goodell, "If she had another bad flowing spell, I will remove either the ovaries and tubes or the uterus or both." I had only seen the patient once and I could not, with my previous experience and teaching, suggest an immediate operation. In three days, or at any rate within a week, Dr. Goodell wrote me that she had died of flooding. We could not get an autopsy. Influenced by this experience I suggested immediate operation in my last two cases. I am happy to say they are both doing well.

Dr. George H. Monks read a paper on

RUPTURE OF THE BICEPS TENDON,[1]

and presented two patients in whom this accident had occurred.

In reply to questions, the reader stated that the locality of the pain and tenderness is an important factor in diagnosis, that the short head probably hypertrophies, and that in no case has there been so great disability resulting from this accident as to prevent the patient earning his living.

DR. F. N. OTIS'S BLADDER EVACUATOR.

Dr. E. O. Otis exhibited, through the courtesy of Messrs. G. Tiemann & Co., Dr. F. N. Otis's simplified evacuator for the removal of débris from the bladder, after lithotrity. It consisted of a strong annealed glass bulb two inches in diameter, the reservoir; into one side of which a metal tube, forty mm. in circumference, curving down to its lowest part, is inserted. This is connected to the evacuating catheter by an india-rubber tube. Attached to the floor of the reservoir, by a bayonet joint, is a short, strong, glass bottle, the receiver. On the side of the glass bulb, opposite the tube connecting with the evacuating catheter, is another metal tube curving upward to near the top of the bulb. This is connected by another india-rubber tube with a strong rubber bulb, constituting an independent air-chamber. Two stop-cocks at the extremity of the flexible tube permit the removal of the catheter without leakage either from the reservoir or the bladder. At the base of the rubber bulb is a stop-cock to which the discharge pipe of a Davidson's syringe can be attached, by means of which additional water can be introduced into the bladder without removing the instrument, or by means of which the instrument can in the first place be filled.

The instrument is filled, preparatory to using, either by the syringe as before mentioned, or by plunging the evacuating end into a vessel of water of a temperature of 98°, and compressing the rubber bulb firmly once or twice.

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[1] See page 496 of the Journal.

The fluid in the receiver is removed from the influence of the current in either direction. This was shown by the tranquillity of the liquid in the receiver when water was forced through the bulb and reservoirs by the syringe attached to the bulb, and also by placing a colored solution in a bottle representing the bladder, and filling the receiver with pure water, or better, a denser fluid like glycerine, when, on pressure of the bulb, the colored solution was driven into the reservoir without materially coloring the water in the receiver. This fact is also of advantage when the urine is opaque from blood, enabling one to see, through the clear fluid in the receiver, the fall of the débris. The instrument has been proved to be very effectual, "quietly, quickly, and certainly depositing the calculous débris into the receiver, from which there is no possibility of return into the bladder."

Dr. Otis desired to express his thanks to Dr. F. N. Otis for his kindness in exhibiting the instrument to him some weeks ago.

NEW ASEPTIC SPONGES.

Dr. J. W. Elliot exhibited some new aseptic sponges which he had made of worsted covered with muslin. He said we have all seen septic trouble from the use of unclean sponges, and we all know the difficulties of making ordinary sponges aseptic. These difficulties amount to almost an impossibility. Billroth found bacteria in sponges which had been soaked five days and more in five per cent. solution of carbolic acid. It is said that Tait never allows any one but his wife to touch his sponges.

In doing laparotomy, Dr. Elliot had always taken the entire charge of his instruments and sponges, never allowing assistants to clean or prepare them for him. He found that the preparation and care of the sponges required so much time and attention that a substitute seemed desirable. Various attempts had been made to find a substitute. Bits of linen and wads of absorbent cotton, as used by Schade, were absorbent only when dry, and even then were not very efficient. There were also objections to using dry materials, in that they collect dust and shed lint; also it is convenient to be able to wet a sponge in an antiseptic solution. After many experiments Dr. Elliot found that worsted which absorbs very slowly when dry was sufficiently absorbent when once thoroughly wet and wrung out. This sponge is cheap and clean, and has the great advantage of retaining its elasticity and absorbent power after boiling, which ruins a sponge.

The new sponges are made as follows:

Part of a skein of coarse, white Germantown worsted is doubled twice on itself and fastened in the middle so that each end makes a springy coil. The ends are then doubled together and the whole thing is covered with white muslin (the starch being washed out) making an elastic ball.

A ball of worsted thus constructed has an absorbent power about two-thirds as great as a sponge of the same size. It can be boiled and soaked in antiseptics without injury. It costs much less than a sponge. It requires less labor to make it than to prepare a sponge for an operation. It is much more certain to be aseptic. Any dirt shows readily on its white surface. When tested by wiping a mirror it leaves less lint on the surface than a sponge. Dr. Elliot had used them for six months, and was much pleased with them; wounds healed well after being wiped with them. The only objection he had found was that in laparotomy the muslin did not slide easily over the peritoneal surface, and this was only important when the sponge was passed down among the intestines through a small opening in the abdomen; under such circumstances the intestines would cling to the sponge; to obviate this he had had a few covered with silk mull. Each of the sponges could be safely used for several operations, but they are so cheap that it is better to use new ones for every important operation. He thought that they might prove useful in large hospitals where the care of the sponges is necessarily unreliable. The fact that they were somewhat less absorbent than real sponges is of less importance than one might suppose; for since the rubber tube tourniquet and pressure forceps have come into use we have less bleeding than formerly.

Dr. Geo. W. Gay spoke of a case of

IMPALEMENT OF THE THIGH,

showing a large piece of board that was removed from the wound, which passed nearly through the upper part of the thigh. The patient made a good recovery.

Dr. Gay also mentioned two cases of

OUTWARD DISLOCATION OF THE PATELLA,

recently under his care. The deformity was very characteristic and reduction was easy.

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THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, November 4, 1886.

THE ERNEST KRACKOWIZER PRIZE.

The President, **Dr. A. Jacobi**, as Chairman of the committee appointed by the Council in reference to the Ernest Krackowizer Prize Fund, the accumulated interest of which is available every third year as an award for an essay, the standard and merit of which are to be determined by a committee composed of the Presidents of the New York Academy of Medicine, of the Bellevue Hospital Medical College, of the Medical Department of the University of the City of New York, and of the College of Physicians and Surgeons, (unless the Academy should otherwise direct) announced that the committee had selected as the first subject, "New Observations on Osteo-Myelitis," and that all competing essays should be handed in on or before the first day of January, 1889.

Dr. William Gilman Thompson read a paper on

THE MOVEMENTS OF THE HEART AND INTESTINES ILLUSTRATED BY PHOTOGRAPHY.

He said that several years ago he had been much interested in reading the account of a series of photographs of the horse taken while the animal was in motion, and that this had suggested to him the practicability of securing similar views of the movements of the heart under various conditions. Carrying this idea out he had been enabled to take photographs of normal hearts in full systole and full diastole, and also as affected by various stimuli, such as heat and different drugs.

In his early experiments he employed an ordinary camera; but more recently he had devised a form of apparatus which rendered the work much easier, as well as more accurate. The difficulty about the ordinary camera was, that only one view could be taken at a time, and then the plate had to be changed. By the aid of his improved apparatus, however, he was able to take no less than six successive views on the same plate in the space of one second, a feat in photography which had never before been done. The problem was to revolve the plate, which was circular, and stop it six times in the second, each time exposing one-sixth of the surface; and this he had succeeded in accomplishing by means of an arrangement of cog-wheels turned by a handle. Each image was clear and distinct, without any blurring. The animal whose heart was to be photographed was anæsthetized, and an incision having been made in the median line, the heart was exposed, and a collar of celluloid slipped behind it in order to secure a light background, which was a matter of no little importance. The light used was strong sunlight, and the animals experimented on were cats, kittens, rabbits, rats, frogs, and pigeons.

The results were very interesting, and the movements, changes of form, and pulsations of the heart were distinctly shown. The shape of the apex was found to be greatly affected by different drugs, and of the various stimuli employed, heat was found to produce the strongest systole. Of the chemicals tried, glonoin, either painted over the surface or used hypodermically, was also very active in producing a similar effect; while chloral caused marked diastolic distension.

In photographing the movements of the intestines the same methods were employed. He had been able to demonstrate positively that two peristaltic waves sometimes occurred, moving simultaneously in opposite directions; although the preponderance of motion was towards the anus.

In summing up his observations, Dr. Thompson alluded to the accuracy of the photographic method which he had devised, the rapidity and ease with which data for scientific conclusions could thus be accumulated, and the facility with which the action of various cardiac and intestinal stimuli could be illustrated before classes of students.

In regard to the movements and form of the heart, he said:

I. The long diameter may or may not shorten in systole; but it usually shortens from one-fifth to one-thirteenth.

II. The transverse diameter usually shortens at least one-fourth.

III. The apex does not in all cases cause the impulse-beat; and this very frequently is produced by the hardened anterior wall of the heart pressing against the thoracic walls. The form of the apex varies greatly under the influence of different drugs.

IV. The contractile form of the right ventricle may out-last that of the left, and pathologically the two ventricles may contract independently.

V. The lumens of the ventricular cavities are capable of being entirely occluded by the circular fibres acting independently of the longitudinal and transverse; thereby demonstrating the immense reserve contractile power in all the cardiac fibres.

Dr. W. Gill Wylie read a paper on

TWO OPERATIONS FOR INTESTINAL OBSTRUCTION.

He said that out of the sixty-seven laparotomies which he had performed since June, 1885, six were not gynæcological. In only two of these, however, was the diagnosis made before the operation. In order to make the list complete, he gave a *résumé* of all the six cases.

The first was one of complete intestinal obstruction. The patient was a female, fifty years of age, who had had three children and one miscarriage. The last pregnancy was twenty years ago, and the menopause occurred four years ago. She had a uterine fibroid, and after the passage of the sound on one occasion an attack of peritonitis was set up. Afterwards she had great trouble in getting her bowels moved. Previous to the 6th of October last she suffered from colicy pains and distension of the abdomen. On that day she had much more severe pain and suffered greatly from vomiting. In order to relieve the pain large quantities of morphia were required. Ox-gall enemata and other means entirely failed in causing an evacuation of the bowels. Dr. Wylie saw the patient in consultation with Drs. F. N. Otis and Ward, and it was agreed that if a movement could not be secured laparotomy should be resorted to. The pulse and temperature were nearly normal, and the matter vomited was not stercoraceous. The patient was found to be very listless, but this could not be attributed to the opiates which she had been taking, since the pupils were not contracted.

On the 10th of October he operated. A short incision was made in the median line, and a number of small peritoneal cysts were discovered. A large uterine fibroid was found, and on one side of it was a mass of intestines closely matted together. The incision was then extended, and a large part of the intestines turned out of the abdominal cavity, when the cause of the obstruction at once became apparent. A loop of the ilium was found to be firmly bound down by a strong band of adhesions, and the obstruction thus caused was so complete that the intestines in the vicinity had turned black, and the lumen of the canal was destroyed. This firm band was cut, and the lumen was at once destroyed. The fibroid involved not only the uterus, but both broad ligaments; but as the patient had passed the menopause, it had already begun to atrophy, and it was not disturbed. The wound was closed in the usual way, and ten hours after the operation she had a copious liquid stool. The temperature never rose above 101, and the patient did perfectly well. Now at the end of three weeks her bowels were more free than they had been for ten years past.

A point of interest in connection with this case was the normal temperature and pulse, notwithstanding the presence of such a grave local condition, and Dr. Wylie said that he was convinced that many cases of laparotomy were followed by intestinal obstruction, which was generally mistaken for peritonitis. Until very lately, it had been the universal practice to keep the bowels confined for five or six days after laparotomy, notwithstanding the presence of tympanites and vomiting. He would not go so far as the laparotomist who said that a brisk purge was the best treatment for peritonitis, but he felt sure that a turpentine or ox-gall enema was often of great service after abdominal section. He had adopted the plan of always opening the bowels after the first twenty-four hours, if there was any indication for it; and in all cases, he did this at the end of three days, at all events.

The second case was one of partial intestinal obstruction. The patient was a woman twenty-five years of age, who was admitted to Bellevue Hospital in June, 1885. She was sent in as a "tumor case." There was a swelling in the left side of the abdomen, and the bowels were obstinately constipated. The uterus was firmly bound down by adhesions, but no very accurate diagnosis could be made, on account of the distension of the abdomen. On the 28th of June, abdominal section was performed, when it was found that there were extensive peritoneal adhesions, with partial intestinal obstruction. The glands were found to be greatly enlarged, and this was attributed either to syphilis or malignant disease. In the other cases which he had had, the obstruction was due simply to the pressure from a tumor, or adhesions due to the same cause.

The third case was one of laparotomy for peritonitis. The patient was a negro, who was admitted to Bellevue Hospital August 24, 1885. Two weeks before he had an attack of severe pain, and noticed that his abdomen was enlarged. After his admission the temperature was 103°, and the abdominal wall in the vicinity of the crest of the ilium was found to be indurated over a space of several inches. He made the diagnosis of suppurative peritonitis, and proposed to perform laparotomy, but Drs. Janeway and L. A. Stimson, who saw the case in consultation, did not think the operation called for. Afterwards, however, the late Dr. T. A. McBride saw the patient, and agreed with Dr. Wylie that laparotomy should be performed. Accordingly, he did the operation. A cavity was found, which contained ten ounces of pus, and the intestines were matted together. The cavity was kept washed out for several days, and the patient made a good recovery.

The other three cases were admitted to the hospital as "tumor cases." In the first he made an exploratory incision, and found tubercular meningitis present. The patient was a married woman, thirty years of age, who had had five children and one miscarriage. There was a small tumor in the left inguinal region, and he operated April 12, 1886. Two quarts of yellowish and comparatively clear fluid were evacuated, and he then found a semi-solid mass. There were many grayish-white nodules, the tubercular deposit involving both the intestines and the mesentery. Drainage was kept up as long as there was any fluid left to come away, and the operation was followed by very marked relief in the patient's sufferings. A sinus was finally established in the site of the wound, and ulceration followed. She died about the middle of July.

The fourth case was also one of tubercular peritonitis. The patient was a female, fifty-four years of age, who had had five children, and an exploratory incision was made in the same way.

The sixth and last case was that of a patient twenty-five years of age, admitted to Bellevue Hospital October 22. The abdomen was distended with fluid, and there was some jaundice. On October 23, an incision was made in the median line, and a trocar inserted into the peritoneal cavity, when three gallons of fluid were withdrawn. The nodulated condition of the liver there found showed that there was cancer of that organ.

In Germany, Dr. Wylie said, permanent drainage had recently been resorted to in cases of tubercular peritonitis, and in the two cases related in which he had tried it, the relief afforded the patients had been very great. He then went on to remark that in a large number of cases of abdominal dropsy, exploratory laparotomy was far less dangerous than tapping; and he contended that laparotomists in this country could never succeed in obtaining as good results as European operators as long as the mischievous practice of tapping continued in vogue. Patients with ovarian tumors, on account of the temporary relief afforded them by tapping, were very apt to defer applying to competent operators for their removal until a stage of exhaustion had been reached which left but a meagre chance of recovery.

Recent Literature.

An Introduction to General Pathology. By John Bland Sutton, F.R.C.S. Philadelphia: P. Blakiston, Son & Co. 1886.

This work is developed from three lectures given at the Royal College of Surgeons, London, and is intended "to deal with the enormous collection of facts gathered together under the term pathology, by the application of the fundamental principles of the doctrine of evolution."

In the introduction, he states the three laws of evolution, as laid down by Huxley, and shows how that structural aberrations follow them, but can be grouped under two heads: 1. Correlation (including hypertrophy and atrophy). 2. Coalescence. In the remainder of the book, in which the subjects of general pathology are dealt with, his illustrations are largely taken from cases which have occurred in the lower animals, he having had exceptional opportunities for conducting autopsies on them in connection with the Zoölogical Gardens. The inheritance of pathological processes and their relation to evolution is everywhere insisted upon.

Of the separate parts of the book, that describing the various forms of cystomata is very full, and their relation to rudimentary structures is carefully shown. Here the value of comparative anatomy is manifested. The embryonic theory of the growth of tumors finds a warm supporter in him, and the relations of the different germinal layers are clearly indicated, and their peculiar bearings are well illustrated. The book, of course, is hardly expected to replace the larger and more comprehensive treatises for the general student, but will fill a gap in the collection of the pathologist, and is heartily to be recommended to them and to zoologists. The latter will thus be introduced to questions which should interest them, by illustrations from animals, with which he is well acquainted. The illustrations are abundant and well executed, while the dress of the book leaves nothing to be desired.

Studies in Pathological Anatomy. By Francis Delafield, M.D. New York: William Wood & Co. 1886.

The second part of Volume II has come to hand, and comprises the subjects of chronic phthisis and lobar pneumonia. The publication is continued in the same manner as the previous volume. We cannot help repeating what has already been said, that the work is chiefly valuable for its illustrations, and these are on such a scale as to be diagramatic in character, without being large enough to serve as wall pictures for class purposes.

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THE DISCOVERY OF THE CIRCULATION OF THE BLOOD, AND ITS CONSEQUENCES.

It cannot be denied that the discovery of the circulation is the most important physiological discovery of modern times, and it is befitting that once a year the Royal College of Physicians of England should commemorate this event, and the name of Harvey, by an oration in which due appreciation shall be given of the services of this and other similar benefactors of the human race. Without an understanding of the circulation, the true physiology of none of the internal organs could be known, nor could correct ideas be had of inflammation, or morbid processes generally. The advantages of this discovery to surgery —transfusion of blood, ligature of arteries for aneurisms, the tying of arteries to stop deep hæmorrhages, etc.,— are too obvious to require insisting upon here.

The Harveian oration of the present year (October 18th) was delivered by Dr. F. W. Pavy, who, after referring in fitting terms to Harvey's great work and the progress of medicine by experimentation, showed the application of the principles on which Harvey wrought to the great medical problem of the present day.

It was impossible that the circulation of the blood could ever have been discovered without experimentation. The *prima facie* evidence justified the views which the ancients held, and which are represented in Galen's works. Post mortem appearances showed the veins full of blood, the arteries empty, and the right side of the heart engorged. The viscera were found turgid with venous blood, and most prominent of all was the liver, the central rendezvous of all the veins of the alimentary canal, apparently exercising the function of receiving the chyle absorbed by the venous portal radicles, and elaborating into nutrient blood the food elements. It seemed easy to trace to this organ the completion of the digestive process, and the irresistible inference was that the chyle from the alimentary canal, made into blood in the liver, went forth from that viscus by means of the veins to nourish all parts of the body. There was a flux and reflux of blood through the veins comparable to the ebb and flow of the tide.

The ancients saw no particular reason to suppose that the arteries were *bloodvessels* but rather *air* vessels ; it was known that blood issued from them during life when cut, but this could be explained from some supposed mysterious connection with veins ; losing their air, blood would flow in to fill the vacuum. Galen, however, taught that the arteries conveyed air *and* blood; the blood in the arteries came from the left ventricle, having leaked from the right side through pores in the septum. It is significant in this connection to note that while the ligature of arteries has been generally considered of modern invention, and ascribed to Albucasis and Jean de Vigo, we have proof that Celsus and Paul of Ægina both understood and practised the tying of arteries for hæmorrhage, Celsus lived A. D. 5, and Paul of Ægina in the 7th century. The latter gives a very clear and complete description of the ligature of arteries in the Treatise on Angiotomy.

With reference to the air-conveying function of these vessels, the ancients were early impressed with these fundamental physiological facts : 1. The necessity of air for the maintenance of life ; 2. The importance of respiration whereby air is drawn into the animal system. Without air, and without breathing, death speedily ensued, hence *air and breath* came to be synonymous with life itself. What became of the air (spiritus, anima) drawn constantly into the lungs ? Here a resort to hypothesis was necessary in order to answer this question. The complex composition of the air was not known, nor was the law of diffusion of gases. Yet air was known to be very penetrating, and the mechanism was apparent by which it permeated the lungs, there coming in contact with the blood sent thither to nourish these organs by the pulmonary artery. The blood in the lungs was, as it were, fanned and purified of fuliginous and excrementitious matters by the tidal respiratory air, as the relatively foul and impure air of expiration testified. Just how the air got to the heart, was not so clear. As to the ancients, not only the pulmonary artery, but the four pulmonary veins were, with reference to the heart, efferent vessels. However, somehow the "vital spirit" penetrated through aëriferous tubes to the left side of the heart whose special function it was, to send it forth by the arteries. Galen's doctrine seems to be more like the true modern doctrine, namely, that the air in the left ventricle and in the arteries was held in solution in the blood, but Galen had no true notion of the circulation as such, was ignorant of the return of the blood from the lungs to the left cavities of the heart, and knew nothing of the relations which exist between the extremities of the arterial and venous systems.

Galen's teaching led mankind about as far as observation unaided by experimentation could go, and for more than fourteen centuries was authoritative in the medical world. With the renaissance of the 16th century came the era of scientific experimentation, which inevitably lead to more correct views as to the circulation of the blood. The way was well prepared for Harvey's final demonstration. Vesalius, the greatest anatomist of the 16th century, had corrected Galen's mistake as to foramina of communication between the right and left cavities of the heart; had given a complete description of the heart's muscle and its valves; had tied arteries and showed that the course of the blood in those vessels was away from the heart, and towards the periphery. Cesalpinus had likewise tied the large veins, and had shown that the course of the blood in the veins was the reverse of that in the arteries and towards the heart. Etienne, Eustachius, Fabricius, Fallopius, had studied the structure of the bloodyessels, recognized the systole and diastole of the heart, and described the valves of the veins. Michel Servetus had by an acute course of reasoning arrived at the true view of the pulmonary circulation, showing that the great mass of blood conveyed to the lungs by the pulmonary artery, and which, he believed was destined to a higher and more general use than simply to nourish the lungs, was returned to the left side of the heart by the pulmonary veins. Columbus, independently of Servetus, had wrought out the problem of the lesser circulation in almost the same terms, following the course of the blood from the right side of the heart to the lungs, and thence to the left auricle.

It may almost be said that, had Harvey done nothing but reason from facts already in possession of the world, he might easily have arrived at the knowledge of the circulation; but it was his part by a series of brilliant and painstaking experiments on living animals to demonstrate all that had been affirmed by his predecessors, to coördinate the facts of observation, and to give to the world a true picture of the circulation. Before Harvey, the ultimate distinction of the blood in the arteries was a profound mystery. Harvey showed that *somehow* the veins were the complement of the arteries, but how the blood "circulated" from the arteries to the veins he did not know; it was reserved for Malpighi to complete his discovery by demonstrating with his rude microscope the capillary system. Harvey's experiments demonstrated the motor mechanism of the circulation, the use of the valves both of the heart and the veins, the lesser or pulmonary circulation and the course of the circulation both in the arteries and in the veins.

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THE SURGERY OF THE PANCREAS.

A dozen years ago, the surgeon who should seriously propose "treatment of some of the injuries and diseases of the pancreas by direct surgical measures" would have been met with a smile of incredulity as a reward for his ridiculous boldness. Ovarian cysts might be removed under favoring conditions, but this was about the limit of abdominal surgery at that time. Now, all this is changed. Nature no longer has its own way in the unrestrained nurture of neoplasms in the hollow and solid viscera; the surgeon interferes and removes the new growths with courage, if not always with success. The stomach, the intestines, the kidneys, the spleen, all submit themselves to his scalpel and carbolized ligatures and sutures, and are at once admitted to the surgical literature, embellished with new and descriptive "ectomies" and "otomies," to establish a kind of brevet distinction for them.

It might be thought that the pancreas, in deep retirement, unobtrusive, serene, would escape the attention of the surgical explorer, and would remain to the end where nature designed it to stay. But its hiding place has been invaded, and its modesty is no longer a protection and a defence. In the surgery of the future, the pancreas must literally come to the front, and take its chances with its neighbors.

We have an excellent illustration of the brilliant boldness of the antiseptic surgery of to-day in a recent monograph by Professor Senn, the indefatigably industrious surgeon of the Milwaukee Hospital; his former labors in the field of surgical pathology and practice are well known, and this contribution to the scanty literature relating to the diseases and injuries of the pancreas, and their surgical treatment is new proof of the writer's originality, and a suggestive example of the tendencies of modern surgery.

Dr. Senn approaches the human side of his subject in the orthodox, experimental fashion. He studied the pancreas under a great variety of conditions in dogs and cats, and watched the results of traumatism upon the organ. He made complete section of the gland, lacerated it, crushed it to comminution, extirpated it wholly and partially, obliterated its duct by elastic constriction, ligated it at its centre, made external and internal fistulæ, carefully observing and recording the phenomena and results associated with all this vivisecting. In a general way, his conclusions appeared to him to justify the assumption that the human pancreas has been neglected as an organ of surgical interest. "Until now, the efforts of surgeons have been limited to the treatment of a few cases of cysts of the pancreas"; . . . "the surgery of the future will undoubtedly deal with contusions and lacerations of the pancreas in connection with visceral injury of some of its adjacent organs"; will excise inflamed or gangrenous portions of the gland; will perform "duodeno-cholecystostomy" for permanent and incurable obstructive lesions of the bile-duct resulting from pancreatic sclerosis; will cure pancreatic abscess by excision, or anterior fistula, or lumbar drainage; will treat cysts of the organ by establishing an external fistula; will remove its splenic portion when invaded by malignant disease, but will not attempt similar measures for the duodenal end; will search for and remove pancreatic calculi; and will favor "diagnostitial laparotomy" whenever there is doubt in any of these conditions.

Concerning that important pancreatic accident, idiopathic hæmorrhage, either diffuse or cystic, the author offers but little new information. He recognizes the medico-legal interest of a condition, which, "more frequently than is generally supposed," causes sudden death "in some as yet unaccountable way"; such hæmorrhages, in his opinion, are the result of various causes, and are the expression of different pathological conditions. In the matter of treatment, the author says that "operative interference should be limited to the class of cases described under the head of hæmorrhagic cysts of the pancreas," and should consist of a "resort to abdominal section as the only means of arresting fatal hæmorrhage, by direct ligation of the bleeding points, or by removing such localized portions of diseased tissue from which the hæmorrhage has taken place."

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PASTEUR'S NEW COMMUNICATION ON RABIES.

Pasteur has made another communication to the Academy in which he sets forth the results of his preventive inoculations for rabies, and the modifications which he has recently introduced into his method.

On the 31st of October, of the present year, 2,490 persons had submitted to the preventive inoculations. Of these, 1,700 were French, and on the facts relative to these, Pasteur bases chiefly his conclusions respecting the efficacy of his method. Out of these 1,700, there were ten fatal cases, that is one per 170. This, Pasteur affirms, would be under any circumstances an extraordinarily low percentage of mortality for rabies, and may be contrasted with the relatively high death rate of the bitten, not vaccinated, estimating the value of preventive inoculations. Before Pasteur's preventive system had come in vogue, there was, he states, an average mortality in the hospitals of Paris of 12 per annum; since November, 1885, there have been but two deaths from hydrophobia in Paris hospitals, and these were persons that had not been inoculated.

Concerning the fatal cases which had been under the preventive treatment, Pasteur reasons in this way: The greater number that succumbed despite the inoculation, were children that were bitten in the face, and only the simple treatment was applied to these cases. Now experience has demonstrated that the grave wounds require a more rigorous treatment. This was illustrated by the case of the Russians that came from Smolensk. These were 19 in number, had been bitten by a mad wolf, and three of them died, the first during treatment, the second and third several days after treatment was completed. "Dr. Grancher and myself," says Pasteur, "were troubled. Were the other sixteen going to succumb to the dreadful malady? Was our method powerless against wolf rabies? Remembering then that all the dogs which I had vaccinated with success had received for their last protective inoculation, matter from a virulent spinal cord, extracted that very day, and that Meister, the first one vaccinated, had completed his treatment by being inoculated from a cord extracted the evening before, we subjected the sixteen surviving Russians to a second and third treatment, going from the least virulent cords to those of four, three and two days. It is to these repeated treatments that we are in all likelihood to ascribe the immunity from rabies of these sixteen Russians."

Taking a hint from this experience, Pasteur has of late modified his treatment in the case of grave bites (wolf bites, bites about the head and face, deep bites) and this is now his procedure: "The first day we inoculate with cords of the twelfth, tenth and eighth day at 11 o'clock, A. M., at 4 P. M., and at 9 P. M.; the second day we use the cords of the sixth, fourth and second day, at the same hours; the third day we inoculate with cords one day old. Then the treatment is repeated; the fourth day with cords of eight, six and four days; the fifth day with cords of the third and second day; the sixth day cords of one day are employed; the seventh day, cords of four days; the eighth day, cords of three days; the ninth day, cords of two days; the tenth day, cords of one day. Three treatments occupying a space of ten days are thus pursued, each treatment ending with the freshest and most virulent cords."

This modified and greatly intensified treatment has, Pasteur thinks, since the time of its adoption, August last, been attended with results as gratifying as could be desired; of ten children grievously bitten about the face and head, and who have been subjected to this new method, not one has as yet succumbed to rabies. It being rare that children bitten on the head or face escape having hydrophobia within from four to six weeks, Pasteur thinks that the present immunity of these ten children is a proof of their being permanently protected.

Pasteur concludes his communication by reporting to the Academy the results of seven new experiments on dogs:

"It may be objected to the ordinary practice of vaccinating human beings *after* being bitten, founded on the vaccination of dogs *before* being bitten, that the immunity of the animals had not been sufficiently demonstrated after their certain infection by the virus of rabies. To reply to this objection, it suffices to refer to the refractory state of dogs after trepanation and intra-cranial inoculation of the virus of ordinary rabies. Trepanation is the most certain mode of infection, and its effects are constant.

"My first experiments on this point date from August, 1885. The success was partial. During the last few months I have taken up again these experiments, and these are the conditions of success: The vaccination must begin almost immediately after the inoculation (as soon even as the next day), and must proceed rapidly, so that the entire series of protective cords must be applied within twenty-four hours, then the treatment must be gone over again — once or twice — in the same manner, the vaccination being repeated every two hours.

"The immunity conferred under such conditions is the best proof of the excellence of the method."

MEDICAL NOTES.

— Cholera is reported as having appeared at San Rosario, Buenos Ayres, South America. With the large and constant emigration which is taking place from Italy to Buenos Ayres, there have doubtless been many opportunities for the transportation of the disease.

— The fasting mania has broken out in Europe, two Italians having attracted considerable notoriety in Paris, by long fasts. One of them is said to have previously fasted thirty days in Italy. Prof. Germain Sée, who has examined him, considers him a victim of nervous derangement, as it appears that the man had twice been an inmate of an insane asylum.

— A coincidence showing a probable septic origin for pneumonia, is reported in the *Lancet*. On the 18th of October, a man and his wife were admitted into St. Thomas's Hospital, suffering from acute pneumonia of respectively three and four days' duration. Each was aged thirty-two years. The disease ran an acute course, being little influenced by treatment, and they died at the end of four days within a few hours of each other. At the post-mortem examinations which were made on the same day, acute inflammation of the right lung were found in each; this had attacked chiefly the base in the case of the man, and the apex in the woman. It would appear that they had left their house, and moved into lodgings only two or three days before the commencement of the disease, on account of the bad smells, making it probable that the disease was of septic origin.

— Students of physiognomic science assert that, in estimating human character, the ear affords a better criterion than any of the other features, for which expression serves as a mask. The unelaborate ear, presenting no well-defined elevations and depressions, is thought to indicate selfishness and want of delicacy of perception. The possessor of a thick, well-shaped, highly-tinted aural appendage, set well forward, is usually ungrateful, grasping, and lacking in depth of feeling. A thin ear indicates keen susceptibility, and an ear that projects from head alertness. A small, soft ear, with no decided lines, is symptomatic of an hysterical, emotional, and shallow nature. A long, narrow ear belongs, in most cases, to a person of delicate perceptions. A broad ear is more coarsely practical. An ear, the cartilage of which is soft, indicates weakness, mental and moral. The creative ear has numerous and clearly-defined convolutions, but the perfect ear, which is the most beautiful, lies close to the head, gracefully rounded with pretty curves, strong lines, and firm, delicately-tinted cartilage.

BOSTON.

— A letter was received by the President of the Boston Druggists' Association on Thursday evening, the 18th inst., from the Board of Police Commissioners, requesting a conference with the officers of the Druggists' Association, in regard to the recent decision of the Supreme Court relative to closing places of business on Sunday. Agreeably with this notice, officers of the Association called at the office of the Board of Police, and were advised that the recent decision of the Supreme Court on the Sunday law would render an apothecary keeping his store open on Sunday liable to prosecution. An apothecary might be in his store to put up prescriptions or sell medicine only, when called for, but must keep the store door locked, opening it only when customers call.

In accordance with the recommendation of the Druggists' Association, its members generally complied with this order on Sunday, the 21st. Notices of various character, from grave to gay, were posted in the windows, informing would-be customers as to where the line regarding sales would be drawn. Prescriptions for medicines, however, were not required in all instances to be couched in the Latin tongue, nor even to be always reduced to writing. For some such cases, the direction was simply *fiat haustum, aegro stante.*

NEW YORK.

— The wife of Dr. C. R. Agnew and Miss Grace Dodge, a daughter of the late William E. Dodge, have been appointed by Mayor Grace, Commissioners of the New York Board of Education.

— Dr. Thomas F. Cleary, who was lately made Post-mortem Examiner of the Eastern District of Brooklyn, died November 19, from blood-poisoning caused by a dissecting wound.

— On the evening of November 18th, the anniversary address before the New York Academy of Medicine was delivered by Dr. William H. Draper, his subject being "The Principles and Progress of Modern Therapeutics."

— The twelfth annual meeting of the New Jersey Sanitary Association was held in the State House, at Trenton, on November 19 and 20. The address of the President, Prof. James M. Green, of Long Branch, was on "The Physiological Side of Education."

— The indictment against the Charities Commissioners of Brooklyn for their alleged neglect to properly care for the insane at the city asylum at Flatbush has been withdrawn, as the district attorney reported that sufficient evidence could not be obtained for their prosecution. Dr. Shaw, the medical superintendent of Flatbush Asylum, has resigned, and his resignation has been accepted.

— Mr. E. Heron Allen, an Englishman who has had much fashionable success at home, and is now giving seances in New York on "Practical Cheirosophy," or the science of the hand, has in his possession a magnificent album, containing representations of the hands of a large number of prominent persons. Under that of the Rev. Henry Ward Beecher is the following autograph note: "My father used to practise palmistry, but under afflictive circumstances, which disgusted me early with this science applied."

— The New York Flower and Fruit Mission, which recently closed its work for the season, reports that between May 17 and October 21, 89,205 bouquets were distributed to the sick in hospitals and tenement-houses. Over 1,700 jars of condensed milk, beef extract, and jelly, with large quantities of berries, oranges, grapes, fresh eggs, and other delicacies, were also taken to the sick poor in their homes. The actual expense of the total distribution was less than $30, all contributions of money having been used for the purchase of suitable nourishment for special cases of illness.

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Miscellany.

AN ANODYNE FOR USE IN VESICAL IRRITATION.

Dr. W. P. Copeland, of Eufaula, Ala., writes as follows to the *Medical Record:* "In almost every community there are old men who suffer from enlarged prostates, accompanied with a chronic inflammation of the neck of the bladder, rendering them miserable sufferers and a care and anxiety to their friends and families. Having had the professional care of several of this class of cases, and dreading the tendency they so frequently acquire to the administration of opium for the relief of pain, I resorted to various washes for injecting the bladder, resulting in my adopting a solution of benzoate of soda, ten grains to one ounce of water, with twenty to thirty drops of the green tincture of gelseminum; this is warmed and injected by the patient through a soft rubber catheter, whenever the pain is severe, and the catheter withdrawn, leaving the medicine to be voided in twenty to thirty minutes; or, where he is not able to pass anything from the bladder, the catheter is reintroduced and the medicine allowed to escape. My experience with this treatment has been so satisfactory that I cannot refrain from giving it publicity to the profession."

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LOSS OF WEIGHT IN EPILEPSY.

Dr. F. Hallager, assistant physician to the lunatic asylum at Viborg, has according to the *Lancet* (August 21, 1886), endeavored to find an explanation of the diminution of the weight of the body after an epileptic attack. Kowalewsky was the first to draw attention to this fact. He states "that all persons suffering from any form of epilepsy lose in weight after each attack." "This occurrence is not equally great in every case, but depends on the duration of the disease and the intensity of the attack. The loss of weight is greatest after the first attack of a series of epileptic fits." Dr. Hallager has drawn up a table indicating the weight of the body and the quantity of urine and fæces excreted by the patients each day during his researches. Solid or liquid nourishment was given to the patients in proportion to the frequency and violence of the attacks. By a chart accompanying the paper in the *Nordisk Med. Arkiv*, it appears that whenever the curve of weight is considerably depressed after an attack there is also a corresponding elevation in the urine curve, of which no explanation is afforded by an increase of diet. When a loss of several pounds takes place, it is owing to the secretion of an abnormal quantity of urine. Dr. Hallager has been unable to determine whether the production of urea is also increased by the attack, but he believes the increased formation of urea is not sufficiently great to be of importance in the loss of weight. The diminution of weight caused by an epileptic attack he considers to be due to an increased secretion of urine after the fit. M. Kowalewsky insisted that psychic epilepsy, as well as the *grand* and *petit mal*, is followed by a diminution of weight. This is contrary to Dr. Hallager's opinion, who believes that there is no diminution during this psychic state except when the patient refuses all nourishment, and that the quantity of urine secreted is much less than normal. This is no doubt due to a reaction after the preceding augmentation. The fact that psychic troubles of an epileptic origin (especially when of long duration) may, like other maladies, cause a loss of weight, is natural; but this loss, which arises from general emaciation, has nothing in common with the diminution of weight after an epileptic attack, which results from a diminution of the quantity of water in the body, due to preceding augmentation of urine.

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CASES OF REUNION OF CUT-OFF FINGERS.

Apropos of the discussion lately provoked in our columns, and continued by a correspondent in the present issue regarding the possibility of reunion of severed digits, we note the following cases in the *Medical and Surgical Reporter*, the first two being quoted from the *Russkaia Meditzina*, in which Dr. S. D. Ivanoff, of Briansk, furnishes details of interesting cases occurring in healthy soldiers, one of whom had accidentally cut away, by a stroke of an ax, the second phalanx of of his right forefinger, while another had severed in the same way, the second phalanx of his left thumb. In the former, the part hewn off was still united to the hand by means of a bridge of skin about two centimetres in breadth, the ax having passed through the first interphalangeal articulation, and chipped off a part of the base of the second phalanx. In the other case, the chopped off part was brought away in a glove; the weapon cut transversely a little above the interphalangeal articulation. In both of the cases the cut was clean, without any crushing of the parts. The first man was seen two hours after the accident; the second, three hours. The wounds were washed with a corrosive sublimate or carbolic solution, and the severed parts were accurately fixed by sutures in their normal situation, after which an iodoform dressing was applied. In both, perfect union by the first intention ensued, with return of sensibility and (limited) mobility.

A still more remarkable case was described by M. Thomas, of Tours, to the Paris Society of Surgeons. One of his patients, going home late without his key, wished to climb an iron railing with sharp-pointed tops. When dropping down, he felt himself retained by his third finger, which gave way at last; and, going into his room, he found that his finger was completely stripped of its integuments. A medical man, called at once, found the finger caught on the railing by a ring. The finger appeared complete, but was without the bone. M. Thomas was called an hour after, and reintroduced the bone into the finger. He applied two sutures, and bandaged the hand. The extremity of the finger became gangrenous. However, the patient had from this attempt the benefit of preserving nearly a phalanx and a half of his finger. M. Thomas has not found any such case on record.

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THE TREATMENT OF TYPHOID FEVER IN THE NEW YORK HOSPITALS.

THE New York correspondent of the *Atlanta Medical and Surgical Journal* gives an interesting *résumé* of his inquiry as to the methods of treatment for typhoid fever in vogue at the larger hospitals of that city. At the New York Hospital calomel is occasionally given early in the disease if constipation exists. This condition is afterwards relieved if necessary by enemata. Antipyrine is given in drachm doses by the rectum, and repeated every three hours if required. It is not administered with stimulants, and no cases of collapse have occurred from its use. Sponging and the bath are also resorted to. During the year the death-rate from this disease was twenty per cent. At St. Vincent's Hospital no cathartics are given in typhoid. To reduce temperature quinine is administered in doses of ten to twenty grains. Here they do not give antipyrine, or employ sponging, wet packing or baths. The mortality is forty per cent. At the Roosevelt Hospital calomel is occasionally given early in the constipated cases. Antipyrine is used and cold water applied to the surface by the different methods. Constipation during the course of the disease is relieved by an enema every third day. Ten per cent. of the cases died. At St. Francis Hospital calomel is frequently given during the early part of the fever. Antipyrine has been used in large doses, but fifteen grains is now considered enough at once. Cold sponging is also resorted to. The death-rate here was seventeen per cent. Cathartics are not given at the Presbyterian Hospital. Antipyrine is used either in fifteen grain doses every three hours, or thirty grain doses when the temperature rises above 103° F. The bath and Kibbee cot are occasionally employed. For constipation enemata are administered. The death-rate was twenty per cent. At the Mount Sinai Hospital cathartics are omitted in this fever. Antipyrine is largely used. Local application of cold water is rarely made. Here the death-rate during the year was eleven per cent. In the German Hospital from fifteen to twenty grains of calomel are always given if the patient be admitted before the end of the second week. After this a daily enema is administered if constipation is present. Antipyrine is always accompanied with stimulants, and in two patients taking half drachm doses temporary collapse occurred. Musk in seven grain doses is considered here a brilliant heart stimulant, and is used three or four times daily in severe cases. Camphor ether is also used for the same object. The mortality was twelve per cent. In all these hospitals milk is the principal food in typhoid fever, and stimulants enter largely into the treatment of nearly all cases.

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Correspondence.

A SIMPLE AND READY METHOD OF INFLATING THE INTESTINE.

BOSTON, 161 Beacon Street, November 22d, 1886.

MR. EDITOR,— In April, 1886, a gentleman came from New Brunswick to consult me in regard to an abdominal tumor. As he had come from a great distance, I felt that he ought to have other opinions besides mine, and I suggested that he should come to the Massachusetts Hospital and I would ask my colleagues to examine him with me. The other visiting surgeons and Dr. E. G. Cutler and Prof. R. H. Fitz, were kind enough to examine the case. After the patient was etherized it was suggested that the relations of the colon to the tumor could be better made out, if the intestine was inflated. One gentleman suggested putting some carbonate of soda in the bowel and then injecting an acid; another, the employment of a pair of bellows. In the mean time, a long tube had been passed up the rectum and its end was hanging out of the anus. It suddenly occurred to me that I could blow this up as well or better than any bellows could, and I took the end of the tube in my mouth and with very little exertion blew up the colon so that its outline stood out clearly; with a little more exertion the whole abdomen became tympanitic and distended. I used, I should think, about a third of the air in my lungs and I was quite surprised at the ease with which the intestines were blown up. Of course the surgeon need not do the inflating; with a long enough tube the patient might blow himself up unless he was etherized.

Very truly yours,
JOHN HOMANS, M.D.

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CARDED *vs.* ABSORBENT COTTON.

SALEM, Nov. 17, 1886.

MR. EDITOR,—During the last ten years, the writer has used cotton-batting as it comes from the card-room as a light, protective dressing over the eye after the extraction of cataract. Unlike absorbent cotton, it retains its elasticity and does not become sodden and hard when wet, thus acting like a poultice, as does the patented article, neither is it irritating, as wool may be. Because of these qualities it would seem to be well-adapted for vaginal tampons as well as for the ordinary surgical use.

It can be readily sterilized by subjecting it to a high temperature, but this may be deemed hardly necessary, considering that the cotton comes into contact only with machinery from the time the balls are picked until the cotton leaves the carding-machine.

As the cheapest is sometimes the best, it may be stated that cotton mills (at least it is true of the one in Salem) will furnish carded cotton, in rolls, for fifteen cents per pound, while absorbent cotton costs nearly four times as much.

Very respectfully,
D. COGGIN, M.D.

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REUNION OF SEVERED DIGITS.

LYNN, Nov. 16, 1886.

MR. EDITOR, — Apropos of severed digits, I can report a measure of success and of failure. Mr. Woods, in his haste to prepare kindlings for the morning fire, brought the axe down upon his thumb, severing the end in a diagonal line extending from the base of the nail downward nearly to the joint. The fragment dropped among the chips and the man had run a distance of twenty feet when he bethought him of the valuable piece left behind, and, returning, he picked it up, wiped it, and replaced it. The piece was secured by strips of plaster over the end, and no sutures were taken, for fear that the threads would produce a little pus which might burrow between the united surfaces and prevent a first intention. The thumb is now nearly as good as before, the only sequel being a diminished sense of touch.

A young man called upon me last summer who had just had the tip of his forefinger torn off at the base of the nail by a projecting nut in a revolving lathe chuck. As he was particular about appearances, an attempt was made to save the piece as in the above case. The case progressed well until I lost sight of the patient, two weeks later, when the fragment still remained in place. It had not a thoroughly healthy color, and sensation had returned but slightly. Some time after I learned that the piece shrivelled and came off. This case differed from the first in presenting a rough and mangled surface for apposition in place of a clean cut.

My father, Dr. I. F. Galloupe, had a patient some years ago whose finger was severed at its base in a sole-cutting machine. After running the length of the shop, the man returned for the fragment, in all a distance of two hundred feet, and replaced it. A perfect union resulted, and the finger regained complete motion, but sensation remained impaired. Another case occurred soon after in which the fragment united, but later it shrivelled and became practically worthless.

I think an attempt should be made to save the digit whenever the wound is a clean cut, and but little time has been lost in replacing it. Respectfully,

CHARLES W. GALLOUPE, M.D.

A MEDICAL BLACK LIST.

52 W. Cedar St., BOSTON, Nov. 18 1886.

MR. EDITOR, — Would it not be wise for neighboring physicians in the city to co-operate by mutual interchange regularly of the names of patients who do not promptly pay their medical dues, as well as of the names of acknowledged dead beats however respectable, for these classes are on the increase, and only by some such co-operation can a stop be put to their hateful form of swindle, which is founded on the credit-system in a great degree.

If the profession would adopt and force a cash system in practice, no need for mutual protection, such as is above referred to would ever be felt. In a small way this has been talked of in my neighborhood lately, and favored; it is a matter needing open discussion and attention. Very truly yours,

JOHN DIXWELL, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 13, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	715	309	24.44	13.78	3.38	2.08	10.53
Philadelphia	971,363	397	124	15.00	17.50	.75	4.25	9.75
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	171	49	12.76	21.46	1.74	2.90	6.96
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	133	42	11.84	18.50	2.22	3.70	3.70
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	131	42	12.92	11.40	6.84	—	.76
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	90	26	14.43	18.87	7.77	1.11	4.44
Pittsburgh	190,000	91	43	32.70	5.45	1.09	1.09	13 17
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	23	10	21.75	4.35	8.70	4.35	—
Charleston	60,145	36	16	27.77	11 12	16.68	8.33	2.78
Worcester	68,383	19	7	26.30	21.04	10.52	—	10.52
Lowell	64,051	22	7	9.10	9.10	4.55	4.55	—
Cambridge	59,660	28	7	25.00	17.85	3.57	3.57	17.85
Fall River	56,863	17	5	23.52	5.88	11.76	5.88	5.88
Lynn	45,861	14	3	14.28	28.56	—	—	14.28
Lawrence	38,825	13	—	7.69	23.07	—	—	7.69
Springfield	37,577	13	2	23.07	15.38	7.69	7.69	7.69
New Bedford	33,393	12	1	25.00	16.66	8.33	8.33	8.33
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	—	11.11	33.33	—	11.11	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	4	1	25.00	25.00	—	—	25.00
Taunton	23,674	3	0	—	33.33	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	1	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	2	—	16.66	—	—	—
Malden	16,407	3	0	66.66	—	—	—	66.66
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	3	1	33.33	33.33	—	33.33	—
Newburyport	13,716	2	1	—	—	—	—	—
Northampton	12,896	8	1	—	12.50	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,966: under five years of age 697: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 392, consumption 311, lung diseases 221, diphtheria and croup 161, diarrhœal diseases 67, typhoid fever 47, measles 52, cerebro-spinal meningitis 17, malarial fever 17, scarlet fever 11, erysipelas nine, whooping-cough eight, puerperal fever one. From measles, New York 42, Pittsburgh ten. From cerebro-spinal meningitis, New York ten, Philadelphia two, Baltimore, New Orleans, Pittsburgh, Nashville and Worcester one each. From malarial fevers, New York nine, New Orleans six, Philadelphia and Baltimore one each. From scarlet fever, New York and Philadelphia four each, Pittsburgh two, Boston one. From erysipelas, New York four, Philadelphia three, Boston and Pittsburgh one each. From whooping-cough, New York three, Philadelphia two, Baltimore, District of Columbia and Nashville one each. From small-pox, New York and Brooklyn one each. From puerperal fever, Pittsburgh one.

In the 19 cities and greater towns of Massachusetts, with a population of 965,628 (population of the State 1,941,465), the total death-rate for the week was 19.33 against 19.80 and 18.07 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending October 30th the death-rate was 18.5. Deaths reported 3,220: infants under one year of age 891; acute diseases of the respiratory organs (London) 295, diarrhœa 130, scarlet fever 84, measles 72, fever 63, diphtheria 35, whooping-cough 17.

The death-rates ranged from 11.9 in Derby to 30.0 in Wolverhampton; Birmingham 15.4; Hull 19.1; Leeds 22.0; Leicester 17.9; Liverpool 22.4; London 17.4; Manchester 24.5; Nottingham 21.6; Portsmouth 15.3; Sheffield 16.1.

In Edinburgh 13.9; Glasgow 23.4; Dublin 21.9.

The meteorological record for the week ending November 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Nov. 13, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 7	29.554	38.1	59.1	32.0	79.0	41.0	69.0	63.0	W.	N.W.	W.	22	28	12	O.	C.	C.	—	—
Monday,.. 8	29.911	33.0	41.5	26.9	81.0	41.0	61.0	61.0	W.	W.	W.	12	18	12	C.	F.	C.	—	—
Tuesday,.. 9	30.104	41.0	48.4	29.6	65.0	45.0	53.0	54.3	W.	W.	W.	12	12	6	C.	O.	C.	—	—
Wednes... 10	30.080	43.2	52.2	37.5	66.0	83.0	87.0	78.7	W.	N.	N.W.	6	3	4	O.	R.	O.	—	—
Thursday, 11	30.055	47.7	55.9	40.0	78.0	59.0	79.0	72.0	W.	W.	W.	6	9	8	O.	O.	C.	—	—
Friday, ...12	30.062	41.0	46.1	37.2	81.0	70.0	92.0	81.0	W.	S.E.	E.	8	6	20	F.	O.	R.	—	—
Saturday, .13	29.419	37.8	46.3	33.0	100.0	96.0	79.0	91.7	N.E.	N.	W.	30	16	20	R.	R.	O.	37.00	1.65
Mean, the Week.	29.884	40.3	49.5	33.7				71.4											

[1] O., cloudy ; C., clear ; F., fair ; G., fog ; H., hazy ; S., smoky ; R., rain ; T., threatening ; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 13, 1886, TO NOVEMBER 19, 1886.

Greenleaf, C. R., major and surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered for duty as attending surgeon at headquarters, Division of the Missouri, and examiner of recruits at Chicago, Ill. S. O. 268, A. G. O., November 17, 1886.

Tilton, Henry R., major and surgeon. Relieved from the duties of attending surgeon at the headquarters, Division of the Pacific and Department of California. S. O. 96, Division of the Pacific, November 9, 1886.

Waters, W. E., major and surgeon. Ordered from Fort Spokane to Vancœuvre Barracks, Wash. Ter., for duty at that post. S. O. 197, Department of Colorado, November 8, 1886.

Paragraph 8, S. O. 257, A. G. O., November 4, 1886, is so amended as to direct Major V. B. Hubbard, Surgeon, to report in person to the commanding officer Columbus Barracks, Ohio, for duty. Paragraph 3, S. O. 268, A. O., November 17, 1886.

Smart, Charles, major and surgeon. Granted leave of absence for one month. S. O. 265, A. G. O., November 13, 1886.

Caldwell, D. G., major and surgeon. Granted leave of absence for one month, with permission to apply for twenty days' extension. S. O. 150, Department of Platte, November 12, 1886.

Macauley, C. N. B., first lieutenant and assistant surgeon. Granted leave of absence for twenty days. S. O. 118, Department of Dakota, November 8, 1886.

Crosby, W. D., first lieutenant and assistant surgeon. Ordered from Fort McDowall, A. T., to Fort Bowie, A. T. S. O. 110, Department of Arizona, October 29, 1886.

Morris, E. R., first lieutenant and assistant surgeon. Ordered from Fort Bayard, N. M., to Fort Thomas, A. T. S. O. 110, Department of Arizona, October 29, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 20, 1886.

Nash, Francis S., passed assistant surgeon. Ordered to special duty Smithsonian Institution, November 26, 1886.

Rhoades, A. C., medical inspector. Ordered to special duty attending officers and families, New York City.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING NOVEMBER 13, 1886.

Ames, R. P. M., passed assistant surgeon. To proceed to Vineyard Haven, Mass., as inspector, November 10, 1886.

Urquhart, F. M., passed assistant surgeon. Granted leave of absence for seven days, November 8, 1886.

Wasdin, Eugene, passed assistant surgeon. Granted leave of absence for seven days, November 11, 1886.

Magruder, G. M., assistant surgeon. Relieved from duty at Norfolk, Va.; assigned to duty at Marine Hospital, Chicago, Ill., November 10, 1886.

DEATH.

Died in Pau, France, November 19, 1886, Luther Parks, M.D., M.M.S.S., aged sixty-three years.

SOCIETY NOTICES.

Norfolk District Medical Society. — A meeting for Scientific Improvement will be held at the Hall of the Roxbury City Guard, 67 Warren Street, Roxbury, November 30, at 7.45, P.M. Communications: I. "Puerperal Eclampsia, with Cases," Isaac W. Starbird, M.D. The discussion will be opened by Sarah M. Crawford, M.D. II. "Notes on Abscess of the Liver, with Cases," Daniel D. Gilbert, M.D. The discussion will be opened by John A. Tanner, M.D. III. "A Case of Chronic Cirrhosis of the stomach, with Specimen," Wm. P. Bolles, M.D.

S. Allen Potter, M.D., *Secretary*.

Suffolk District Medical Society. Surgical Section.— There will be a meeting of this Section on Wednesday evening, December 1st, at eight o'clock, at 19 Boylston Place. Dr. John Homans will show a patient upon whom he has successfully operated after the method of Mr. Adams for the relief of Dupuytren's contraction of the palmar fascia. Dr. E. H. Bradford will read a paper on "Amputation of the Hip-Joint in Hip Disease." Dr. Royal Whitman will report four cases of Excision of the Hip performed in 1882, and will exhibit one patient.

George H. Monks, M.D., *Secretary*.
J. Collins Warren, M.D., *Chairman*.

NOTE.

The Archives of Gynæcology, Obstetrics and Pædiatrics, New York, will be issued monthly, and commencing January, the parts will so appear, instead of bi-monthly as heretofore.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the New Hampshire Medical Society at the Ninety-Sixth Annual Session. Held at Concord, June 15 and 16, 1886.

First Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Harrisburg, 1886.

Smithsonian Miscellaneous Collection. No. 490. Additions and Corrections to the List of Foreign Correspondents, to January, 1885.

A Manual of Diseases of the Nervous System. By W. R. Gowers, M.D., etc. Vol. I. Diseases of the Spinal Cord and Nerves. Philadelphia: P. Blakiston, Son & Co. 1885.

Diseases of Tropical Climates. Lectures Delivered at the Army Medical School. By William Campbell Maclean, M.D., C. B., etc. London and New York: Macmillan & Co. 1886.

Transactions of the American Surgical Association. Volume Fourth. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: Printed for the Association, and for sale by P. Blakiston, Son & Co. 1886.

Smithsonian Contributions to Knowledge. No. 647. Researches upon the Venoms of Poisonous Serpents. By S. Weir Mitchell, M.D., and Edward T. Reichert, M.D. Washington: Published by the Smithsonian Institution. 1886.

Eighth Annual Report of the State Board of Health of Illinois, with an Appendix embracing (*a*) Report on Disinfection and Disinfectants; (*b*) Coast Defenses against Asiatic Cholera; (*c*) Report of Proceedings, Sanitary Council of the Mississippi Valley; (*d*) Meteorological Tables; (*e*) State Sanitary Survey and House to House Inspection; (*f*) Vital Statistics of Illinois and Coroner's Inquests; (*g*) Medical Education in the United States and Canada, 1765–1886.

Lecture.

ON DIET IN ALBUMINURIA.[1]

A LECTURE ON ALIMENTARY THERAPEUTICS.

BY PROFESSOR DUJARDIN-BEAUMETZ,
Physician to Cochin Hospital, etc., Paris, France.

Gentlemen: In the foregoing lecture, we studied the alimentary regimen of diabetes; I shall devote the present lecture to the subject of diet in albuminuria. Nothing is more natural than to compare diabetes with albuminuria. Has it not been shown again and again, since the first experiment of the kind made by Claude Bernard, that, in injecting albumen into the blood, you determine its passage in the urine? Have not Hammond and Parkes pointed out that an exclusively albuminous diet provokes albuminuria? The carefully-conducted experiments of Semmola are equally to the point, in showing that it suffices to inject under the skin of dogs a certain quantity of albumen, to see the latter speedily make its appearance in the urine.

These last experiments present the greatest interest, and in a recent communication made to the Academy of Medicine, Semmola has indicated their high importance. In injecting under the skin of dogs, for five or six days in succession, fifteen or twenty grammes of white of egg daily, in four or five hypodermic injections, you determine in these animals an experimental Bright's disease, that is to say, albuminuria, the albuminous dyscrasia, with progressive diffusibility of the albuminoids of the blood, diminution of the ordinary amount of urea-production, dropsies, and lastly, renal lesions absolutely like those that are observed in Bright's disease.

Hence it is that many authorities, struck by the points of resemblance between diabetes and albuminuria, have not hesitated to regard the latter as the result of an augmentation of the albuminoid principles of the blood; in fact, of a hyper-albuminosis, comparable to hyper-glycæmia. Gubler, who has the most completely developed this theory, in order well to indicate the points of contact which exist between diabetes and albuminuria, has described the latter under the name of *leucomuric diabetes*, thus modifying the appellation of leucomatic diabetes, which Paulinier, in 1814, had given to this disease.

But when you investigate more deeply this physiological and clinical problem, you see how great is the difference between these two forms of diabetes, glycosuric and leucomuric diabetes. First, while we know with tolerable clearness the nature of glucose and its modifications, we are still profoundly ignorant as to the composition of the different albumens, and we are hardly able to distinguish the albumen of egg from that of blood (serum). This, however, is only one of the small aspects of the question; the capital point is that the quantity of albumen which one finds in the urine is only secondary, and it is the renal alteration which plays the most important part. One patient, for instance, may void quantities of albumen, eight to ten grammes a day, and his general health remain relatively good, while another, in whose urine you will find scarcely a trace of albumen, presents all the symptoms of a fatal uræmia.

Wherefore this difference? It is due altogether to the state of the renal filter. Without entering here into the discussions which have been carried on between the humorists and the solidists relative to the pathogeny of Bright's disease, it must be borne in mind that when we are called to treat a case of chronic albuminuria, it is at an advanced period of the affection, that is to say, when the lesions of the kidneys are more or less pronounced. The prognosis, then, depends not on the hyper-albuminosis, but on the more or less profound alterations of the kidneys, and the retention therefrom resulting, of extractive matters, and of those toxic products which Bouchard has made known to us under the name of *urotoxine*. Uræmia, the terminal period of albuminuria, depends, then, not on the quantity of albumen contained in the urine, but on the state of the renal filter.

We cannot, then, in treating albuminuria, take as our guide the mere decrease of albumen in the urine; hence our indications are necessarily somewhat vague, and based rather on empiricism than on sound physiological data. The hygienic treatment of albuminuria ought to fulfil several indications, which Semmola has summed up in the following terms:

(1) To furnish to the patient a diet which shall be readily assimilable, requiring the least possible labor for its preparation on the part of the digestive organs; (2) moderately to excite the cutaneous functions, and promote elimination thereby; (3) to facilitate the assimilation and combustion of albuminoids introduced by the food.

Before taking up the first of these indications, which will demand our principal attention, I must say a few words about the second and third. It is a matter of capital importance to promote the cutaneous functions, and Semmola, in a very interesting communication, has shown us that in true Bright's disease there are alterations of the skin characterized by an atrophy of the malpighian layer and of the sudoriferous glands, and since 1861,[2] he has pointed out the importance of the care of the skin in this disease. Hence he recommends methodical and repeated applications of dry frictions and massage, combined with hot-air baths, to favor sweating; he approves of the Scotch douche, but discards altogether the cold water treatment. He also disapproves of forced muscular exercises.

As for the third indication, which consists in favoring the combustions of albuminoid substances. Semmola recommends living in a mild, dry air, and particularly in a climate with a constant temperature; therefore, the professor of Naples advises patients living in variable climates not to quit their rooms, and to take abundance of muscular exercise in an apartment maintained at a constant temperature of from 19° to 20° C. He rightly insists on the extreme impressionability of the skin in Bright's disease, and compares it to a very sensitive hygrometer. To these means should be joined inhalations of oxygen, and baths of compressed air. I have often seen albumen disappear from the urine under the influence of this atmospheric treatment.

Let us now return to our first indication, and study the dietetics of albuminuria. As a guide in the alimentary treatment of Bright's disease, I shall follow chiefly the directions of Semmola, Senator, and Bouchardat, and I shall also avail myself of personal researches which I have made on this subject, many of which have been embodied in the thesis of my pupil,

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[1] Translated from Advance Sheets.

[2] Semmola. Gazette des Hôpitaux, August 29, 1861.

Nollet.[3] The general notion which has directed the dietetic rules applicable to the albuminuric has been borrowed from the doctrine which has established the alimentary hygiene of the diabetic. Just as in accordance with what we saw in the last lecture on "Diet in Diabetes," it has become a custom to suppress from the diet of the glycosuric all alimentary substances containing starch or sugar, so also, has it been proposed to prescribe for patients with Bright's disease a diet containing the least possible quantity of albumen, and abstinence from albumen has been regarded, in the latter case, as almost of as much importance as abstinence from sugar in the former.

But before taking up the details of this kind of dietetics, I must speak of a food whose favorable effects in Bright's disease are universally acknowledged. I refer to milk. Milk diet has been applied in the treatment of anasarca from the most remote antiquity, and we see the father of medicine recommending milk in the treatment of dropsies. This traditional practice was observed down to the beginning of this century, and even furnished Guy Pastin with his savage remark *à propos* of Mazarin, whom he detested: "We have him with us still; he is dropsical, lives on milk and will not die." But it must be remembered that it was Chrestien, of Montpelier, who, in 1831 again called the attention of the medical world to the utility of milk in the treatment of albuminuria and nephritis. Pecholier and Guignier, belonging to the same school, next showed all the advantages of the method counselled by Chrestien, while still later, Jaccoud, and his pupil Lemoine, have reported excellent results from a regimen of pure milk in all forms of nephritis. Therefore, we are justified in saying that to-day the application of milk diet to the treatment of albuminuria is accepted by all authorities, and everywhere now nephritic patients are subjected to this regimen as a matter of routine.[4]

As I have told you before, the mere fact of albumen in the urine is not of chief importance, but rather the degree in which the kidneys are affected, and you readily understand that the milk diet must be powerless to restore the malpighian bodies and tubules when they are clogged and destroyed by the renal sclerosis. In any event, it is always milk which should serve as the basis of your regimen. But as milk diet cannot be indefinitely continued, and as there are, moreover, patients to whom its usage is repugnant, it is necessary to have recourse to other kinds of food, and here it is that the rules laid down by Semmola and Senator, and which pertain both to the quantity and quality of aliments find their applicability.

As for the quantity, it has been observed that the proportion of albumen in the urine always augments after a too copious repast. You should then always insist that your albuminuric patient shall eat but little at a time, and that they shall have numerous light meals during the day. As for the quality of the food, those suffering from Bright's disease ought to make a judicious choice of alimentary substances and absolutely discard certain articles of diet, and first in the category of things prohibited we should place eggs. You know that an experimental albuminuria has been determined by an exclusive diet of whites of eggs. Stokvis has studied quite thoroughly the influence of white of egg in albuminuria, and he has shown, as previously Legart, Brown-Séquard, and Hammond had done, that two conditions are necessary in order that albumen ingested may pass out in the urine: first, that nothing but eggs shall be eaten; and second, that they shall not be cooked.[5] In fact, it takes but little cooking to prevent the filtration of albumen through the kidneys. I ought, however, to remind you of the curious experiment that Claude Bernard performed upon himself. This celebrated physiologist relates that having eaten several hard-boiled eggs after a short period of fasting, he was surprised to find his urine albuminous. Hence, while admitting as scientifically demonstrated, the facts as related by Stokvis, I nevertheless believe that it is better to be chary in the employment of eggs, even when cooked, in albuminuria.

As for meat, Senator is of opinion that it should be suppressed from the diet of the albuminuric, or at least, that usage should be made of only a little white meat; while, on the other hand, he recommends a vegetable diet under all its forms, as well as fats. I have made large use of vegetable diet in albuminuria, and must acknowledge that in a great number of cases I have derived much advantage therefrom. Amylaceous substances, vegetables, fruits, along with fats and milk, compose quite a sufficient dietary.

Among vegetables there is one which plays an important rôle in the treatment of albuminuria; I refer to the bulb of the *allium cepa* or the onion. Lerres, of Alais, in 1859[6] maintained that with the onion, which should be eaten raw, one might cure Bright's disease. But what detracts very much from the conclusions of Lerres, is that he ordered at the same time a milk diet, so that it is difficult to say how much credit was due to the onions for the good results obtained; and although Claudot and Pantiea have reported similar cases, there is reason to doubt the curative properties of the onion in this disease. At the same time, as this vegetable is relished by most patients, there is no reason why they should not be allowed to eat freely of onions in their soups or in other ways.

At the same time there are patients who cannot get along without meat, and in such cases pork has seemed the least to augment the proportion of albumen in the urine; hence I have been in the habit of recommending to my albuminuric patients to eat ham, or cold roast pork, and the fatter the better.

Senator counsels fish; I am inclined to think, however, the fish is not a good food in Bright's disease, and that it notably increases the amount of albumen.

The same prescription should be made of cheese, which is a highly azotized nutriment.

As for drinks, it is still milk which you should order to be taken most abundantly, and which you shall insist upon unless its usage is absolutely repugnant to the patients. When milk cannot be taken, you can make use of wine, and especially port, which contains considerable tannin, dilating it with Vals or Vichy water; pure wine should be forbidden, as well as brandy and other spirituous liquors. Beer must also be interdicted, as all observers are agreed that the use of beer augments the figure of albumen, and congests the kidneys.

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[3] See and compare: Semmola's works, 1800 to 1883; Senator, "On the Hygienic Treatment of Albuminuria" (Berlin, Klin. Woch., December 4, 1882). Bouchardat, "On the Hygienic Treatment of Albuminuria" (Annuaire de Therap., 1886). Nollet, "A Study on the Alimentary Regimen of the Albuminuric" (Thèse de Paris, 1885).

[4] Chrestien, Arch. Gén. de Méd., t. xxvii, 1831. Pecholier, Montpelier Medical, t. xvi, 1866. Jaccoud, Clinique de l'Hôpital Lariboisière, Paris, 1873, p. 792. Lemoyne, On Milk Diet in the Treatment of Dropsies (Thèse de Paris, 1873). Debove, On Milk Diet in Disease (Thèse d. Agrégation, 1878).

[5] Stokvis. On the Usage of White of Egg in Albuminuria. (Centralb. f. Klin. Med., 1866).

[6] Bull. Gen. de Th., t. xlv, p. 39.

As I am on the subject of drinks, let me call your attention to a potion which Semmola has called "Anti-Brightic," and whose composition is as follows:

Iodide of Sodium	1 gramme.
Phosphate of Sodium	2 grammes.
Chloride of Sodium	6 grammes.
Aqua Fontanæ	1 litre.

The Neapolitan professor recommends that this potion should be drunk every day, pure, or mixed with milk, and claims good effects from it.

Such are the dietetic rules applicable to albuminuria. These rules, it must be borne in mind, are directed by empiricism and are far from having as high value as those which preside over the alimentation of the diabetic. I have given you the reasons before, namely, that the augmentation or diminution of albumen in the urine plays but a secondary role in Bright's disease.

But as the symptoms of uræmic poisoning, whether produced by urea or urotoxine, are augmented by an azotized diet, it seems to me reasonable and physiological for persons affected with this disease to diminish, as far as possible, the usage of azotized substances and to employ instead a vegetable diet and milk.

What result may you obtain from these dietetic rules rigorously carried out? They are very variable, and depend entirely on the greater or less extent of the renal lesions, and also on the nature of the lesions. I have seen in children severe cases of Bright's disease get well, and the most curious instance of the kind was that of a little boy, twelve years old, whom I saw at Compiegne, with Dr. Chevalier; this patient was voiding nearly an ounce (25 grammes) per quart of albumen in his urine. At the time of my visit there were marked symptoms of uræmia present, but at the end of three months, by following a severe dietetic regimen, of which milk, vapor baths, and massage were the principal factors, this young patient completely recovered.

Unfortunately, you are generally called at an advanced stage of the disease, when little can be done, and your duty will consist in an endeavor to keep the patient alive as long as possible, and to prevent uræmic complications. You will be able, in a measure, to attain this end by remembering that the intestine has a vicarious office with regard to the renal and cutaneous functions, and that you may to a certain extent by repeated purgatives relieve the kidneys of a part of their burden, and give issue to toxic materials which accumulate in the blood, thus preventing uræmic poisoning.

— The *Polyclinic* speaks editorially of medical extravagance in the number of societies for medical improvement which exist, and which are a burden to the physician's pocket and time without an equivalent return to him. In Philadelphia a man cannot well avoid belonging to three societies which cost him $25. A heavy assessment from the county society goes yearly to printing the State society's proceedings which are made up with so little censorship that men generally do not take the trouble to call for copies.

Original Articles.

MEDICAL EXPERT TESTIMONY, AS GIVEN IN THE COURTS AT PRESENT.[1]

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Another cause which has contributed largely towards bringing about the condition of things we are discussing is the bias of mind with which the expert goes on to the witness-stand, a bias toward the side which has called him. This shows itself the most forcibly where the expert has been the medical attendant in the case, and it is almost the invariable rule in these civil suits where claim is made for damages for injuries to summon such a one, not only to testify to matters of fact that have come to his knowledge by reason of this relation to the claimant or otherwise, but also to examine him as an expert. The human mind is such that I do not believe it is possible for any one, no matter how upright and honorable he may be, to clear himself from this influence so as to become an impartial witness.

The relations of physician and patient are among the very closest and confidential of any in life; the former is the friend the adviser of the latter, and he listens to the story of his injuries and feelings without a thought that it may contain exaggerations or misstatements, and accepts it as unquestioned truth from which he is to draw his conclusions as to the extent of the injury. While, on the other hand, the patient who has called him expects, as a matter of course, that he will not only take the same view of the case so far as its seriousness is concerned, as he himself does, but, that he will, when he comes to court, present it in the best light for his patient's benefit, that he will keep back what may be damaging to the latter, that the weight of his character, professional reputation, position, influence, in fact everything will all go to favor the interests of his patient, for whose cause he stands there as the champion for whom he is to win the highest possible verdict. The medical man, called into the case simply for the purpose of testifying, has something of this same bias to influence him: and so has the expert called for the defence. It is to witnesses testifying under such a pressure, such a bias, that courts and juries have to look for the solution of questions involving medical science, questions that are, as a rule, the very foundation of nearly all of these suits for damages for personal injuries. Is it a wonder, I say again, that such testimony sometimes falls short of what is expected of it?

This influence which we are considering has another effect on the testimony of experts, and one that must have become manifest to any one who has paid any attention to this subject, and that is this, it leads them, to construct theories favoring their side of the case that do not have the proper data for a basis. Often I have known medical witnesses to draw the most positive conclusions from the existence of a single sign or symptom of injury or the result of injury. Perhaps a single example of this kind of reasoning may make this point clear. A few years ago I was interested on the side of a defence in a case where suit had been brought to recover damages for injuries received from being thrown from a team. The plaintiff, a young man, recovered consciousness soon after the injury, and was then sent to a hospital, the record of the case there, being as follows: "Two small cuts on the head, one of them requiring stitching, and a severe sprain of the ankle." He remained there a few days when a plaster-splint was applied and he was allowed to go to his home. The injury to the head was looked upon as a slight one. On account of the injury to the ankle, he was seen once or twice as an out-patient by the hospital authorities, after which he went into the hands of his own physician. This young man, when he came to the witness-stand, after describing the condition of his ankle, which he claimed was still quite lame, testified "that after he had been in the hospital three or four days, he discovered a discharging of bloody matter from one of his ears; that he had never had any trouble with his ear before the injury, and that it was still discharging."

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[1] Concluded from page 496.

The medical expert, his physician, testified "that this plaintiff had never complained or called his attention to his ear until the night before the trial; that he then examined it, and found the drum extensively ulcerated, disease of the internal ear, and a foul discharge." He gave, as his opinion, "that this young man, at the time of the accident, and as the result of it, sustained a rupture of the drum, and that this occurred by *contre coup*, the cuts being on the opposite side of the head; and further, that he also probably received a fracture of the base of the skull, and that one of these injuries was the cause of the discharge from the ear."

Another expert testified unqualifiedly, "that this man sustained a fracture of the base of the skull as the result of the injury, and that the discharge from the ear came from the inside of the skull." That is, these opinions were founded on one single symptom, and that one described to the experts by the plaintiff, and, of course, an interested party; and furthermore, a symptom by no means a constant one in the case of fracture of the base of the skull, and one, when considered by itself, in no way diagnostic. An expert summoned by the other side testified "that he had made careful examination of this disease of the ear, as well as of the pharynx and nostrils, and that he found pronounced evidences of an old chronic catarrhal inflammation of these parts; and he gave, as his opinion, that the loss of the ear-drum, and the disease of the internal ear was the result of this disease." I might add, by the way, that notwithstanding this man had sworn he never had had any disease, or treatment of the ear prior to the injury, a searching of the records of the Eye and Ear Infirmary soon after the trial revealed the fact that a person of the same name and residence had been so treated in that institution more than two years before. This physician, the medical attendant, said to the expert for the defence, after hearing his testimony: "Why, Doctor, you have damaged our case more than a thousand dollars." Yet this physician stands among the most high-toned and honorable men in our profession, his integrity is above suspicion, and his capacity and training in medicine eminently qualify him to testify as an expert in anything pertaining to his profession. You will ask, I presume, how can one reconcile learning and capacity with such testimony and such conclusions. I answer, simply in this way: this physician had never thought of or even conceived of the high purpose for which he was called into court. It had never occurred to him that he was called there by justice herself to assist in the proper and just decision of the cause in which he was engaged. He had rather looked upon himself as the friend of his patient, who had called him as a witness, and that to him alone he owed allegiance.

So this influence of bias of mind asserts itself in other directions; it leads the medical witness to give undue prominence to minor symptoms, when, by so doing, it will strengthen his side and his theory of the case. It also prompts him to refer all other symptoms, however vague or indefinite, to the original injury. The reasoning and study of the case under this pressure of bias is from an entirely different standpoint from what it would be if one was examining a patient for the purpose of determining the relations of cause and effect and treatment, for, in this case, there is no preconceived theory to support, and every fact weighs for what it is worth in making up an opinion. On the other hand, the expert, under this influence, twists and distorts the facts to suit his theory, although, as a rule, he does this honestly and sincerely, with no thought of wrong-doing. So, in these suits for money damages for personal injuries, whatever may have happened to the claimant between the time of the accident and the trial in the way of sickness, he is sure to claim it as one of the results of the injury, and he usually finds medical testimony to support this theory. In a case that came under my observation some time ago, the party bringing the suit had received a sprain of one of the large joints. Some months after he had an attack of inflammatory rheumatism, and his medical attendant testified "that, in his opinion, the rheumatism was the result of the injury, and that injuries such as this man received (a sprain) was one of the common causes of this disease."

One of my earliest experiences in court was in connection with a case where a woman claimed, as the result of an injury, spinal irritation. Some time after she showed signs of lung disease, and at the time of the trial, these had developed into a well-marked case of what was then called chronic catarrhal pneumonia. As usual, the claim was made that this disease was the result of the spinal irritation. After a long search of works on diseases of the nervous system, I found one or two authors who enumerated, among many other diseases that might result from spinal irritation, disease of the lungs; and on this doubtful authority, three physicians, myself among the number, testified that lung disease might result from spinal irritation.

Had we spent the time consumed in looking up authorities to support conclusions drawn in the interest of the plaintiff in studying the objects of medical expert testimony, I am sure none of us would have been found in the witness-box bolstering up such a theory.

The appearance of the expert witness, as he presents himself on the stand, has much to do with the amount of influence he may exert on the judge or jury. This appearance is, of course, made up very largely of the personalities of the witness, and these are not proper matters of criticism or discussion. But there are certain other faults that are not uncommon to the medical expert that not only detract from his good appearance, but also seriously lessen the weight of his testimony. One of the most common of these faults is lack of attention to the interrogatories put to him. It is not uncommon to hear a medical witness ask the questioner, and particularly one that is a little embarrassed, to repeat the inquiry, and sometimes this request is even repeated in connection with the simplest question. This fault does not come from lack of comprehension, but rather from inattention. The witness hears the first part of the inquiry, then his mind begins to formulate the answer, and when he is ready to reply, he has really forgotten what he is to answer. So, sometimes, one answers without a clear understanding as to what the inquiry is, and such a course is almost sure to get him into trouble. Also, in cross-examination, a question is put in such a way that the correct answer is apparent to everybody, and still that answer does not convey the honest opinion of the expert in relation to the subject under inquiry. Some witnesses evade such a question, either by discussion with the attorney, or by making an indefinite evasive reply, but the questioner is sure to press the matter, and the expert must, as a rule, in the end answer it as the attorney intended he should, and he usually winds up such a contest by asking the witness "why could you not answer that in the first place?" A better way to treat such questions is to answer at once, and then to ask for an opportunity for an explanation; this is always granted, and under this broad authority anything in relation to the matter can be set right. If one pursues the former course, he often, although very unjustly, gets the reputation of being an unfair and one-sided witness.

These causes that have been discussed in the last few pages, seem to me to be among the most prominent of those that have contributed largely toward lowering the position of the medical expert witness, and these can fairly be laid at the door of the medical profession, but this profession is not responsible for all the sins that are heaped upon the head of the medical expert, for the legal profession has its share of responsibility for bringing this witness into such disrepute, and that share is a very large one. The attorney who brings one of these suits for damages for personal injury, is sure to try and procure the kind of medical testimony that will put the damage done to the body of his client in the strongest possible way. He not only drills his medical witness in the art of testifying, but by skilled argument he tries to impress him with his own ideas as to the extent or nature of the injury, and whether he succeeds in this or not, when he gets into court, he knows just how far to go in his questioning, being sure to bring to light only such facts as will help his side of the case. So the cross-examiner of one side or the other puts his inquiries with the sole object in view of getting responses that will strengthen his side. The attorney for the plaintiff formulates his hypothetical questions with all the skill and ingenuity of which he is master, not for the purpose of getting facts that will lead to correct and just conclusions, but with the idea of getting testimony that will lead to the largest money verdict. What wonder, I say once more, is it, that he often leads the medical witness to appear as a partizan, rather than as instructor of the court?

Now we come to the most difficult part of this question, and that is, what is the remedy? How can we remove this dark blot from the otherwise fair fame of the medical profession? The short-comings that I have mentioned that the medical witness reveals on the witness-stand, can only be overcome by individual effort, assisted by the medical fraternity as a body. But the great fault, the foundation of the whole matter, lies deeper; in fact, it is in the custom itself, as it stands to-day. How can this be improved? Some have suggested that medical expert witnesses be summoned by the justices of the court. This plan would no doubt greatly improve medical testimony; it would certainly do away with the bias men have, who are called as they are to-day. The justices of the courts of Massachusetts have ever been men of honor and integrity, still they are not free from the influences that make men entertain visionary and unsustained views in relation to many matters of science. Only last winter I heard one who had held the position of a judge in one of our courts for more than a quarter of a century, testify before a committee of the legislature in opposition to a bill regulating the practice of medicine, "That he knew of a case where a boy was seriously shot in the abdomen, the charge entering the peritoneal cavity and producing serious bleeding; the boy's mother placed her hands upon the wound, and by reason of some peculiar power she possessed, the bleeding ceased and the wound healed;" he further testified, "That the boy would have died at once, had it not been for this treatment." A justice holding such notions of medical practice and surgery, would not, I fear, be very judicious in making his selection of medical experts.

The principal objection to this suggestion, is to my mind, however, that it is impracticable, for this reason: there is no probability that the necessary legislative action to bring about this change, could be procured, as a move in this direction would arouse the opposition of a large majority of the rank and file of the legal profession, they knowing that the basis of these claims for damages for personal injuries and their support before the courts, depends very largely upon the medical testimony, and just such testimony as they are able to get under the present system, and furthermore, I am sure the people would look upon such legislation as an effort to take away one of their rights.

It has also been proposed that the courts be empowered to call experts, and still allow the parties to the suit to put in such medical evidence as they may desire. I do not see how such a plan would improve the matter. It is often the case now that clear and well-founded medical opinions are given in the courts, opinions as able and trustworthy as could be procured from any expert, no matter by whom summoned, but the difficulty is in these cases where such opinions have been given, the other side calls a medical man who arrives at a different conclusion, and supports his opinion by what seems to be, to the unprofessional mind, as plausible argument as that of the expert of the other side. Who are the jury to believe? The expert summoned by the court? or the one called by the parties themselves. The advocate on the one side argues that the witness that gave testimony favoring his view of the case, ought to be believed, and so does the advocate on the other side. The presiding justice can lay down the principles of law, but he cannot prescribe who is to be believed, and not believed, for that is a province of the jury, and a question they must always settle, therefore, it seems to me clear, that the carrying out of such a suggestion, would leave this matter of expert testimony just where it now stands.

There are no doubt other plans requiring legislative action, that would correct this matter and put the medical expert in his proper place before the courts, and give to medical testimony the respect and weight to which it is entitled, but the present custom is so thoroughly bound up in our judicial system, I do not believe that any such could be devised that would not arouse sufficient opposition to ensure its defeat. I am satisfied that whatever is done in the near future, at least looking to the removal of this dark stain from this great and otherwise honored profession, must be done in our own ranks by both combined and individual effort.

The last quarter of a century, so far as the development of medicine is concerned, has been the grandest in all its two thousand years of history, and in that short time it has advanced a long way over the road that leads from the darkness, the groping and uncertainty of the practice of an art toward the broad, bright daylight of exact science, until the teachings of to-day are founded on the results of observation and experiment, rather than on those of speculation and theory as formerly. In this grand march, surgery, chemistry, physiology, pathology and sanitary science, have all taken part, and now Theory and Practice is beginning to feel this influence that has pushed the other branches of medical science so well forward, and *it* is moving in the same direction. Certainly there never was a more opportune time than the present for the medical profession to develop medical jurisprudence, and that by a more careful study of its duties and responsibilities and by a just appreciation of its high importance in both civil and criminal causes. By so doing we shall not only bring credit to ourselves, but add another benefit to the long list the world already owes to medical science.

NOTES ON THE TREATMENT OF STONE IN THE BLADDER.[1]

REPORT OF TWENTY-FOUR CASES. RECURRENCE OF STONE. LITHOLAPAXY IN THE FEMALE BLADDER. FISTULA AFTER LATERAL LITHOTOMY. CALCULUS WITH SHOESTRING NUCLEUS. STRICTURE OF THE URETHRA COMPLICATING LITHOLAPAXY.

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IN no branch of surgery has there recently been so complete a change of practice as has come about in the treatment of stone in the bladder. Within the past eight years, two operations have come to the front and have rapidly superseded the older methods. Of these, one, litholapaxy, is new, and the other, supra-pubic lithotomy, although old, was not formerly in good repute. A brief review of the steps in this radical change may be of interest, and will serve as an introduction to a short series of cases treated in accordance with modern ideas.

Ten years ago, it was the generally received practice among those who might be regarded as authorities in this branch of surgery, to crush only those stones which could be satisfactorily disposed of in three or four sittings by the lithotrites then in use. So great was the fear of instrumentation in the bladder, that it was thought important for these sittings to be very short (from three to four minutes). Evidently, therefore, the stones considered proper for lithotrity were small or soft. Larger and harder stones were submitted to lithotomy, and the lateral operation was the favorite one for these cases. The central perineal operations had some strong advocates, but were only useful for stones of moderate size.

Supra-pubic lithotomy was generally looked upon as a dangerous method, only to be resorted to with stones of large size which could not be safely dragged through the perineum.

At about the time of which we are speaking, the antiseptic method of treating wounds came to a general adoption and the consequent improvement in the results after lithotomy was so considerable as to threaten to place still closer limits to the field of lithotrity.

In the year 1878, Dr. H. J. Bigelow published his first paper introducing the operation of Litholapaxy, which was rapidly adopted, and is to-day the generally accepted method of dealing with the great majority of cases. With the efficient lithotrites and evacuator which made "lithotrity at one sitting" possible, it is now usual to remove stones of considerable size and hardness, and practically it has been found that under ordinary conditions in adults, any stone which is suitable for lateral or other perineal lithotomy is suitable for litholapaxy, and that even stones so large that they would require a supra-pubic incision if they were removed by the knife, may, when soft and friable be safely crushed and pumped out.

The exceptional cases in which litholapaxy cannot be used are as follows: (1) A very large and hard stone may resist every attempt at crushing. (2) A stone may have as a nucleus a foreign body, such as a piece of necrosed bone or a bullet, too hard to crush and too large to come through a tube. (3) An encysted stone may be out of reach of the lithotrite. (4) Some writers consider that stricture of the urethra may prohibit litholapaxy. This cannot often happen, for strictures, however close, yield readily to divulsion which may be immediately followed by the crushing and evacuation of the stone. I have so often seen these two operations successfully done together on an etherized patient, that I can but think this the best practice. While it economizes time, it saves the patient much needless manipulation. (5) False passages may exist, which so interfere with the introduction of instruments that the dangers of the operation are greatly enhanced, and the question of lithotomy is to be entertained. (6) The hip may be anchylosed, in a position which interferes with the use of urethral instruments.

It at first seemed unlikely that "lithotrity at one sitting" would ever be applicable to children. Before puberty the urethra is so small that instruments of any considerable size cannot be used through it. Quite recently, however, Dr. Keegan,[2] of India, has published a series of fifty-eight cases of stone in children, in which he used litholapaxy, and with only one death. Such results must command our attention and make us reconsider the matter, although it is hard to believe that the present very low death-rate after lithotomy in children can be improved upon.

In any of these exceptional cases to which litholapaxy cannot be applied and in which a cutting operation is required, we have, as has been said, three general methods to choose from. The median perineal, the lateral perineal, and the supra-pubic operations.

Median perineal lithotomy, in which the membranous urethra is opened, and the prostate then either dilated or incised on the middle line is only applicable to small stones, and finds but little use at the present time. In case of a foreign body of small size, it might be employed.

Lateral lithotomy has a much wider field, being competent for the removal of stones of considerable size. It has the disadvantage of necessarily wounding the urethra and prostate, at the same time putting the seminal ducts and rectum in danger. It also exposes the patient to certain risks from hæmorrhage.

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[1] Read before the Boston Society for Medical Improvement, November 23, 1886.

[2] Indian Medical Gazette, May, 1884.

On the other hand, owing to the dependent position of the wound, it has the decided advantage of providing thorough drainage to the bladder.

In the treatment of stone in children lateral lithotomy has had its greatest success, the death-rate being very low (from five to seven per cent). Dr. Freyer has even achieved the feat of completing one hundred and forty-three operations without a death.

Lastly, we come to the supra-pubic operation, with the recent great improvement in its technique.

In the year 1878, which was an eventful one in the history of stone operations, a few months after the publication of Professor Bigelow's monograph, there appeared in the *Edinburgh Medical Journal*, an article by Dr. Garson, upon the influence which distension of the rectum had upon the position of the bladder and the pre-vesical fold of peritoneum. This paper attracted but little attention at the time, but was followed two years later by another upon the same subject by Petersen, in the *Verhandlungen der Deutschen Gesellschaft für Chirurgie*, 1880.

These observers showed that by filling the bladder with water and then distending a colpeurynter introduced into the rectum, it was possible to lift the parts so as to very materially raise the peritoneum and thus widen the space between it and the pubes through which the bladder could be reached. The distension of the rectum pressed the bladder forward and held it firmly against the abdominal wall, so that it could be easily recognized and readily opened. It also, by raising the vesical floor brought all parts into easy reach of the finger and eye, making thorough exploration possible.

By the previous methods of operating, the two principal dangers were: *first*, of wounding the peritoneum; and *secondly*, of infiltration of urine with septic processes starting in the wound. The first of these dangers was one which could be avoided with care, but, this very care in separating the parts, and bringing the bladder into view, opened the cellular spaces about and greatly increased the danger of septic absorption. The new method not only rendered the danger to the peritoneum more trifling than it had been before, but also by bringing the bladder into easy reach rendered much manipulation unnecessary and made it possible to open it by a clean, direct incision without interference with its cellular surroundings.

The German surgeons quickly put this improvement into practical use, and the operation became at once a popular one with them; It was almost simultaneously adopted in France and soon found its way to England and to this country. So firm a hold did it take upon the German mind, saturated with an enthusiasm for antiseptic surgery that at Magdeburg in 1884, Volkmann of Halle, who was one of Lister's earliest and most strenuous advocates, declared it as his belief that lithotomy was the proper operation for stone, and that "the various methods of crushing only deserved a place in the history of medicine." He was supported in this view by Bergmann: their opposition to litholapaxy being based on the supposition that it could be successfully practised only by especially skilful and experienced surgeons.

This theoretical position was ably opposed by Professor Dittel and others of large experience in genito-urinary surgery, who held the same high opinion of litholapaxy that prevails in France, in England, and in this country. The best answer to so speculative an opinion as that of Professor Volkmann, is, however, an appeal to facts; and the lithotomist who hopes to establish his pet operation in advance of all others for the treatment of stone, must show that it is capable of saving more than ninety-seven per cent. of ordinary adult cases, for this is about the percentage of recovery after litholapaxy.

From this brief sketch it will be seen of how recent a date are the two operative procedures for the treatment of stone in the adult, that now meet with the most favor, and which have within six years to a great extent displaced the perineal operations, that up to that time had been in highest repute. The modern treatment of stone in the bladder may then be briefly summarized as follows:

Litholapaxy is to be used in all ordinary adult cases. How far this operation can be applied to children is still doubtful.

Supra-pubic lithotomy is to be employed in cases where the stone is too large and hard to be crushed, or when an impervious stricture makes the introduction of a lithotrite or staff impossible. In case of an encysted stone the high operation is also the best, as the thorough inspection of the bladder which it makes possible, enables us to treat the condition intelligently.

Perineal lithotomy may be reserved for occasional use upon stones of moderate size where false passages or anchylosis of the hip make litholapaxy impossible or when a stone has a foreign body as a nucleus. It is possible that the supra-pubic incision may eventually prove to be the best for even these cases; but at present the percentage of recovery after lateral lithotomy, in cases of small calculi, is better than the high operation can, or at any rate has, produced.

The treatment of stone in children is just now more unsettled than in any other class of cases. Litholapaxy and supra-pubic lithotomy are both putting in their claims, but thus far the best authentic results are from lateral lithotomy. Dr. Keegan's results from crushing are, it is true, better than the average results from the lateral operation; but until they are confirmed by other operators, they must be looked upon as exceptional and are far excelled by Dr. Freyer's success with lithotomy (one hundred and forty-three cases without a death). Whether supra-pubic lithotomy can accomplish something better still, has not been shown.

REPORT OF TWENTY-FOUR CASES.

The cases to which reference will be made in this paper are twenty-two in number, and comprise all of those operated upon by the writer up to this time. Twenty of these operations were by litholapaxy, one by lateral lithotomy and one by supra-pubic lithotomy.

The following table gives the essential facts in regard to them.

It will be seen that in but one case did death follow the operation, and I will give that patient's history somewhat at length.

M. M., a laboring man, sixty-nine years of age, entered the Massachusetts General Hospital January 20th, 1885. He gave a history of frequent, painful

	Age	Sex	Residence.	Duration of Symptoms.	Operation.	Date.	Stone.	Weight Grains.	Result.	Remarks.
1*	65	M	Boston	4 or 5 months	Litholapaxy	Nov. 17, 1883	Phosphatic	270	Recov.	Multiple calculi
2*	66	M	Boston	3 or 4 months	"	July 24, 1884	"	127	"	" "
3	10	M	Cambridge	Since Babyhood	Lateral Lithotomy	Nov. 11, 1884	Calcic Oxalate	132	"	
4	69	M	Brighton	1 year	Litholapaxy	Jan. 21, 1885	Phosphatic	98	Died	Death from bronchitis
5	53	M	Charlestown	2 or 3 years	"	Jan. 28, 1885	"	78	Recov.	
6	61	M	Milton	1 year	"	May 11, 1885	"	94	"	
7	67	M	New Brunswick	5 months	"	June 11, 1885	"	121	"	Structure divulsed
8	73	M	New Brunswick	2 or 3 years	"	June 24, 1885	"	20	"	
9	57	M	Brookline	A few weeks	"	Oct. 5, 1885	Uric Acid	10	"	
10	20	M	New Brunswick	6 months	"	Oct. 10, 1885	Phosphatic	113	"	Leather shoe-string nuc.
11	67	M	Boston	1½ years	"	Oct. 23, 1885	Uric Acid	150	"	Epidydimitis, etc.
12	47	M	Providence	1 year	"	Nov. 6, 1885	"	80	"	
13	60	M	Boston	1 year	"	Nov. 10, 1885	Phosphatic	140	"	
14	50	M	Boston	2 months	"	Dec. 27, 1885	Uric Acid	23	"	Multiple Calculi
15	75	M	Needham	3 months	"	Feb. 9, 1886	"	19	"	
16	74	M	New Brunswick	9 months	"	Mar. 30, 1886	Phosphatic	34	"	Second Oper. on No. 8
17	70	M	St. Louis	1 or 2 years	"	May 26, 1886	Uric Acid	143	"	
18	48	M	Dakota	2 years	"	Sept. 4, 1886	Phosphatic	68	"	Stricture divulsed
19	53	M	Portsmouth	2½ years	"	Sep. 11, 1886	Uric Acid	225	"	
20	68	M	Brookline	1½ years	"	Sep. 12, 1886	Phosphatic	265	"	
21†	49	M	Medfield	8 years	Sup.-pub. Litho'my	Sep. 15, 1886	....	1180	"	Strict. and false passages
22	53	F	Kingston, N. H.	Several years	Litholapaxy	Sep. 20, 1886	Phosphatic	140	"	
23	60	M	Martha's Vineyard	5 or 6 months	"	Oct. 29, 1886	"	95	"	Prostatotomy done at [same oper.
24	63	M	Boston	5 or 6 months	"	Nov. 9, 1886	"	79	"	

* See Boston Medical and Surgical Journal, Aug. 28th, 1884.

† See Boston Medical and Surgical Journal, Nov. 11th, 1886.

micturition with an occasional sudden stoppage in the full stream, hæmaturia and pain on riding in a wagon. These symptoms had existed for about a year, and Dr. H. E. Marion, of Brighton, had sounded him, and detecting a stone, had sent him to the hospital. The patient was a feeble old man with a weak pulse. An examination of the urine showed nothing beyond alkaline fermentation with purulent sediment. By the kindness of Dr. Bigelow, in whose ward he entered, I operated on January 21st. The stone was small and soft, weighing only ninety-eight grains, and the lithotrite was introduced but twice. On the following day he was very comfortable, was passing urine in good quantity, and had no tenderness or discomfort about the bladder. He had, however, a troublesome cough with profuse purulent expectoration.

January 25th, his cough was worse. Abundant sonorous and sibilant râles were to be heard over both sides of his chest with fine moist râles over the right lower front. There was considerable dyspnœa and his breath was very foul. The urine was almost clear and he had no bladder symptoms whatever.

From this time the condition of his lungs gradually became worse and he finally died on the 30th of January, nine days after the operation. No autopsy was allowed, but clinically it was evident that the fatal issue resulted from bronchitis and secondary pneumonia, and that his bladder was in good condition at the time of his death.

In only one case (No. 11), did any serious symptoms result directly from the operation. This patient was a man of sixty-seven, and infirm for his age. I saw him in October, 1885, in consultation with Dr. J. P. Reynolds, who kindly transferred him to my care.

For one and a half years he had had frequent, painful micturition, with a good deal of pain through the penis, which was greatly aggravated by riding. For the previous eight months he had had frequent attacks of hæmaturia. Otherwise the urine was that of an ordinary cystitis. For a long time he had lived alone, and, eating but little, had gradually acquired the habit of taking a good deal of stimulant, often more than a pint of whiskey in a day.

The sound touched a stone and on October 23d, 1885, I operated by litholapaxy under ether. A hard, uric-acid stone of good size was crushed and removed. At the first use of the evacuator, a sharp, angular fragment caught in the eye of the tube and scratched the urethra considerably in its withdrawal. With this exception the operation went smoothly and at the third pumping, the bladder was found to be empty. On the following day there was a considerable rise of temperature (102.5° F., in the evening), and on the second day after the operation it rose to 104.5° F. At this time no casts could be detected in the urine.

On the fourth day the temperature fell to about 100° F., but on the fifth day it again suddenly rose to 104.6° F., at night, and the patient became delirious and tremulous. On this day an epidydimitis started in the right testicle. On the sixth day, the fever continuing, the urine contained a trace of albumen and a few hyaline, granular and epithelial casts.

It was now found that by increasing the amount of stimulus to about a pint of whiskey a day, the tremulousness and delirium could be controlled. As the epidydimitis subsided, the fever slowly left him and the casts and albumen disappeared from the urine. Convalescence, although tedious, was steady, until he left the Hospital, six weeks from the time of operation.

(To be continued.)

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REPORT ON PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M.D., AND MYLES STANDISH, M.D.

Stilling[1] asserts that no one of the theories of the cause of myopia hitherto formulated has taken firm root. The accommodation theory is now generally disbelieved. There are strong arguments against the convergence theory; Arlt has pointed out that staphyloma is never developed in convergent strabismus; and myopia and staphyloma have developed in eyes which never had binocular vision.

The chief element in the production of myopia is to be sought in the action of the muscles, and especially in that of the superior oblique, which, with the inferior rectus, is in a state of continued contraction during near work. Examination of fifty eyes *in situ* showed that the course and insertion of the superior oblique is extremely variable, and its action, therefore, very inconstant. It may run nearly transversely, or so obliquely as to approach a median direction; may be inserted far from the optic nerve, or send prolongations close up to the nerve or to its outer side. According to these variations, contraction of the muscle either causes compression and dragging, compression or dragging alone, or neither of these effects. These observations awakened the idea that the constant pressure of the muscle in reading and writing during the period of growth of the eye might produce myopia, and that the variations in direction of the staphyloma and in the shape of the disc might be explained by the different insertions of the obliquus tendon. To decide this point a second series of fifty eyes was examined in company with the anatomist Pfitzner, and it was demonstrated that the course and insertion of the obliquus was in close correspondence with the form of the eye and the shape of the disc. Stilling states that it is a mistake to consider the normal eye a quite regular structure; that this is true only of the anterior portion, but behind the ciliary body there are often irregularities of shape.

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[1] Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1881.

Further, a number of myopic eyes were examined. Two of these were of special interest because the refraction during life (M. 5 D.) was known. The only abnormity in these eyes was a slight enlargement of the outer part and a corresponding distortion of the papilla. These eyes were normal, the moderate increase in length was in exact correspondence with the insertion of the obliquus. One was 25 mm., the other 26 mm. long, yet both had the same refraction. This fact led to the measurement of the radius of curve of the cornea in a number of myopic eyes to determine its influence. In the weaker degrees of myopia it was found larger, in the higher degrees smaller. The curve of the cornea, Stilling believes, determines the degree of the myopia.

The ordinary myopia, Stilling concludes, is due to the influence of pressure during growth; but such a myopia is not disease; the eye is not diseased, but only slightly deformed.

It is different with the highest degrees of myopia; there is disease, a hydrophthalmus; yet the eyes are not diseased because they are myopic, but myopic because they are diseased. It is only in such diseased eyes that the widening of the space between the nerve sheaths and the separation of the outer sheath from the sclera is found. The two forms of myopia should be distinctly separated.

In the discussion which followed the reading of Stilling's paper, Cohn, while protesting against the view that the so-called school-myopia was not important as a disease, agreed with the opinion expressed that all the theories of the cause of myopia were unsatisfactory. Against the convergence theory particularly he adduced his recent investigations of watchmakers. He had examined one hundred watchmakers in Freiburg who never used the magnifying lens. These men worked on the finest machinery, pivots, screws of 1–2 mm. diameter, twelve hours daily; their eyes were generally but six inches from their work. Yet in spite of all this, only three of the hundred had during many years' work acquired myopia, and in the three it was only of small degree. The light was indeed excellent, but although converging excessively all day, and beginning at fourteen years of age, an age at which myopia often begins at school, these men had not become myopic. He had also examined a large number of seamstresses who had been occupied for years all day long over the finest embroidery, and found none myopic. Furthermore, it was a matter of common observation that proportionally very few myopic tailors present themselves at the policlinics. It was a probability that he had already suggested, that the close observation of small but fixed objects, as is the habit with watchmakers, is less harmful to the eye than the following of the lines in reading, writing and drawing, with the ocular movements which these occupations necessitate.

MEANS FOR THE PREVENTION OF MYOPIA.

Priestly Smith[2] in an article on "Means for the Prevention of Myopia," enumerates the following essentials for a school desk:

(1) The seat must be of such a height as will allow the scholar's feet to rest flat on the floor or footboard, and broad enough to support the greater part of the thigh.

(2) The seat must have a back placed at such a height as to fit the hollow of the back below the shoulder-blades, and support the body in a vertical position.

(3) The near edge of the desk must be just so high above the seat that when the scholar sits square and upright, with elbows to the sides, the hand and forearm may rest upon the desk without pushing up the shoulder.

(4) As used in writing the desk must have a slope of ten to fifteen degrees (about 1 in 5); as used in reading it must support the book at an angle of about forty-five degrees, and at a distance of at least twelve inches from the eyes — sixteen inches is better.

(5) As used in writing, the edge of the desk must overhang the edge of the seat by an inch or two, in order that the scholar shall not need to stoop forwards, and that the support to the back may be maintained.

(6) Either the desk or the seat, or some part thereof, must be movable at pleasure, so that although the desk usually overhangs the seat, the scholar may be able at any time to stand upright in his place.

(7) The desks and seats must be of various sizes, in order that the foregoing conditions may hold good for scholars of various ages.

DIRECTION OF LYMPH STREAMS IN THE EYE AND THEIR INFLUENCE IN SYMPATHETIC OPHTHALMIA.

Gifford[3] reports the results of forty experiments on rabbits undertaken for the purpose of determining the direction of the lymph streams in the eye. The results obtained were definite and constant.

A small drop of sterilized water containing india-ink or cinnabar in suspension was injected into the vitreous. There was generally little or no reaction, and on the next day or later, the particles could be seen, by the use of the ophthalmoscope, collecting in the optic excavation, and if the animal was killed a day or two after this, the microscopic examination of longitudinal sections of the optic nerve showed the whole course of the central canal marked by a line of the pigment, which passed out of the nerve with the vessels and could be traced toward the rear of the orbit.

Microscopically it could be seen that the granules were contained in the lymph spaces around the vessels, partly free, and partly enclosed in connective tissue, corpuscles and the occasional leucocytes. Besides the granules along the main trunks, they were also present along all the smaller branches which radiate into the choroid and, farther back, into the periphery of the nerve. When the pigment was introduced near the posterior pole of the eye, it was discharged very promptly. The farther forward the injections were made, the longer the time required for the powder to reach the papilla, and the smaller the proportion of free granules. Outside the optic nerve the pigment kept close to the sheaths of the vessels and was traced to the posterior end of the orbit; here in all probability it entered the cranial cavity through the sphenoidal fissure. A small quantity of anthrax culture was injected into the posterior portion of the vitreous, and on the following day an exudation could be seen filling up the optic excavation and often concealing the papilla. The bacilli followed precisely the same channels as those into which the granules were carried, except that they did not enter the finest channels. As they multiplied wherever they were carried, they were found in considerable numbers in the orbit. From here, as will be shown in what follows, they were carried down into the intervaginal space of both nerves. These experiments were repeated on cats, dogs, and guinea-pigs, and, ophthalmoscopically, the accumulation of granules on the papilla was observed in these cases as in the experiments upon rabbits.

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[2] Ophthalmic Review, June, 1886.
[3] Archives of Ophthalmology, 1886, p. 153.

In regard to the lymph stream in the intervaginal space, our author's experiments were entirely confirmatory of Quincke's in 1872. The latter trephined the skull and injected cinnabar in suspension into the subdural space of rabbits and dogs: he found that the powder, besides reaching the spinal canal, was invariably carried down in considerable quantities, sometimes within a few hours, between the optic sheaths in both subdural and subarachnoidal spaces to the globes. The greatest quantity was always found next the eyeball. Cinnabar, anthrax bacilli, and blood, brought down in this manner from the cranium to the globe, are severally carried out into the orbit by the posterior vitreous stream. On the other hand, this latter shows not the slightest tendency to pass into the subvaginal space. With regard to the passage into the supra-choroidal space, it was noted in three cases that anthrax bacilli carried down between the sheaths from the brain, could be clearly traced for half a millimetre between the choroid and sclerotic. With regard to the outflow from the vitreous around the lens, our author reserves his experiments for another paper, but states that "the results of the experiments already made, have convinced me, rather against my will, that besides the posterior vitreous stream there is also an anterior stream flowing forward around the lens; as is, of course, generally accepted.

Gifford [4] follows this article by another upon the influence of these lymph streams in the propagation of sympathetic ophthalmia.

Deutschmann, as is well known,[5] by injecting into the vitreous of rabbits the ordinary white and yellow pus-cocci, was able, almost without exception, to obtain well-marked sympathetic neuro-retinitis of the fellow-eye. The time required for its development varied from a few days to three weeks. With the microscope the micrococci could be traced from one eye to the other by the way of the optic nerves, their sheaths, and the chiasma.

Our author failed altogether to obtain an unquestionable inflammation in the fellow-eye in twenty-one cases in which he inoculated the vitreous of rabbits with pure cultures of pathogenic cocci. Staphylococcus pyogenes aureus was used in nine cases; staphylococcus pyogenes albus in eight cases; and streptococcus pyogenes albus in four cases. The inoculated eye invariably underwent a severe inflammation, which generally became chronic and ended in more or less pronounced phthisis. The microscopic examination showed, according to the stage, the vitreous chamber filled with a purulent or semi-caseous exudation, and the layers of the choroid pressed apart by a dense infiltration of round cells; the deep physiological excavation plugged with the same; and the retina, more or less thoroughly disorganized. The lymph spaces around the central vessels of the optic nerve, the orbital tissue below the nerve itself, for a distance of 3-4 mm. back of the eyeball, were all markedly infiltrated with round cells. The orbital tissue and the pial sheath were especially strongly affected in the neighborhood of the exit of the central vessels from the nerve into the orbit.

The difference between Deutschmann's observations and Gifford's, is as follows. Deutschmann describes the micro-organisms as occurring all through the first eye and in both optic nerves and their sheaths, without mentioning any special relation to blood or lymph vessels. In Gifford's cases they were generally limited to the vitreous of the inoculated eye, occurring in greatest numbers in the exudation just before the papilla and just behind the zonula. In no case were they found farther back than the bottom of the physiological excavation. In the infiltration filling the central canal, along the small vessels of the nerve, in the sheaths, subvaginal space, and orbital tissue, he searched for them long and in vain. Why the micrococci are not swept out into these canals and spaces, as it has been shown in the previous paper, particles of india-ink and cinnabar are, depends, in all probability, on the choking of the lymph vessels with leucocytes, which was a marked feature of all these cases.

Convinced by these experiments that with the rabbits obtainable at Erlangen and Zurich, it was practically impossible to produce sympathetic ophthalmia with a fungus that excited a quick and strong reaction, and equally convinced by experiments with amorphous powders that a micro-organism capable of living in the lymph without exciting too intense an inflammation, must of necessity be carried around from one eye to the other, our author found such an organism in the bacillus of anthrax. This bacillus Gifford succeeded in tracing from the vitreous of one eye around to the perichoroidal space of the other, although the course was completed in but three out of twenty-five cases, owing to the rapidity with which the animals die when the subconjunctival tissue is inoculated, and in making injections into the vitreous, it is exceedingly difficult to avoid such inoculation.

We must now consider how far these results can be used in explaining the phenomena of sympathetic ophthalmia in man. First, with regard to the lymph stream from the vitreous, our author assumes that a condition occurring in animals so widely separated as cats and rabbits, also exists in man, there being no anatomical peculiarities to make it unlikely. This also holds good of the stream in the intervaginal space. When, however, we come to the passage from the latter into the space around the choroid, we have the well-known fact that the supra-choroidal space can be injected from the intervaginal space with ease; the papilla and retina, on the contrary, with difficulty or not at all. With regard to the clinical history of these cases, the most difficult point to explain is why we have no cranial nor orbital symptoms in sympathetic ophthalmia if the micro-organisms pass through these cavities on the way to the second eye. Our author's explanation is that there undoubtedly is a slight lymphangitis in the orbit and meningitis at the anterior part of the base of the brain, but that the lymph stream generally keeps the micro-organisms from collecting in sufficient numbers to do serious mischief at these points, and he reminds us that certain pathogenic bacteria, as pus-cocci, pass from one part of the body to another, producing merely a slight lymphangitis on the way, and causing no severe inflammation until they accumulate, as, for instance, in the lymphatic glands.

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[4] Archives of Ophth., 1886, p. 280.
[5] See Journal, Vol., xiii, p. 176.

The fact that in so many of these experiments the posterior lymph channels were quickly closed against the passage of micrococci, Gifford thinks explains the non-occurrence of sympathetic trouble in many cases where the primary inflammation in the first eye is violent. Leber and Deutschmann have sought the explanation of this non-occurrence after panophthalmitis, in the supposed destruction of the fungi by the violence of the suppuration and in the emptying of the infectious contents when the eye bursts.

INNERVATION OF PUPIL AND CILIARY MUSCLE.

Mr. Jessop [5] has brought forward arguments to show that the fifth nerve is concerned in some of the functions of the pupillary and ciliary muscles. The pupil not only contracts when the ciliary muscle does so, but also dilates when the latter relaxes; the latter act, Mr. Jessop states, is carried out through the intermediation of the long ciliary nerves from the nasal branch of the fifth. The ordinary light-reflex of the pupil takes place through the agency of the third nerve; and the cervical sympathetic, as the inhibitory nerve, causes the dilatation of the pupil. In mammals the two chief motor functions of the pupil are thus separated; whereas in birds, possessing voluntary control over the irides, this is not so, for the cervical sympathetic has no control over the pupil, the nerve causing dilatation being the fifth. Mr. Jessop draws a clear distinction between the modes of action of cocaine, eserine, and atropine on the neuro-muscular intra-ocular apparatus. The first of these agents acts on the terminations of the cervical sympathetic in the iris, and probably of the fifth in the ciliary muscle; whilst the action of the other two drugs is on the muscular tissue directly. Hence it is that, even after section of all the nerves going to the intra-ocular muscles, atropine and eserine can cause further dilatation or relaxation, and contraction, respectively.

NEURO-RETINITIS IN BRIGHT'S DISEASE.

C. S. Bull [6] in an article upon exudative neuro-retinitis associated with chronic Bright's disease, says that the period of duration of the disease, when the eyes were examined, as indicated by the occurrence of the symptoms, was very difficult to determine. Of the 103 cases observed, in 56 cases, or more than 50 per cent., it was entirely unknown. In 47 cases, or somewhat less than 50 per cent., it varied from six months to several years. The sex of the patients was nearly evenly divided, 56 being men and 47 being women. The vision ranged from $\frac{20}{20}$ to zero. It was improved in 32 cases, or about 31.5 per cent., but this was mainly due to improvement in the renal disease and in the general health, for, as the disease in the kidneys reasserted itself and the general health failed, fresh exudation, or hæmorrhages, or both occurred in the retina, and vision again deteriorated. Uræmic amblyopia or transient attacks of more or less complete blindness in one or both eyes occurred in 37 cases, but in all these cases there was retinitis or neuro-retinitis. Both eyes were affected either at the time of the first examination or subsequently in ninety-three cases. Both optic nerve and retina were inflamed in both in about 25 per cent. of the cases. In 34 cases there were no hæmorrhages. In 30 of these 34 cases there was hypertrophy of the left side of the heart, while among the 69 cases in which hæmorrhages occurred there were five in which there was no cardiac disease demonstrable. The retinal hæmorrhages were associated with a diseased condition of the bloodvessels.

Bull examined these cases with special reference to the duration of life, and was impressed very strongly with the extremely unfavorable prognosis to be made, and with the comparatively short lease of life which these patients still possess. Of the 103 patients examined, extending over a period of thirteen years and six months, 86 have died and 17 are still living. Of the 86 who have died, 57 died within the first year; 18 within the second year; six within the third year; four within the fourth year; and one within the sixth year. Of the 57 who died within the first year, 30 died within six months. Of the 17 patients who are still living, 14 were seen for the first time within the last six months, and in all but one of these fourteen the renal disease had probably lasted a long time. Two of those still living were first seen within the past year, and one of the seventeen was first seen seven years ago and has been examined at intervals since.

PARALYSIS OF INTRA-OCULAR MUSCLES AFTER DIPHTHERIA.

Remak [7] writes as the results of the observation of 100 cases of post-diphtheritic paralysis of the intra-ocular muscles that the amount of the paralysis varied greatly. In some cases it was so light as only to bring to the surface a certain amount of latent hypermetropia, and in some it required +4.00 d. to enable the patient to read small test letters at ten or twelve inches. He divides his cases into three classes: severe, requiring from +3.00 d. to +4.00 d. to read with, as above; medium, requiring +1.50 d. to +3.00 d.; and light, needing less than +1.50 d. Dividing his cases as above, he classifies 24 cases as severe, 16 cases as light, and the remaining 60 cases as of medium severity. He states that severe paralysis sometimes follows a very mild attack of diphtheria, and that the converse is also true.

In these 100 cases there was not a single case of optic neuritis.

— The recent death of Lady Wilson brings to the Royal College of Surgeons, $1,000,000.

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[5] Lancet, June, 1886, p. 123.

[6] New York Med. Jour., Vol. xliv, p. 119.

[7] Centralblatt f. prakt. Augenheilk.

Clinical Memorandum.

SPONTANEOUS FRACTURE OF STONE IN THE BLADDER.[1]

BY F. S. WATSON, M.D.

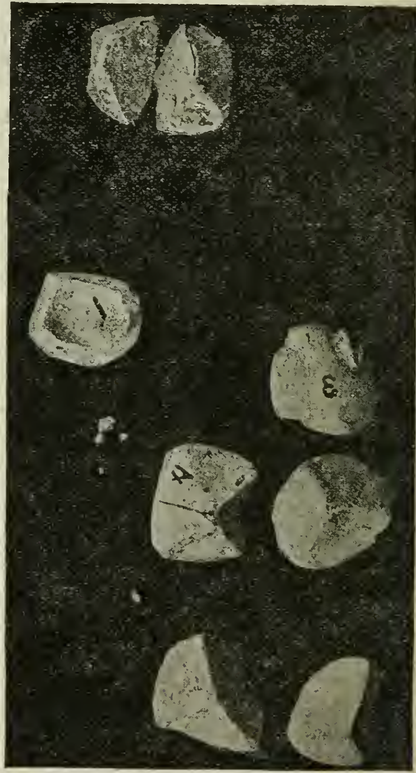
These fragments of stone were taken from the bladder of a patient of eighty years of age, after death, who, for some years previous, had been the unconscious subject of hypertrophy of the prostate until ten days before his admission to the City Hospital, when he had an attack of retention of urine, following exposure to wet and cold. He was relieved by catheterization, and had no further trouble until the day before his entrance to the hospital. He then had another attack of retention; a catheter failed to pass into the bladder, and a false passage was made in the prostatic urethra in the attempts to introduce it. He applied at the hospital for relief, and after some difficulty, owing to marked obstruction in the prostatic urethra, a silver catheter was introduced and allowed to remain in the bladder, through which was gradually drawn off a large quantity of bloody alkaline urine. Shortly after this the patient developed urinary fever, and died in a week.

At the autopsy, the bladder was found to be thickened and trabeculated, the prostate hypertrophied, both centrally and laterally. Behind the greatly enlarged third lobe, was a deep *bas fond*, formed by the bulging downward of the floor of the bladder, in the bottom of which lay the fragments of stone herewith shown. The mucous membrane of the bladder was the seat of a hæmorrhagic cystitis, and in places, also of a diphtheritic membrane. The pelves of the kidneys, and the organs themselves were occupied by an acute inflammatory process.

The pieces of stone had peculiar characteristics, which at once attracted attention, and suggested, in the absence of a sufficient mechanical force from without, that their fragmentation was the result of spontaneous fracture. As cases of this sort are rare, I have thought it worth while to show this one as an example.

The weight of the whole mass was one hundred and sixty grains, and it is composed almost wholly of uric acid. Much of the stone consists of bits having no clearly-defined form, and of sand; the rest of fifty-six pieces, varying in size from a quarter to a whole good-sized pea. Eight of the latter are represented in the accompanying photograph (enlarged three diameters), and fall, as to shape, into two groups, the first having the appearance of parts of an outer shell, or surface of a sphere, which has been cracked off, and present a convex and a concave surface, as in the specimen marked 1. The remaining fifty-two fragments show for the most part a smooth, convex back, projecting forward from which is a two, three, four, or many-sided body. The surfaces of these sides show a great similarity, and some of them can be made to very nearly fit into each other, and evidently would do so quite exactly in some instances, had not their angles and edges become somewhat rounded from having received a deposit upon them subsequent to their having separated. Four, however, were found which had fresh surfaces, showing a more recent splitting apart, which fitted each other in pairs precisely (one pair is numbered 2 in the accompanying photograph). The segmentation in this case seems to have taken place in two ways: by clefts radiating from the centre, and by the separation of the outer crust or layer from the one below it. These processes are indicated in the bits numbered 3 and 4.

The introduction of a silver catheter was the only force which could have acted upon the stone in this case from without, and this would have in all probability been insufficient to accomplish its disintegration; and, moreover, we have evidence in the rounded angles of most of the fragments that they must have lain in the bladder for a longer time than sixteen days, which was the time from the first introduction of the catheter to the patient's death. In view, therefore, of this fact, and of the forms of the fragments, which show, I think, conclusively, that the fragments originally belonged to one or more stones, we are justified in assuming that they represent the spontaneous rupture of stone in the bladder.



The only references to this subject which I have found in the writings upon stone are those of Bouloumié (*Union Med., Par.*, 1877, 3d S., xxiii., 25); William Ord (*Trans. Path. Soc., London*, 1876–1877, xxviii., 170); Von Thaden (*Arch. für Klin. Chir., Berlin*, 1865, vi., 202).

The first narrates the case of the spontaneous fracture and passage of a number of fragments from a stone which had been recognized to be of considerable size by the sound, but as its disintegration was assisted by a lithotrite, the case is unsatisfactory.

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[1] Reported at the Society for Medical Improvement, Boston, November 22, 1886.

William Ord showed the fragments of a stone passed spontaneously by a man of eighty-three years. The fragments were segments of a sphere or spheres, having a central cavity. The stones were of uric acid, coated with neutral urates. The author attributes the fracture to a sudden expansion of the central nucleus. No instruments had been used, and no force exerted from without.

Von Thaden describes the spontaneous passage of one hundred and eighty fragments of stone from a patient eighty years of age. They were of uric acid and the triple phosphates, and were chiefly in two forms: shells with concave and convex surfaces, and rounded segments, whose convexities approximately fitted into the concavities of the shells. No instruments had been used. The author also notices the following cases:

Specimen 1945, Walterischen Museum's; nine wedge-shaped bits removed from a patient of fifty years, which could be so adapted to each other as to form one symmetrical stone, weighing 3½℥.

Walther (*Med. Chir. Schatz Leipzig*, 1715), twelve fragments which had spontaneously fractured in the bladder, which could also be so placed together that, their surfaces fitting, made one stone. No force had been used to cause its fracture.

Crosse speaks of several cases, amongst which was one in which the stone was extracted whole, and subsequently fell in pieces.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

November 22d, 1886. The President, Dr. F. W. Draper, in the chair.

SPONTANEOUS FRACTURE OF STONE IN THE BLADDER.

Dr. F. S. Watson reported the case and showed specimens and a photograph.[1]

Dr. A. T. Cabot inquired if these were fragments of one or several stones.

Dr. Watson stated his impression that there were more than one, his reason being that the fragments were so much alike in size.

Dr. Cabot remarked upon the short radii of the different curved surfaces. He thought that small stones had been ground together.

Dr. E. S. Wood said that the color suggested urates or phosphates; but that chemical examination of some of these specimens of Dr. Watson's, which had been referred to him, showed them to be nearly pure uric acid. Uric-acid calculi are among the more friable ones.

Dr. J. B. Ayer reported

A CASE OF CHRONIC INTERSTITIAL NEPHRITIS.

Patient, fifty-one years old, colored, came to Boston at an early age. His father died of some urinary trouble, and his brother of chronic Bright's disease. He consulted Dr. Ayer for dizziness nine months ago, when the urine, examined merely as a matter of routine, was found to contain albumen, estimated at three-fourths of one per cent. Numerous specimens since examined have been estimated to contain from one-half to three-fourths of one per cent. Up to a month ago, when he gave up business, the average specific gravity of these specimens has been 1015, and the average amount of urine two or three pints. During the past month the specific gravity has averaged 1011 and the amount has steadily diminished. Three days before death, when little fluid was taken, the amount was ℥xxii.

When first seen, twenty-three grammes of urea were voided in twenty-four hours, somewhat less than two-thirds the normal amount, but this quantity was quickly diminished to eighteen grammes.

On the fifth, fourth and third days before death the average urea in the urine was eight grammes, less than one-quarter the normal.

As a rule no casts were found — the few which were seen were hyaline or granular.

Palpitation, although the heart was much enlarged, was not a troublesome symptom. On one occasion only was a mitral souffle detected. Nausea was quite constant, although vomiting rarely occurred. Milk diet at times was very repulsive. Subcutaneous œdema was absent. His prominent symptoms were increasing muscular weakness and mental worry.

While active there was only one occasion, at a concert, when he came near loss of consciousness.

When his mind was not occupied he was constantly directing his attention to himself, and by night he was sometimes bewildered, toward the end of his life, but while attending to his duties the mind was clear, and when not fatigued he did not seem ill. Œdema of the lungs and coma were present during the last forty-eight hours of life.

Dr. E. G. Cutler, who showed the specimens, said that the chief interest lay in the kidneys. They were estimated to weigh five, and four and a half ounces respectively. The capsules were quite adherent and numerous small cysts were found scattered over the uneven surface. The color was dark, mixed with yellow. On section the kidneys were dense, the cortex was ill-defined and its malpighian bodies and tubules not easily seen. The color was mottled yellowish red; there was great injection. A microscopic examination showed an increase of interstitial tissue, a thickening of the capsule in many of the malpighian bodies, certain capsules sclerosed, many tubules denuded of their epithelium and dilated and tortuous. Here and there casts, both granular and hyaline in the convoluted tubules — hyaline casts in the looped tubules, and a thickening of the arterial tunics. The capillaries were large and filled with blood.

The heart weighed over two pounds and was of good color and consistence, the enlargement being wholly in the left ventricle. There was no disease of the valves.

Dr. M. H. Richardson reported a case of

SPERMATORRHŒA.

The patient has ejaculations on the slightest provocation, the touch of a razor to the face being enough to cause one. He also complains of ejaculation during defecation. A specimen of the fluid lost during this act had been secured and was shown to the meeting. It proved to contain spermatozoa. Before seeing Dr. Richardson, cold sounds had been used for three years, and deep injections, both without effect. The patient asks to have the prostatic urethra cauterized, and Dr. Richardson is inclined to make use of this treatment.

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[1] For Dr. Watson's report see page 524.

Dr. Watson said that he thought that physicians underrated the frequency and importance of true spermatorrhœa, which was generally treated as existing chiefly in the imagination of the patient, the thick, gummy discharge, of which they complained as occurring at the end of urination or during defecation, not being examined microscopically. If this be done, a certain number of specimens will be found to contain spermatozoa, generally dead, owing to having been passed back into the bladder and lain for some time in the urine. The mental depression, and hypochondriasis associated with this condition as well as a train of symptoms too long to enumerate here, that are generally observed in this malady are very marked, and constitute its most difficult feature in treatment. The actual local condition, which consists in hyperæmia, and disturbed innervation, are generally greatly improved by large cold steel sounds, or the hollow sound rendered cold by a current of water, and deep injections of nitrate of silver, never stronger than five grains to the ounce, and preferably one or two grains to the ounce. Dr. Watson did not believe in cauterizing the prostatic urethra in these cases, a practice originating with Lallemand, and thought that it might eventuate in stricture.

Dr. Arthur T. Cabot read a paper entitled

NOTES ON THE TREATMENT OF STONE IN THE BLADDER, WITH CASES.[2]

Dr. Watson said that he thought none of us, whether we have made a special study of stone in the bladder, or only viewed it with the interest attaching to any of the great chapters of surgery, can fail to be much interested in, and to learn something from Dr. Cabot's paper. He is, moreover, to be congratulated upon the results of treatment in this series of cases.

As the author of the communication has pointed out, the question of the treatment of stone has of late become focused upon two operative procedures (with the exception of the cases occurring in children) the litholapaxy of Professor Bigelow, and the high cut above the symphysis pubis, as improved by Petersen. In regard to the former nothing need be added to what Dr. Cabot has said in his paper. With respect to the latter, we cannot yet say if other improvements may not place it on an equal footing with its brilliant and already successful competitor. One of these would be the discovery of some way of so entering the bladder wound as to secure a union by first intention, which would materially shorten the course of convalescence, and abate the dangers arising from the presence of urine in the wound. There have already been several successful results of bladder suture, but they are not yet sufficient in number, to warrant the hope that primary union will be the rule. It must be remembered, in comparing the statistics of litholapaxy with those of the high cut, that until recently only cases which were deemed unsuited to or impossible by the former operation, were reserved for the latter. Nevertheless the disparity between the mortality of twenty per cent. in the supra-pubic operation and three per cent. in litholapaxy, is too great to be wholly accounted for on this ground, and until the numbers shall become more equalized, we do not need to be accused of local prejudice in giving preference to litholapaxy when it can be done.

The speaker was glad that Dr. Cabot had pointed out the importance of the habitual and systematic use of the catheter in the after-treatment of stone which occurs in connection with hypertrophied prostate, a fact not much dwelt upon in writings on the subject. The residual urine behind the dam made by the prostate in such cases, forms a pond in which sediment very readily forms, and may lead to the early recurrence of stone.

There is also one point in regard to the formation of phosphatic stone, of which the author did not speak, and which, though not of frequent occurrence, has some importance. He referred to those cases in which the phosphatic formation is not due primarily to decomposition and alkalinity of the urine in the bladder, but to the condition known as phosphaturia, in which the urine, as it is excreted by the kidney, is already neutral or alkaline, and the amorphous phosphates are precipitated sometimes before they reach the bladder.

In this condition the phosphates are either found in excess, or as is more generally the case, are precipitated by the absence of a sufficient quantity of acid phosphate of sodium to hold them in solution. Clinically, the condition is easily recognized by the fact that the amorphous phosphates appear at the end of urination as a distinct milky-white discharge, often passed with some pain and vesical tenesmus, and by the fact that the alkalinity of the urine is due, not to a volatile ammonia, but to a fixed alkali. The last distinction can be easily made by heating the urine in a test-tube, having previously stretched a bit of test paper across its mouth. If the alkalinity be due to ammonia, the paper will show the characteristic reaction, if to a fixed alkali, it will not. Recognition of this condition is important, with respect to treatment. In phosphaturia, one would not expect to remove the cause of the trouble by local treatment of the bladder, but should direct his efforts to overcoming the alkalinity of the urine in the kidney. This may be accomplished in some cases by supplying the wanting acid, in giving dilute phosphoric acid, from ten to fifteen drops thrice daily, in a half-glass of soda water.

In conclusion, Dr. Watson wished to say a word about the use of cocaine in stone operations. Where, for any reason, it is undesirable to give ether, this drug may be employed with advantage, and a litholapaxy be performed, which could not otherwise have been done without encountering the risks of etherization on the one hand, or inflicting great pain on the other. He had operated upon one patient in this way about a year ago, with entire absence of pain, the operation lasting half an hour. It is quite safe to use a ten per cent. solution in the bladder, owing to the fact that absorption does not go on readily from its coats, and an ounce or two may be introduced into an empty bladder, and repeated if the operation be prolonged.

Dr. J. W. Elliot said that stone in the female bladder is commonly formed upon the stitches put in for the cure of a vesico-vaginal fistula, or upon foreign bodies introduced by hysterical patients. Treatment is by dilating the urethra, crushing, and drawing out the pieces; by cutting into the base of the bladder through the vagina; or by litholapaxy.

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[2] See page 518.

Drawing the crushed stone through the dilated urethra, formerly the common operation, sometimes causes great laceration. Opening the base of the bladder is a simple operation and has been done many times with success. Litholapaxy, done with the modification of Dr. Cabot, may often be the better way. Dr. Cabot had in conversation, suggested to him what he had to-night shown upon the blackboard, and he had made practical use of the suggestion in an operation. With the patient unetherized, he could not elevate the handle of the lithotrite enough without causing pain, and he could not crush the stone. But on etherizing and then holding the handle vertically, as Dr. Cabot had proposed, the stone fell into the instrument; and this happened every time that it was tried.

Dr. H. L. Burrell said that he had been very much interested in Dr. Cabot's admirable paper. His own experience in litholapaxy had been limited to four cases, but had been rather an eventful one. The first case had rather a protracted convalescence, the second recovered promptly. The third case was that of a feeble man, aged seventy-six, who for a number of years had been living a "catheter life" owing to an enlarged prostate. Had at times hermaturia with pain in the end of the penis, urine clear and cloudy by turns, at one examination albumen and granular casts were found. A stone was found, and under ether a No. 2 lithotrite was introduced and the stone was crushed. Two hundred and twenty grains of detritus were evacuated; the lithotrite was again introduced and more fragments of stone were crushed; on reintroducing the evacuating tube (straight), a slight obstruction was felt, it was withdrawn, and several attempts were made to repass the tube into the bladder; this was thought to have been accomplished when the evacuator was attached, but it was found that the rubber bulb would not expand. An explanation was sought, and on introducing the finger into the rectum the tube was found resting in the tissues between the bladder and rectum. A rupture of the urethra had occurred. The evacuating tube could not be passed into the bladder, hence a median perineal cystotomy was performed, much difficulty being experienced in entering the bladder; the fragments which remained were partially evacuated and the patient was returned to bed. He never rallied from the shock and died some six hours later. In reviewing the case the operator remembered distinctly a slight grating hitch on removing the lithotrite the second time, and doubtless a sharp fragment of stone was drawn from the bladder into the membranous urethra, where it rested until the evacuating tube was reintroduced. This pressed the sharp fragment backward, tearing the floor of the urethra, and on again passing forward the evacuating tube, it engaged in this false passage. When the cystotomy was performed, a fragment of stone was found between the urethra and rectum which would support the above explanation. Dr. Burrell said that he spoke of the case to emphasize one of the dangers of litholapaxy, that of drawing fragments by the lithotrite or tube into the urethra, where they might do irreparable damage.

The fourth case that he had operated upon was remarkable for the size of the stone and the length of time consumed in removing it. The patient was a healthy farmer, aged thirty-five, from Nova Scotia, who had suffered from symptoms of stone for three years. He was an ideal patient to stand a prolonged operative procedure, being thin and very muscular. The stone was crushed with some difficulty, as the lithotrite kept getting clogged. The operation lasted five hours and a quarter and the quantity of calculous material was 3,360 grains before being dried, and 2,400 grains after drying. The convalescence was uninterrupted except that an abscess formed over the sacrum from the prolonged pressure on the operating table. Dr. Burrell thought that this was one of the largest stones that had ever been crushed and successfully removed. In three weeks the patient returned to his home, completely well.

Dr. Cabot said that the case was one of triumph for litholapaxy. Mr. Keagan has reported crushing a stone of 2,800 grains, a little larger than Dr. Burrells.

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THIRD ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION,

NOVEMBER 16, 17, 18.

DISCUSSION ON SHOT-WOUNDS OF THE INTESTINES.

NOVEMBER 16.

The discussion was opened by a paper by **Dr. Wm. S. Tremaine**, of Buffalo, in which he quoted from various standard surgical works, and then remarked that but a faint light was thrown on the subject by the highest authorities. Among the circumstances which were to be taken into consideration in dealing with abdominal gun-shot wounds, were the calibre of the ball, the proximity of the weapon, and the direction of the entrance and exit of the missile. Among the symptoms of perforation of the intestines were prolonged shock, tympanites, severe pain, anxiety, and restlessness. Escape of blood from the anus, which the late Professor Gross regarded as of special significance, rarely occurred, but, when present, was of much diagnostic value.

He recommended laparotomy in wounds of the abdomen for the purpose of diagnosis, first, because the intestines might be injured; second, because, in nine cases out of ten, it was required for the removal of effused blood, which it was dangerous to allow to remain; third, because the abdominal section added but a very slight element of danger; and fourth, because by this means assurance could be given to the patient in many cases that the intestines were not wounded. Where there was positive evidence that the intestines were implicated, there was no question of the propriety of laparotomy.

The operation had been successfully performed in America in three cases, in which there was intestinal perforation, two of them belonging to Dr. W. T. Bull, of New York, and the other to Dr. John B. Hamilton, of Washington. As to the time when laparotomy should be done, he thought it should be undertaken as soon as possible after the receipt of the injury, first, because the immediate shock paralyzed peristaltic action, and thus tended to prevent extravasation of fæces for a time; and, second, because delay increased the dangers of peritonitis. In consequence of the desirability of early operative interference, he advised, therefore, that physicians throughout the country should familiarize themselves with the procedure by practising upon animals, so that they would be prepared to operate in cases of emergency.

In speaking of the technique, Dr. Tremaine particularly recommended the suture of Lembert, which was also advocated by the speakers who followed him. When the operation was completed, it was essential that a clean cavity should be left.

The first question,

WHAT ARE THE DIAGNOSTIC SIGNS OF THE INVOLVEMENT OF THE INTESTINES IN SHOT-WOUNDS OF THE ABDOMEN?

was discussed by **Dr. Joseph D. Bryant**, of New York. He said that there were two classes of symptoms: one referable to the abdomen itself, and one to the constitutional effects of the injury. In studying the local evidences of trouble, the surgeon would investigate the wound of the abdominal wall, the direction of the missile, the character of the discharges, and the presence or absence of emphysema of the borders of the wound, or in the neighboring connective tissue. If the direction of the ball indicated that the peritoneal cavity was penetrated, the presumption was that the intestines were wounded. Still, there were cases on record in which the cavity had been penetrated, and yet the intestines remained uninjured.

If the bleeding points in the abdominal wall would not account for the amount of hæmorrhage present in any case, it was altogether likely that the intestines were perforated. The same was true if there was bloody urine. Of course, the escape of the intestinal contents was proof positive of perforation, but this was rarely met with soon after the injury. Emphysema was not very frequently seen, but when present, it was almost invariably due to the escape of gas from the intestines. Early emphysema of the abdominal wall had been regarded as a positive sign of intestinal perforation, but while this is true, as a general rule, he had personally met with two instances in which the emphysema was caused by the suction of the abdominal muscles. If decomposition were present, emphysema might also occur without rupture of the intestines, but this was apt to be met with only quite late.

Having referred to pain, tympanites, bloody stools, and retention as significant signs, he went on to speak of hepatic resonance. While this was almost pathognomonic, it was to be borne in mind that it might possibly be due to other causes. Thus, it might result from the transverse colon getting between the liver and the abdominal wall, or from the tilting of the liver out of its normal position. There might be shock and nausea and vomiting, hiccough usually following the latter. If there was severe shock from the first, it usually indicated intestinal perforation and hæmorrhage. Extreme thirst, restlessness, anxiety, and subnormal rectal temperature were all corroborative signs of perforation. There were, indeed, but very few positive early indications of the condition, but loss of hepatic dulness, unless previously modified by change of position, or abnormal processes in the liver, was undoubtedly one of the most valuable.

WHAT SHOULD BE THE FIRST MEASURES OF TREATMENT IN SHOT-WOUNDS OF THE ABDOMEN INVOLVING THE INTESTINES?

was to have been discussed by **Dr. E. M. Moore, Jr.**, but he was not able to be present. It was taken up, however, by some of the other speakers.

Dr. W. T. Bull, of New York, spoke on the third question,

UNDER WHAT CIRCUMSTANCES, AND HOW SOON AFTER THE INJURY SHOULD LAPAROTOMY BE RESORTED TO IN CASES OF SHOT-WOUNDS OF THE INTESTINES, AND WHEN IS THE OPERATION CONTRAINDICATED?

He said that laparotomy was in general indicated, in the first place, for diagnosis. Many cases presented but few of the characteristic symptoms of perforation. Again, a bullet which had entered the peritoneal cavity was much more apt to have injured the gut than not. As to the time when laparotomy should be performed, he thought it should be done as soon as the immediate shock of the injury and of the removal of the patient were past. Delay only invited the onset of septicæmia, and he did not think it advisable to wait for the appearance of symptoms. Exploratory laparotomy was not without good effect even in non-penetrating wounds.

Since the year 1877 he had seen eight cases of penetrating shot-wounds of the abdomen, at the Chambers Street Hospital, New York. Five of these were treated on the expectant plan, and all proved fatal. In the other three cases laparotomy was resorted to, with the result of two recoveries and one death. In the first of the successful ones which had been reported in full in 1884, seven wounds of the intestines were sutured. The second occurred in August, 1886, and had recently been reported by Dr. Bull, at a meeting of the New York Surgical Society. The patient was twenty-five years of age, and the operation was performed two hours after the receipt of the injury. Three wounds of the intestines were sutured, and two wounds of the mesocolon were not sutured but rubbed thoroughly with iodoform. One of the appendices epiploicæ, of good size, which was found torn and bleeding at its extremity, was tied at its base with catgut and cut off. The external wound did not heal entirely for eight weeks, as there was sloughing of the peritoneum along the line of sutures, and protrusion of a portion of intestine which firmly adhered to the parieties. The edges of the wound were held together with two "relaxation sutures" of silver wire, and compression was made on the intestine with a small pad of iodoform gauze and wool. By means of these the gut was pushed back from day to day, while the edges were being drawn together and the lower part of the wound was filling with granulations. The man was now perfectly well and pursuing his usual avocations.

The third and unsuccessful case was operated on November 6, 1886, and had not as yet been reported. The wound was made by a forty-four calibre ball. The incision was made in the median line, and four perforations of the intestines were sutured. The operation lasted one and three-quarters hours, and death, which was probably due to the shock from the laparotomy, occurred eight hours afterward.

Dr. Bull explained that none of these three cases presented any positive proof of perforation of the intestines before the abdomen was opened. Yet the lesions found in the last one, as well as in the others, indicated operative interference. Having briefly referred to the five fatal cases treated on the expectant plan, he went on to speak of the contra-indications for laparotomy. It was to be borne in mind, he said, that in many instances the solid organs, such as the liver, spleen, and kidneys — though the latter did not present so serious a complication as the others — were wounded as well as the intestines; and he doubted the ability of the surgeon to cope successfully with such cases. Uncomplicated wounds of the intestines were not, in his experience, accompanied by profound shock; and profound shock was, therefore, a decided contra-indication. The exposure and handling of the viscera were not devoid of danger. Peritonitis was not in his opinion necessarily a contra-indication.

As to what should be the first measures of treatment, he advised that the bullet wound should first of all be explored; except in cases where it was situated posteriorly, with no wound in front. In general, the two rules which he would offer for guidance were: (1) Assure yourself by exploration that the abdominal cavity has been entered. (2) Proceed to repair the injury.

Dr. Theodore R. Varich, of Jersey City, said that when there were present shock with gradually increasing exhaustion, sinking temperature, dulness on percussion of the dependent parts of the abdomen, and tympanites of the anterior portions, immediate laparotomy was demanded. The day of expectancy was past, and he thought that the surgeon should give his patient the chance offered by operation, however small it might be, as against the otherwise certain prospect of death.

Dr. Charles B. Nancrede, of Philadelphia, said that laparotomy should always be performed except when certain contra-indications were present. Among the indications referred to were the vomiting of blood or passage of blood per anum, the rapid accumulation of fluids in the abdomen, etc. As to the time for the operation, he thought it should be done just as soon as the patient's condition would warrant the performance of a long operation attended with shock, and the proper assistants and surroundings could be secured. When much hæmorrhage was probably taking place, however, it should be done earlier than otherwise.

Among the contra-indications were profound shock, unless this was due to hæmorrhage. He thought that by no means every physician was competent to perform laparotomy, and that as a rule, cases would do better if left to nature than if operated on by an incompetent surgeon. Experience was a prerequisite in this procedure; and, if possible, only one pair of hands should be allowed to enter the abdominal cavity. Acute peritonitis or wounds of other organs besides the intestines he thought might prove contra-indications.

The fourth question,

WHAT ARE THE ESSENTIAL FEATURES OF THE TECHNIQUE OF LAPAROTOMY, INCLUDING THE MANAGEMENT OF THE WOUNDED INTESTINE?

was discussed by Dr. John B. Hamilton, of Washington. By way of preliminary he said that he thought the first thing to do in small pistol wounds was to use the probe; the instrument which he preferred being the flexible spiral probe of Nelaton. If the cavity of the abdomen was found to be penetrated laparotomy was indicated. Even if there were great shock exploratory laparotomy was indicated, as this was probably due to the wounding of a vessel, nerve or ganglion.

As to the technique of laparotomy in cases of this kind it did not differ from that of ordinary laparotomy, except as regards the treatment of the intestines. Strict antiseptic precautions should be employed, and towels wrung out of hot water should be laid on the abdomen. On opening the cavity a careful inspection should be made for bleeding vessels; and no abrasion should be left untouched. The intestines should be drawn up loop by loop by the fingers, and allowed to remain, a towel wrung out with hot bichloride solution; another towel being placed over them. It was necessary to reduce pouting mucous membrane. He used the Lambert suture, and preferred catgut for the purpose. The incision, he said in conclusion, should be closed as in other cases of laparotomy, after the cavity had been thoroughly cleansed.

The fifth question,

WHAT ARE THE BEST METHODS OF AFTER-TREATMENT IN CASES OF SHOT-WOUNDS REQUIRING LAPAROTOMY AND SUTURE OF THE INTESTINES?

was discussed by Dr. Nancrede.

Dr. Charles T. Parkes went rapidly over all the various points of the discussion. He said that if the abdominal cavity was penetrated, it might be considered certain that the intestines were perforated, and the surgeon should be deterred only on the strongest grounds from operating. Deep-seated emphysematous crackling he considers a valuable sign of perforation, when present. In discussing the second question he said that the first thing to do was to ascertain whether the wound entered the abdominal cavity; and he spoke particularly of the dangers associated with removal of the patient. As to the third question, under what circumstances laparotomy should be performed, he said, under all circumstances, unless the patient seemed likely to die during the operation. Complications of other organs were also contra-indications. As to the time for the operation, it should be performed just as soon as the surgeon's preparations could be made for it.

In the methods of procedure, he said, we should be guided by the same rules as in all grave surgical injuries. If perforation was present, there was no contra-indication to operating; and it was impossible to say whether a case was likely to be a fatal one or not until after exploratory laparotomy had been performed. In speaking of the technique of the operation he said that the median line was the only one for incision, and that he considered this a very important point. The first incision should be free, and the cavity having been opened, all bleeding vessels should be secured. Then all the small incisions should be drawn up through the incision, and wrapped in warm towels. Wounds in the large intestines and other viscera should be looked for. The whole of the small intestines should be passed through the fingers and carefully examined. In speaking of the treatment of intestinal perforations, he said that he thought Lembert's suture the best, and that a double row of sutures was entirely unnecessary. He employed a small round needle either straight or curved, and the material which he used for sutures was pure silk. Total resection of the gut was sometimes necessary. Finally, the abdomen should be closed in the ordinary way; care being always taken to avoid ventral hernia.

In the after-treatment, Dr. Parkes said, it was necessary that the patient should have complete rest.

Opium was required in sufficient quantities to secure this; and rectal alimentation was sometimes of service. If the temperature ran high, cold external applications were to be used; but if it did not rise above 101°, there was no necessity for interference.

OFFICERS ELECTED.

President, Dr. Isaac E. Taylor, of New York. *Vice-Presidents*, 1st District, Dr. Dodge, of Rouse's Point; 2d District, Dr. Sherer, of Waterford; 3d District, Dr. G. W. Avery, of Norwich; 4th District, Dr. Colvin, of Clyde. *Secretary*, Dr. E. D. Ferguson, of Troy. *Treasurer*, Dr. J. H. Hustin, of New York. *Director of the Library*, Dr. J. W. S. Gouley, of New York.

Time of meeting next year, Second Tuesday in October.

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Recent Literature.

Insanity and its Treatment. Lectures on the Treatment, Medical and Legal, of Insane Patients. By G. Fielding Blandford, M.D., Oxon, etc. Third edition. Together with "Types of Insanity," an Illustrated Guide in the Physical Diagnosis of Mental Disease, by Allan McLean Hamilton, M.D. pp. 379. New York: William Wood & Co. 1886.

These productions together form a volume of Wood's Library of Standard Medical Authors. The third edition of Blandford's lectures, of which the bulk of the book is composed, diminishes in no essential respect its prestige as a practical manual for instruction. Its merits are simplicity of method, clearness of expression, brevity and compactness of matter and an even treatment of the various parts. The amount of space devoted to each subject is subordinated to its importance and value in practice, no impartiality being shown in this respect to any favorite line of inquiry. The classification followed is sufficiently accurate, and especially useful for purposes of instruction. Considering the purpose of the book there is little fault to be found with its completeness and scientific accuracy if we except the author's failure to accord any notice to paranoia or any of the recently established forms of primary insanity. Exception will also be taken by some to the writer's views as to "moral insanity" although they still have strong supporters. He also continues to hold chloral in high favor as a hypnotic in insanity, in spite of the decided and general belief to the contrary among alienists. Otherwise, the lectures are brought well up to date and may be said to remain in the van of English works on insanity designed for students and the general medical reader.

Hamilton's "Types of Insanity" a monograph of about fifty pages completes the volume. The presence of the illustrations is not easy to account for on the grounds of usefulness, and we must confess to an inability to rightly name by the likenesses several of the "types" represented in the plates. To us they illustrate only the futility of attempting to classify forms of insanity by the facial expression. The text, however, is a useful addition in a medico-legal way, a graphic description of the general appearance of an insane patient being not unfrequently the most effective part of expert evidence. A serviceable abstract of the laws of the various States on the commitment of the insane, also by Dr. Hamilton, is appended.

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Medical and Surgical Journal.

THURSDAY, DECEMBER 2, 1886.

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BRAIN SURGERY AGAIN.

Nearly two years ago, we dwelt at considerable length in these columns[1] upon an operation for the removal of a tumor in the motor cortex of the brain, performed by Mr. Godlee, of London. As our readers may remember, the patient was in a fair way to recover when he succumbed to a secondary meningitis. Although a failure, the promise of that and other more successful operations incited other surgeons to similar operations with greater precautions and with better results, so that now brain surgery seems likely to become as well recognized a branch of the surgeon's art, within its limitations, as abdominal surgery. The existence of brain surgery, however, necessarily had to be secondary to the study of the localization of cerebral disease. It is needless now to say that, with the exception of the centres for speech, there is no fact in cerebral localization more firmly established than the existence of the various motor centres in the cortex of the central convolutions of the brain. The experiments of Ferrier, Fritsch, Hitzig, and others upon animals, in the sixteen years since they were first published, have been confirmed in regard to man by scores of autopsies.

Since the many experiments on animals have shown that the cranial cavity can be opened without fatal results, the old operation of trephining for epilepsy, which had fallen into abeyance, has been revived. Dr. C. F. MacDonald reports[2] two cases of trephining for traumatic epilepsy, in both of which there was a depression of the skull; these recovered, and some months later there had been no return of the fits. The mental impairment had become quite marked, and, although there was a gain in self-control, the dementia, of course, was not cured. As both these patients were criminals, the cases are suggestive to those who believe that crime is but one manifestation of mental disease.

Others, however, have trephined in cases of cerebral disease without visible depression, or even injury, being guided by the results of the topical diagnosis of the lesion. Mr. W. B. Mackay reports two cases of this sort:[3] one of right hemiplegia and aphasia from suppurating periostitis, where he trephined and found pus, but in this the patient died; the other a case of paralysis of the right leg, with exaggerated patellar reflex, due to a blow on the skull. In this case the patient recovered, and had good use of the leg. The most brilliant results, however, are those reported to the British Medical Association this summer by Mr. Victor Horsley.[4] In four cases of monoplegia, with epileptiform attacks beginning in the paralyzed limb, where the trouble was due to a tumor, or to some old cicatrix involving the meninges and the cortex of the brain, he has localized the seat of the trouble, trephined over it, cut out the cicatrix or tumor, with the portion of healthy cortex surrounding it: in every case the patient has recovered, and, although still paralytic, has remained free from the attacks. Furthermore, he suggests the propriety of excising the epileptogenous focus in cases of idiopathic epilepsy, where the discharge begins in some definite centre. We must refer to Mr. Horsley's paper for the details of his method of operation; we know not whether to admire most his exactness in localization or his skill in operation.

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[1] Vol. CXII., 41, 67.

[2] "Report of Two Successful Cases of Trephining for Traumatic Epilepsy." Journal of Nervous and Mental Disease, August, 1886.

Considering the experimental data upon which cerebral localization is based, and noting Mr. Horsley's assertion: "I am one of those who do not consider it justifiable to try an experiment on man before I have found it to be harmless in the lower animals," and also his statement as to the information such experiments gave him in judging as to healthy and diseased parts of the living brain, it would seem as if the anti-vivisectionists ought to be convinced that experiments on living animals did some good. We will venture to say that Mr. Horsley's patients believe so. There is no process of reasoning, however, that could convince the poor woman who was peddling her tracts the other day about our streets, that our houses are not honeycombed, and our best citizens are not poisoned by the agents of the Czar of Russia; and all the results obtained from vivisection, from the days of Democritus, of Abdera, to the days of Mr. Horsley's operation, would fail to convince a class of self-styled philanthropists of which the editor of the *London Spectator* and Miss Frances Power Cobbe are types, that the slightest benefit could ever accrue to humanity from experimentation on living animals.

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ARE ALL VENEREAL PATIENTS LIARS?

Physicians who like to be epigrammatic even at the expense of exact truth sometimes say that one of the first symptoms of syphilis is an unusual readiness in lying, and it seems to be a very wide-spread belief that it is impossible for a patient afflicted with venereal disease to tell the truth.

Whenever any difficulty arises in reconciling the statement of the patient with the physician's theory of the lesions presented, it is very easy to settle the matter by saying that venereal patients are never to be believed.

It is very certain that very great temptations to deceive are sometimes presented to this class of patients and that some of them go to absurd lengths of mendacity in their desire to conceal the cause of their troubles, but the question arises whether physicians do not carry their unbelief to an extent even more absurd. In our desire to escape imposition do we not refuse credence to patients who would be granted ready belief in other matters? Do we not require of venereal patients more accurate pathology and more careful observation than of others? In weighing the words of the patient do we give full force to the many things which may deceive the doctor?

One cannot rashly accuse of intentional dishonesty the man who so incriminates himself that he has no motive left for concealment, nor the man whose word the doctor is in the habit of accepting in the business affairs of life, nor the doctor who comes as a patient to consult as to his own case which he cannot understand. Anomalies constantly occur which do not conform with our preconceived ideas, consequently we too easily believe the patient's story to be untrue.

It is not without interest and instruction to notice some of the things that tend to make a diagnosis without the history difficult if not impossible. The initial lesion of syphilis may be counterfeited in many ways: Among other ways, a recurring induration may show itself months afterwards at the site it originally occupied, but from which it had disappeared. An ulcerating gumma may approach the initial sore most closely in appearance. Cornil mentions a series of mucous patches, existing simultaneously with a secondary eruption, which had an indurated base so that it was impossible to recognize them from primary sores without reference to the concomitant lesions on other parts of the body. Any of these appearances seen for the first time might puzzle the physician in his attempt to properly connect the lesion and the history.

Various non-syphilitic lesions may be referred by the physicians to a contagion which the patient denies. Mauriac describes an idiopathic induration of the glans, and also what he terms anthracoïde of the glans, either of which might suggest a primary sore. Greenough gives the history of an herpetic ulceration that from its position at the edge of the prepuce became inflamed and indurated in such a fashion that a specialist if he had seen it without knowing the history would certainly have called it an initial lesion of syphilis.

The inability of patients to tell when they had syphilis, or whether they ever had it at all, is taken as an evidence of the total depravity which attends the disease. The ease with which the disease may remain undiscovered by the bearer of it is hardly credible until one has had experience with it. Its peculiarity of painlessness in its early manifestations, outside of the neuralgic pains which are often wanting, renders it a not infrequent occurrence that the eruptions are first discovered by the doctor when consulted for some other trouble. Such patients are perfectly frank in remembering a gonorrhœa simply because it is more painful, requires more care to avoid exposure, and really occasions more discomfort. It is not infrequent that a gonorrhœa masks the symptoms of an accompanying syphilis, for the patient refers the slight sore and the glands in the groin to the already existing urethritis, and he is always positive in his assertions that he has never had syphilis, and it is very true that he has never had anything that he has known as syphilis.

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[3] "Trephining over the Motor Areas of the Brain." Edinburgh Medical Journal, July, 1886.

[4] "Brain Surgery." British Medical Journal, October 9, 1886.

The many non-venereal ways in which syphilis may be communicated and the frequency of such an occurrence account for many of the irregular histories with which patients regale us. There is another possibility to be considered also in some of the anomalous cases in which patients deny antecedents; late hereditary syphilis is assuming an importance never dreamed of until quite recently, and it is by no means impossible that heredity may account for late symptoms in some of the cases of unexplained origin.

Some of the most apparently shocking departures from the truth are committed in reference to gonorrhœa. The ease with which an urethra damaged by a previous inflammation will again take on inflammation is not always appreciated; the non-specific inflammations of the urethra we know little about, and the same is true of the cases of mediate contagion. Otis has established the fact so far as human testimony can establish it that the oft ridiculed infection from a water-closet may occur. One case occurred in the person of a physician who voluntarily went to Otis to narrate the fact. Of course the inference must always be against the claim of such an occurrence but its possibility cannot be denied.

The object of these remarks is by no means to induce physicians to give credence to every absurd story that is told them but rather to influence them to look upon the stories of venereal patients with the same judicial consideration with which they would regard the histories of other patients: not to favor indiscriminate credulity but to counteract a tendency to indiscriminate incredulity.

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MIND-READING AND MUSCLE-READING.

During the past week the public has been treated to numerous accounts of how "his Imperial Majesty, Alexander the Third, Czar of all the Russias," has been astonished at the marvellous power of mind-reading possessed by Mr. Washington Irving Bishop, who is now with us. From a circular, we learn that nearly all the crowned heads of Europe have likewise succumbed and have become earnest believers, and now the lesser American lights are to be treated to an exhibition of the marvellous. As preliminary to Mr. Bishop's great public exhibition and his "farewell reception *extraordinaire*," a private performance was given at a hotel last week, to which a number of people were invited.

In thinking of this preliminary entertainment, one knows not at first whether to laugh or to be angry — to laugh at the credulity of human nature in general, and the facile manner in which even the most skeptical are manipulated and exhibited, in spite of themselves, as advertisements for Mr. Bishop and his subsequent exhibition, or to become angry at the masterly impudence of the performer in palming off an exhibition of so shallow a character as one of true mind-reading. There certainly is a humorous side to the matter, which even the most disappointed can enjoy. It is fortunate for Mr. Bishop that he comes at a time when "thought transference" has become the subject of true scientific investigation, and as such, is occupying the attention of those interested in that class of subjects. In consequence of this, he has found a number, who, from real scientific interest, were ready to meet him and witness his experiments, in the hope that he might have something which would throw some light on this question. That this last might be the case many were led to believe from the public statements, assertions, and boasts which Mr. Bishop, with considerable adroitness, has caused to be distributed through the daily press and by circulars.

We were led to believe, for example, that in the final and culminating experiment, the "mind-reader" would drive through the streets blindfolded, and attached only by a slack wire to the wrist of his conductor. Without any other assistance or communication, the public was led to believe that Mr. Bishop would find a hidden object. Judge then of the surprise of the audience at seeing the modern Jason, after getting into the carriage, deliberately place the hand of one of the committee on the back of his (Bishop's) head and take the hand of another in his own, and in this attitude slowly drive off. The further history of the wire is lost with that of the owl. Whether or not Mr. Bishop continued to remain blindfolded after leaving the Vendome, no one but Mr. Bishop himself knows. We can however, say, that during nearly the whole drive, he was in contact with one of his conductors, and after he entered the house where the article was hidden he held the hand of one with the persistence of a drowning man clutching a straw. It may not be superfluous to add, that before leaving the hotel, Mr. Bishop took the unnecessary and not-advertized precaution to localize the general situation of the house on a map, perhaps that he might not get lost in our new park; and further, Mr. Bishop did not follow the route which was in the mind of the committee, though it was the said mind he claimed to be reading. The other experiments were all performed in the same way. The advertised conditions under which they were performed were about equally fulfilled.

It is hardly worth while to discuss the fallacy of the experiments as tests of the power of thought-reading. To medical men they are obvious enough. If Mr. Bishop had performed a single experiment without being in contact with his subject, there might be some reason to suppose he possessed the power of mind-reading. Or even granting the necessity, for some unexplained reason, of touching the subject; if "mind-readers" when searching for hidden objects would hold the subject's hand but sit still, and give up the peripatetic habit of wandering round the room, or streets of the city, in such intimate company with the subject, something like evidence of mind-reading would be shown. Or if they would read the numbers of bank notes or anything else without a black-board or pencil and paper, or other such accessories, their experiments would be worth serious consideration. Under these conditions we could even forgive the clap-trap methods employed to impress audiences and the atmosphere of charlatanism with which they usually surround themselves. But, unfortunately, we fear that no one understands the childishness of these performances, so far as concerns thought-reading, better than the "mind-reader" himself. As exhibitions of the high degree to which muscle-reading can be developed, Mr. Bishop's performances are interesting. But we venture to say that muscle-reading is not as difficult as is generally taken for granted. We have reason to believe, that, with a little practice, nine persons out of ten could do most of the things performed by "mind-readers," even if not with the same facility as a professional with many years' practice. The Society for Psychical Research has invited Mr. Bishop to appear before it, and give genuine proofs of "mind-reading." It is understood that he has accepted. We trust that their waiting will not be a long and weary one.

MEDICAL NOTES.

— Dr. J. Solis Cohen has noticed a peculiar perversion of the temperature sense of the tongue and oral cavity, caused by strong solutions of cocaine. While still capable of appreciating heat, the patient cannot recognize cold, and iced water seems of blood heat, or even warmer.

BOSTON.

— The late Dr. Luther Parks, whose death was recently reported from Pau, France, was at one time editor of this Journal. For the last twenty years he had resided abroad.

— The following circular was posted on the closed doors of many of the drug stores in Boston, Sunday, the 28th inst: To the Members of the Boston Druggists' Association — Gentlemen: At a meeting of the Boston Druggists' Association, held at the Revere House, Tuesday evening, November 23, a committee with full powers was appointed to take into consideration the recent action of the Boston Police Commissioners in closing drug stores on the Lord's day, and to make such recommendations as they thought best. In the performance of this duty, the Committee met at the Revere House on the 24th, and respectfully submits the following statement and recommendations:

In the first place, your Committee cannot see why the retail druggists should be among the first selected for the enforcement of the Sunday law. It is well known that the barbers were ordered to close their shops because a majority of them had petitioned for the enforcement of the law. It is hard to understand why the greatest law breakers are not noticed in this Sunday enforcement act, particularly those that have no claim whatever to works of necessity or charity, but do Sunday work simply because it can be done more cheaply. We refer more particularly to railroad companies, who lay tracks, build bridges, advertise excursions, run trains day and night; livery stable keepers, whose business is largely for pleasure; telegraph and telephone companies, who make repairs because they can be done more convenient than on week days; newspaper companies, who print, sell, and distribute their largest editions on Sunday; milk peddlers, and others.

We are well aware that it is no excuse for one violater of the law to quote another, but we have a right to expect that the strong arm of the Boston police would first grapple with the most flagrant violaters of the law, rather than with those that administer to the wants of the poor and sick. We can say with truth and sincerity that no class of men would be more delighted to close their places of business on Sunday, or shorten their hours of work on week days, than the druggists; and that there are no more law-abiding citizens, as the records of the courts will show. We believe it unwise on the part of the Police Commissioners to select the druggists of Boston on whom to enforce a law that has been obsolete for half a century, and especially when it was not attempted in any other part of the State.

If people will not call physicians on Sunday, and doctors will not visit or prescribe for their patients; if accidents will not happen; if children are not born; if people never forget to obtain their medicines on Saturday; if no one dies on the Sabbath; and if the poor will pay doctors to provide all the medicines they desire, then the Sunday law can be enforced to the letter (so far as relates to the drug trade).

The Police Commissioners are not the law-makers, and cannot grant any privileges, or define what kind of business may be carried on, or what goods may be sold, but must enforce the law in full, or not at all; therefore, there is no safety or propriety in doing any business on the Lord's day. If the wants of the public can be met within the six days' limit, as in other trades or professions, no one will be better pleased than the retail druggists. This is for the public to determine, and we must await their decision, which, in a matter of this importance, will not be long in coming.

In view of these facts, we recommend that druggists close their stores, and do no business whatever on the Lord's day.

Per order of Committee,
BOSTON DRUGGISTS' ASSOCIATION.

NEW YORK.

— A new medical charity has been organized in the northeastern part of the city to be known as the Yorkville Dispensary and Hospital for Women and Children. A number of physicians living in the neighborhood are among its trustees, and articles of incorporation have been secured for it.

— The anniversary exercises of the Brooklyn Home for Consumptives were held in the church corner of Clinton and Pierrepont Streets, on the evening of November 22d, when Gen. A. C. Barnes presided, and the occasion was made as attractive as possible by addresses by the Rev. Henry Ward Beecher and ex-Mayor Seth Low, by vocal and instrumental music, and by an original poem written for the occasion by Will Carleton.

— The Thirty-Fourth Annual Meeting of the Children's Aid Society was held November 23d, when the President, Mr. William A. Booth, who has held the position for twenty-five years, was again re-elected. It was reported that for the Sick Children's Mission last winter $1,096 was spent. The Flower Mission distributed 115,000 bouquets, 3,000 cuttings, and 150 growing plants. The Summer Home, at Bath, Long Island, entertained during the season, 4,432 children. The Sanitarian at Coney Island, although much pressed for funds, took care of 1,018 infants and 635 mothers, and gave a day's entertainment to 2,648 additional mothers and children.

— The Association for the Advancement of Physical Culture held its second annual meeting at the Adelphi Academy, Brooklyn, November 26th. The President, Dr. Edward Hitchcock, read a paper on "The Need of Anthropometry in Physical Training," and a number of other papers were read and discussed. The German system of training teachers, now employed at the Milwaukee Normal School was also explained; after which there were exhibitions of gymnastics by a class from the Turnvereins of New York and Brooklyn, a class of ladies from the Brooklyn Normal School for Physical Training, and a class of boys from the Adelphi Academy. Dr. Hitchcock was again elected President.

— The first meeting of the Guild of St. Luke in this county was held at Calvary Church, November 19th. The charter has been received from the parent Guild, which was organized in England in 1864, and now maintains a hospital and efficient ambulance service in London. Its members are made up of clergymen of the Church of England, and students and practitioners who are communicants of the Church. The officers of the American Guild are, Provost, W. Thornton Parker, M.D., of Newport, R. I.; Vice-Provost, George H. Cleveland, M.D., of Pent Water, Mich.; Warden, Rev. George J. Magill, of Newport, R.I.; Treasurer, Rev. W. F. Morrison, Chaplain United States Navy. At the meeting of the Council, composed of these officers it was voted to appoint a medical missionary to be under the charge of the Bishop of Shanghai, China, and that the Provost should be empowered to appoint a corresponding secretary in every medical college in the United States. At the public meeting addresses were made by Bishop Quintard, of Tennessee, and the Provost, Dr. Parker.

— The Society of the Alumni of the University of Pennsylvania was organized at a subscription dinner given at Delmonico's, November 23d. Dr. Meredith Clymer presided, and the Provost of the University, Dr. William Pepper, Prof. Joseph Leidy, of the Medical Department, Prof. G. E. Bispham, of the Law Department, and Judge Henry Reid came on from Philadelphia expressly for the occasion. The speech of the evening was made by Dr. Pepper, who sketched the growth of the University for the past twenty-five years. Six new departments had been added, four within the last six years, and all are in active and successful operation. Twenty-five years ago there was barely 500 students, and of these 300 were in the Medical Department, which then had a non-graded course of two years' duration. At the present time there were 1,100 students, of which 400 were in the Medical Department. The standard of education had been greatly advanced in all the departments, and especially the medical, in which the examinations were made more rigid and the entire course more extended. The teaching force had been increased 25 to 146, and the literary productions of the institutions had increased in an even greater proportion. The last annual report gave a list of publications of the different Faculties, embracing 74 authors and 641 titles, including a considerable number of large and important works. The cramped accommodations of former days had been exchanged for spacious and elegant ones, and the buildings erected within the past fifteen years had cost upward of $1,000,000. The officers of the New York Society elected were, *President*, E. R. Robinson, Esq.; *Secretary*, Dr. E. C. Vidal; *Executive Committee*, Drs. Meredith Clymer, Alexander B. Mott and C. C. Lee, the Rev. Arthur Ritchie, and Col. Wm. McMichael.

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Miscellany.

THE CAUSE OF CIRCULAR GASTRIC ULCER.

DR. SILBERMANN, of Breslau, has, we learn from the *Lancet*, lately made some experiments on dogs for the purpose of showing that the kind of anæmia characterized by deficiency of hæmoglobin in the red corpuscles of the blood is peculiarly favorable to the production and maintenance of circular ulcers of the stomach. Hæmoglobinæmia was produced by injection of various substances, and then either chromate of lead was introduced into a small gastric artery, or a ligature was applied to it, or the internal surface of the stomach was abraded by means of an œsophageal sound carrying a guarded point. All these animals were found to have contracted gastric ulcers, and it appeared to make no difference whether the hæmoglobinæmia was produced before or after the stomach was injured. With the microscope it was found that a number of the red corpuscles were of a very pale color, and that the blood was less alkaline than normal, which is explained by the experiments of Preyer, A. Schmidt, and Rollet, who have shown that hæmoglobin is a weak acid. Dr. Silbermann considers that in the anæmia of hæmoglobinæmia all the conditions are present which are required by various theories for the production of gastric ulcer — namely, arterial anæmia (Klebs), venous hyperæmia of the gastric mucosa (Key), venous stasis in the hepatic vessels (Gunsberg), circumscribed hæmorrhages (Virchow), and, lastly, diminished alkalinity of the blood (Leube).

BLOWING UP THE COLON OR THE OPERATOR.

X Roads, Nov. 29th, 1886.

Mr. Editor,—I was much interested in the simple expedient recorded in your recent issue, for blowing up the colon with a tube in the mouth of the operator, the other extremity being inserted in the patient.

In reporting progress let me say that my teacher, Dr. Naso, having occasion to avail himself of this simple expedient at a farm-house ingeniously substituted for the rubber-tube a simple goosequill, the end of which was left protruding. He had no sooner adjusted himself at the orifice of this little tube than the patient sneezed, the result of which was, that instead of blowing up the colon, my teacher was most unexpectedly inflated by it.

It should be added, in justice to a great man, that he immediately recovered himself, and indignantly blew up the bystanders. But ought we not to be more careful?

Very respectfully yours, Tyro.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 20, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,439,039	683	289	23.70	16.35	5.40	11.25	3.15
Philadelphia	971,363	360	145	15.40	14.28	—	8.40	2.80
Brooklyn	690,000	303	109	24.09	14.85	.66	10.56	1.32
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	145	43	9.66	20.00	1.38	4.83	2.76
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	143	50	22.40	16.10	—	11.90	2.10
Cincinnati	325,000	140	70	35.50	7.81	6.39	12.78	8.52
New Orleans	238,000	112	38	17.80	11.57	—	2.67	10.68
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	78	26	11.52	28.16	—	5.12	2.56
Pittsburgh	190,000	92	45	31.61	11.99	15.26	9.81	1.09
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	25	8	24.00	24.00	8.00	8.00	4.00
Charleston	60,145	26	10	15.40	3.85	—	3.85	7.70
Worcester	68,383	16	7	6.25	18.75	—	6.25	—
Lowell	64,051	20	8	20.00	20 00	—	15.00	—
Cambridge	59,660	19	5	21.04	26.30	—	15.78	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	13	3	—	38.45	—	—	—
Lawrence	38,825	7	2	14.28	14.28	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	5	7.14	14.28	—	7.14	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	1	14.28	42.84	—	14.28	—
Holyoke	27,894	7	2	14.28	28.56	—	14.28	—
Chelsea	25,709	6	2	—	16.66	—	—	—
Taunton	23,674	7	1	14.24	42.84	—	—	14.28
Haverhill	21,795	11	4	45.45	9.09	—	36.36	—
Gloucester	21,713	0	0	—	—	—	—	—
Brockton	20,783	5	1	—	20.00	—	—	—
Newton	19,759	4	0	—	—	—	—	—
Malden	16,407	8	3	25.00	12.50	—	12.50	—
Fitchburg	15,375	6	—	50.00	16.66	—	33.33	—
Waltham	14,609	3	1	33.33	—	—	—	—
Newburyport	13,716	6	3	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,276: under five years of age 881: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 475, consumption 353, lung diseases 277, diphtheria and croup 214, diarrhœal diseases 73, measles 68, typhoid fever 51, malarial fever 23, scarlet fever 22, whooping-cough 15, cerebro-spinal meningitis six, erysipelas three. From typhoid fever, Brooklyn 11, Philadelphia nine, New York and Baltimore eight each, Cincinnati four, District of Columbia three, Pittsburgh, Lowell, Cambridge, Lawrence, Haverhill, Malden, Fitchburg and Waltham one each. From malarial fevers, Brooklyn 13, New Orleans four, New York three, Philadelphia two, Baltimore one. From scarlet fever, New York six, Cincinnati four, Philadelphia and Pittsburgh three each, Brooklyn and Baltimore two each, Boston and Nashville one each. From whooping-cough Brooklyn six, New York three, Cincinnati two, Philadelphia, Baltimore, New Orleans and Charleston one each. From cerebro-spinal meningitis, New York five, Cincinnati one. From erysipelas, New York two, Pittsburgh one.

In the 21 cities and greater towns of Massachusetts, with a population of 959,810 (population of the State 1,941,465), the total death-rate for the week was 16.64 against 19.33 and 19.80 for the two preceding weeks.

For the week ending October 23d, in the Swiss towns, there were 21 deaths from consumption, diarrhœal diseases 18, lung diseases 13, whooping-cough six, typhoid fever four, diphtheria and croup two, erysipelas one.

The death-rates were: at Zurich 7.6; Geneva 15.1; Basle 11.8; Berne 20.3.

For the week ending November 6th, in the Swiss towns, there were 28 deaths from consumption, diarrhœal diseases 16, lung diseases 12, diphtheria and croup three, whooping-cough three, typhoid fever two.

The death-rates were at Zurich 19.1; Geneva 13.1; Basle 22.2; Berne 23.5.

The meteorological record for the week ending November 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Nov. 20, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...14	29.727	33.7	38.2	28.6	72.0	58.0	54.0	61.3	N.W.	N.W.	W.	28	28	12	F.	C.	C.	—	—
Monday,.. 15	30.043	40.6	46.0	33.1	74.0	62.0	59.0	65.0	W.	W.	W.	17	19	8	C.	C.	O.	—	—
Tuesday,..16	30 391	35.4	41.3	31.2	51.0	34 0	40.0	41.7	N.W.	N.W.	. .	10	11	0	C.	F.	C.	—	—
Wednes... 17	30.277	39.1	46.2	32.5	56.0	97.0	100.0	84.3	S.	W.	N.W.	3	2	3	O.	R.	O.	—	—
Thursday, 18	29.624	55.9	66.1	36.9	86.0	89.0	53.0	76.0	S.W.	S.W.	W.	31	21	20	O.	R.	C.	—	—
Friday, ...19	29.730	37.4	42.0	35.0	62.0	57.0	54.0	57.7	S. W.	N.W.	W.	16	32	22	F.	C.	C.	—	—
Saturday, .20	29.792	42.0	48.2	33.7	80.0	41.0	47.0	56.0	W.	W.	W.	12	14	6	O.	F.	O.	.19½	0.62
Mean, the Week.	29.941	40.6	48.9	33.3				63.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 20, 1886, TO NOVEMBER 26, 1886.

Irwin, B. J. D., lieutenant colonel and assistant medical purveyor. Relieved from temporary duty in New York City, and of the charge of the medical purveying depot in that city and ordered to San Francisco, Cal., to take charge of the medical purveying depot in that city. S. O. 270, A. G. O., November 19, 1886.

Town, F. L., major and surgeon. Ordered from Fort Clark, Tex., to Post of San Antonio, Tex., to relieve Surgeon J. P. Wright. S. O. 159, Department of Texas, November 15, 1886.

Gibson, Jos. R., major and surgeon. Ordered for duty as post surgeon, Fort Lyon, Col. S. O. 134, Department of Missouri, November 20, 1886.

Powell, J. L., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Supply, Ind. Ter. S. O. 134, Department of Missouri, November 20, 1886.

Walker, Freeman V., first lieutenant and assistant surgeon. Assigned to duty at Fort McIntosh, Tex. S. O. 159, Department of Texas, November 15, 1886.

Clendenin, Paul, first lieutenant and assistant surgeon. Recently appointed. Ordered to report to commanding general Department of Texas for assignment to duty. S. O. 271, A. G. O., November 20, 1886.

Johnson, Henry, captain and medical storekeeper, will in addition to his present duties, assume charge of the medical purveying depot in New York City as acting assistant medical purveyor. S. O. 270, A. G. O., November 19, 1886.

APPOINTMENTS.

Moore, John, lieutenant colonel and assistant medical purveyor. To be surgeon general of the army, November 18, 1886.

Ball, Robert R. To be assistant surgeon with the rank of first lieutenant, November 19, 1886.

PROMOTIONS.

Baily, Joseph C., major and surgeon. To be assistant medical purveyor with the rank of lieutenant colonel, November 18, 1886.

Heizmann, Chas. L., captain and assistant surgeon. To be surgeon with the rank of major, November 18, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 27, 1886.

Law, Homer, L., surgeon. Ordered before the Retiring Board, December 2, 1886.

Lippincott, George C., passed assistant surgeon. Ordered before the Retiring Board, December 6th, 1886.

SOCIETY NOTICES.

Boston Society for Medical Observation. — A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, December 6, 1886. Readers: Dr. J. S. Greene, Dr. J. J. Putnam.
Charles P. Strong, *Secretary.*

Gynæcological Society of Boston.— The next meeting of the Society will be held at the Medical Library Room, No. 19 Boylston Place, on Thursday, December 9th, at 4 o'clock, P.M. Paper: Dr. E. W. Cushing, "The Use of Irrigation in Gynæcology."
H. J. Harriman, *Secretary.*

Massachusetts Medical Society, Suffolk District. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, December 8th, at 7.45 o'clock. Dr. Morton Prince will open the meeting with some remarks upon mind-reading and muscle-reading. Dr. H. C. Haven will present a paper on "A Plea for a more Careful Consideration of the Importance of the Methods and Manner of Infant Feeding."
Albert N. Blodgett, M.D., *Secretary.*
F. I. Knight, M.D., *Chairman.*

GRADUATES OF DARTMOUTH MEDICAL SCHOOL.

The following gentlemen, graduates of the Medical Department of Dartmouth College, received their degrees, Tuesday, Nov. 23d:

Edward Adfer Ballou, Rhode Island; Elmer Ellsworth Barrett, New Hampshire; Frederick Lucien Brigham, Vermont; John Cochrane, M.D., Massachusetts; Frank Edgar Colby, New Hampshire; Eugene Buchanan Dunbar, New Hampshire; Clark Henry Eldridge, B.S., Ohio; James Pringle Elliott, New York; Edward Clayton Frost, Maine; Fred Wells Granger, A.B., Massachusetts; Edward Bangs Hallett, Jr., Massachusetts; Adrian Hazen Hoyt, New Hampshire; Frank Taylor Lougee, New Hampshire; Alexander Daniel McKillop, Massachusetts; Cyrus Truman Meaker, D.D.S., Pennsylvania; William Henry Presby, New Hampshire; Joel Wilson Scudder, Vermont; Maurice Francis Sullivan, Massachusetts; Walter Kendall Wadleigh, New Hampshire. Total, 19.

DEATH.

Died at Plympton, Mass., November 28, 1886, Josiah Sturtevant Hammond, M.D., M.M.S.S., aged seventy-six years.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the American Otological Society, Nineteenth Annual Meeting. Pequot House, New London, Conn., July 20, 1886. Vol. III., Part 5. New Bedford, Mass., 1886.

Fifth Biennial Report of the Kansas State Insane Asylum at Topeka, for the Biennial Period ending June 30, 1886. Kansas Publishing House: T. D. Thacher, Topeka, Kansas, 1886.

Certain Hereditary and Psychical Phenomena in Inebriety. By T. D. Crothers, M.D., Superintendent of Walnut Lodge, Hartford, Conn. St. Louis, 1886. (Reprint.)

Address in State Medicine delivered at the Thirty-Seventh Annual Session of the American Medical Association in St. Louis, May 6, 1886. By John H. Rauch, M.D., of Illinois. (Reprint.)

Transactions of the American Dermatological Association at the Tenth Annual Meeting held at Indian Harbor Hotel, Greenwich, Conn., on the 25th, 26th, and 27th of August, 1886. Official Report of the Proceedings by the Secretary, G. H. Tilden, A.B., M.D. Boston, 1886.

Lecture.

ON THE HYGIENIC LAWS AND SANITARY CONDITIONS OF ANCIENT ROME.[1]

(1) Introduction. (2) Drainage. (3) Aqueducts. (4) Roads. (5) Cemeteries. (6) Cultivation. (7) Centres of Population. (8) Results under the Empire. Physicians. (9) Middle Ages. (10) Modern Discoveries about Malaria. (11) Attempts to Improve. Eucalyptus, etc.

BY PROF. RODOLFO LANCIANI, LL.D.,
Government Director of Archæological Researches at Rome.

After describing in my last lecture the humble origin of Rome, and the simple matter-of-fact causes which led to its foundation on the Palatine Hill; after showing by the evidence of history how wisely the place had been selected from a political and commercial point of view, we must inquire this evening whether the selection was equally happy, as regards the sanitary conditions of the district which surrounded the new town. The argument is full of practical interest, on account of the mighty struggle which we modern Romans have actually entered into against malaria, against a plague which seems to be spreading slowly, but surely; everywhere there is a superabundance of moisture, both in the air and in the land; in other words, which is invading one-fifth, at least, of the inhabited world.

The history of malaria in connection with Rome must be divided into five periods: the pre-historic, the republican, the imperial, the mediæval, and the modern, each one marking a distinct stage in the increase or in the decline of the plague, as well as a change in the means adopted by the inhabitants of the fever-stricken district to protect themselves from the evil.

As regards the pre-historic period, we lack, of course, positive evidence, because, when ancient writers speak of hygienic matters at the time Rome was founded, either they speak at random, or else they saw things as they appeared in their own age. It seems probable that, at that time, all the low-lands surrounding the Alban volcanoes, as, for instance, the Pomptine, the Volscian, and the Latin districts, were comparatively healthy, on account of the purifying action of telluric fires, of sulphuric emanations, and of many kinds of healing mineral springs. In the deadly calm of nature which has succeeded the extinction of the Latin volcanoes, we find it difficult to conceive an idea of the endogenous activity which prevailed at that time. All along the valley of the Roman forum, which valley corresponds to a fissure or rent of the soil between the Palatine and the Quirinal hills, volcanic phenomena continued to appear, even in historical times. The chasm under the north-east spur of the Palatine, into which Marcus Curtius is said to have leaped, seems to have been the crater of a kind of geyser. Near the Janus quadrifrons there were hot sulphur springs, described by Varro (LLV., 32). In the fourth century before Christ, powerful jets of water sprang up suddenly in a street called Justeia or Justeiana. Julius Obsequens speaks of other jets of reddish water, near the Senate Hall, which he compares to blood (*sanguine fluxit*). The district of the Campus Martius is called *campus ignifer* by Livy, *fumans solum* by Valerius Maximus, *τὸ πυρόφερον πεδίον* by Zosimus, on account of volcanic smokes and emanations, which for centuries have been noticed there.

The Campagna must have been even more strongly purified, especially around the slopes of the Alban hills, where hot mineral springs were particularly abundant. At any rate, this is the only way to explain the presence of a thriving, healthy, strong, and very large population in places which, a few centuries later (namely, at the end of traditional, and at the beginning of historical times), are described as pestilential. Autunnæ, Collatia, Corioli, Tellene, Politorium, Crustumerium, and many other centres, so populous in volcanic ages, seem to have been obliterated more by the deleterious effects of the climate, than by the chances of war, and the overpowering supremacy of Rome. In the Volscian district, along the marshy Tyrrhenian coast, there were numberless settlements — Ficana, Lavinium, Ardea, Pyrgi, and so forth. As regards the Pomptine region, Pliny asserts that it was the abode of a dense and thriving population.

It may be a simple coincidence, it may depend upon a mere accident, this fact of the extinction of human life at the precise time in which volcanic life was extinguished in the old Latium, but it is a chance worth scientific investigation. There can no longer be any doubt that malaria invaded the volcanic regions the very minute they ceased to be volcanic.

As regards the site of Rome itself, we can hardly believe the words of Cicero (de Rep., 2, 6), by which he describes it as *in regione pestilenti salubris* — "salubrious in a pestilential region" — although the same observation is made by Livy, who considers it almost a prodigious fact that the town should prove healthy in spite of the pestilent and desert region by which it was surrounded (5, 54–7, 38). They evidently refer to the state of things prevailing in their own age. How is it possible that a hill like the Palatine, only a few feet high, and surrounded on three sides by poisonous marshes, should be exempt from the effects of malaria? The other hills of Rome were not better favored, hygienically speaking; the Cælian and the Aventine suffered from the effluvia of the swamps near the Porta Metronia, the Quirinal and the Pincian likewise from those of the Caprea Palus; in fact, Livy asserts that, before the construction of the Cloaca Maxima, every valley between the seven hills was nothing but a boggy quagmire. These hot-beds of malaria were fed by numberless springs, sometimes above, sometimes under ground, impregnating the whole region with dampness, which is one of the three, and perhaps the most active co-efficient of the plague.

The clearest proof of the virulence of malaria in the first century of the history of Rome is afforded by the large number of altars and shrines dedicated by its early inhabitants to the Goddess of the Fever and other congenial divinities. At the time of Varro, there were not less than three temples of the Fever left standing; one on the Palatine, one in the square of Marius, on the Esquiline, one on the upper end of the Vicus Longus, a street which corresponds to, within certain limits, the modern Via Nazionale. The Esquiline quarter seems to have been the worst of all as regards sanitary conditions; in fact, besides the Fever's temple, there was an altar dedicated to the Evil Eye (Mala Fortuna), and an altar and a small wood dedicated to the Goddess Mefitis. Near the Prætorian camp, and near the modern railway station, I have found, myself, an altar consecrated to

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[1] The third Lecture of a Course delivered before the Lowell Institute, Boston, November, 1886.

Verminus, the God of Microbes. On the top of the Sacra Via, there was a shrine of Orbona, who is considered to be the Goddess of ———; and lastly, in the very centre of the Roman forum, there was an altar sacred to Cloacina, a goddess of typhoid, I suppose.

It appears from the particulars just given, that the primitive inhabitants of Rome, acting as men always do act under such circumstances, when they find themselves exposed to the ravages of an unknown evil, utterly ignorant of its mysterious nature, and of the proper way to fight and to lessen its effect, raised their hands towards their gods, and actually increased their number, and contrived new ones, imploring from Heaven the help which they failed to secure with their own resources. After a lapse of many, many years the request of those simple and energetic men was granted, and their town was made comparatively healthy, not in a supernatural or miraculous manner, but as a just and well-earned compensation for the efforts they had made and for the trouble they had taken to establish a better state of things. Strange to say, after the fall of the empire, when Rome, almost annihilated by the inroads of barbarians, found itself in condition almost worse than the condition of the early age, powerless to accomplish any work of improvement, and exposed again to the full influence of malaria, the inhabitants turned again their eyes towards God, built a chapel near the Vatican in honor of the Madonna della Febbre — our Lady of the Fever — which chapel became one of the most frequented and honored chapels of mediæval Rome.

The principal works of improvement successfully completed in ancient times for the benefit of public health, and for checking malaria may be chronologically described as follows: I. The construction of drains. II. The construction of aqueducts. III. The multiplication and the paving of roads. IV. The right organization of public cemeteries. V. The drainage and cultivation of the Campagna. VI. The organization of medical help.

First, as regards the drains: The plan of the Etruscan engineers employed by the second Tarquinius to organize the drainage of the town, seems to have been to give an outlet to the ponds and swamps and marshes which stretched along the valley between each couple of hills, more than to carry off the sewage in the modern sense of the word. The Cloaca Maxima, *receptaculum omnium purgamentorum urbis*, the main collector, as Livy describes it, has been praised, admired, eulogized by Dionysius 3, 67, Pliny (36, 15) Aurelius Victor (V. Ill. 8), Strabo (V. 3), Dion Cassius (49, 43), and in modern times by Niebuhr and Bunsen. There is no doubt that the work is simply wonderful, an immense sewer, built twenty-five centuries ago, on unstable ground, against enormous practical difficulties, which still answers well its purpose, and is a work to be classed among the greatest triumphs of engineering. But the exactness of an archæologist compels me to say that the Cloaca Maxima, in spite of its name, cannot any more boast of the priority which it has enjoyed for so many centuries in the department of Roman sewers. In walking along the left bank of the Tiber, I had long noticed the mouth of another cloaca a trifle larger than the Maxima, and separated from it by an interval of some three hundred feet. I had heard it called the cloaca of the Circus Maximus, but I was ignorant on whose authority and by what reason such name had been applied. Six years ago, at the bottom of the valley which separated the Palatine from the Cœlian, between the Arch of Constantine and the Church of S. Gregorio at Monte Celio, a cloaca even larger and higher than the Maxima was discovered, three-quarters of a mile from its junction with the Tiber, at the depth of forty feet. The enormous size of its blocks, the beauty and perfection of its masonry, and the wonderful preservation make it compare most advantageously with its rival, the Maxima, to which it is altogether superior as regards length and extent of district drained.

The sewers of ancient Rome answered pretty well their purpose, especially if we take into consideration the remote age in which they were constructed, and the ignorance of the engineers of modern sanitary principles, and of the theory of microbes. Their greatest defects are, first, that they were used at the same time to carry off the sewage and the refuse of the town, and the rain water; second, that this double employment made it necessary to have large openings along the streets, so that the population was permanently brought in contact with the poisonous effluvia of the sewers. Many of these mouths of drains have come down to us, some exceedingly rough and primitive, some more elaborate and cut in marble. The most celebrated, perhaps, is the so-called Bocca della Veritá, a marble disc, five feet in diameter, with the head of the Ocean in alto-rilievo in the centre, through the open mouth of which the rain water would escape. This monument, the scarecrow of children who show an inclination to lie, is preserved in the portico of the church of S. Maria in Cosmedin, near the ancient forum Boarium. The third defect of Roman sewage was that each sewer emptied directly into the Tiber, thus polluting its waters, which were not only used for bathing and swimming purposes, but which were actually drunk.

The best apology for this state of things is to be found in the fact that not only modern Rome itself but many other European capitals, not to speak of provincial towns and villages, were kept until lately in an absolutely identical condition. The improvement in the department of sewers is one of the last, if not the very last achievements of modern science, in connection with hygiene and it is still far from perfection.

The introduction of pure drinkable water into Rome, took place not before the fifth century after its foundation. Sextus Julius Frontinus, a magistrate, who presided over the department of aqueducts, under the Empire of Trajan, begins his "Commentaries" on the subject with the following remarks: "During four hundred and forty-one years the Romans satisfied themselves with the use of such water as they could obtain on the spot, from the Tiber, from wells, or from springs. Some of these springs are still held in great consideration, on account of their supposed healing efficiency. Such are the springs of the Casuœne, of Apollo and of ."

The waters of the Tiber, reaching Rome after a run of 249 miles through clay or alluvial grounds, are certainly not pure or clear; in fact they are saturated with mineral and solid matter. It results from official observations carried on between March, 1871 and February, 1872, that with an average daily efflux of 1,296,000 cubic metres, the river has carried down to the sea, 8,582,333 tons of sand, equal to a volume of 4,114,253 cubic metres. In spite of this, what the ancients assert about the potability of its waters is proved by the fact that, after the destruction of imperial aqueducts, the population of mediæval Rome resorted again to this the only means of quenching its thirst: in fact the desire and the necessity of being near the river, must be considered as the leading cause of the abandonment of the healthy hills, and of the mustering of the population in the Campus Martius. The salubrity of the waters of the Tiber is celebrated by Alessandro Petroni, physician to Gregory XIII, and by Alessandro Bacci, physician to Sixtus V. Clement VII, in the journey to Marseilles, which he undertook in 1553, to celebrate the marriage of his niece, Catherine de Medicis, with the Duke of Orleans, afterwards Henry II, acting on the advice of his physician Corti, brought with him such a quantity of water from the Tiber, as to be sufficient for all the requirements of the journey. The same precaution was taken by Paul III, Farnese, in his wanderings to Loretto, Bologna and Nice.

Fancy what must have been in early Roman times the sanitary conditions of a town, the drains of which, not washed by any influx of water, would communicate from space to space with the public streets by large unprotected openings, and would empty into a river, the polluted waters of which were drunk by the whole population! The first remedy against the evil was adopted in 442 by the building of an aqueduct, which should carry into the city the water of a spring seven and a half miles distant, called aqua Appia, from the name of Appius Claudius Cæcus, the builder of the aqueduct, and of the Appian Way. The first step in the right direction once taken, it was easy to advance boldly. I cannot follow stage by stage the history of Roman aqueducts. I will simply trace a brief and comprehensive sketch of the water-supply of Rome, under the Empire, that is to say, at the period in which it was brought to perfection.

Comparing together the accounts left by Frontinus and Procopius on this subject, with the remains of acqueducts radiating from Rome in every direction, and which form such a characteristic landmark of the Campagna, we gather the following information:

Eighteen springs had been collected and canalyzed by the Romans from distances varying from a minimum of seven and a half miles to a maximum of forty-four. The waters were brought to Rome by means of fourteen aqueducts, the length of which varies from a minimum of eleven miles, to a maximum of fifty-nine. The aggregate length of these fourteen aqueducts amounts to three hundred and fifty-nine and one-third miles: of which three hundred and four miles underground, fifty-five above ground, the channel being carried on the top of really triumphal arcades, at prodigious heights, exceeding sometimes one hundred feet. The quality of the waters was very different. Best of all were considered the Marcia, the Claudia, and the Virgo: worst of all the Anio Vetus and the Alsietina; these two were accordingly employed only for the irrigation of gardens and for washing away the drains; and were drunk only in cases of absolute necessity. As regards the temperature, the Marcia was the coldest, "Marsas nives et frigora ducens Marcia" as Statius sings. It marks 46° Fahrenheit at the spring of S. Lucia. Tacitus relates among the crazy exploits of Nero his attempt to profane the sacred spring by swimming across it from shore to shore. The pollution of the pure icy waters was revenged with a rheumatic fever, which brought the young emperor to the verge of death.

I have been asked many times the question why the Romans have spent such an amount of time, labor and money in building these prodigious channels across mountains and valleys, tunnelling the former and bridging over the latter with tunnels and bridges many miles long; when it would have been so easy and so economical to lay down pipes, following at a moderate depth the undulations of the country. In other words, I have been asked whether the Romans have known or not the use of syphons. To be sure they knew it, in theory and in practice. Well known are the syphons of Pataræ a Aspendas and Pamphilia, of Constantina in Mauretania, and of Lyons in Gaul. The finest and most daring of all is the syphon of Alatri, a town in the Nernici district built by a wealthy citizen, Betilienus Varus, a century and a half before the Christian era, and which was capable of supporting a pressure of ten atmospheres. As regards the main aqueducts supplying Rome with a daily supply of fifty-four million cubic feet of water, it would have been impossible to substitute metal pipes for channels of masonry, because the Romans did not know cast-iron, and no pipe, except of cast-iron, could have supported such enormous pressures. Let us rejoice, at any rate, at this state of things, because had the ancients known the contrivances of modern industry, we should most likely have been deprived of the loveliest sight which our Roman campagna offers.

Before leaving this interesting subject of the water-supply, I must make two more remarks; the first concerns the system so widely followed in our age of damming across the beds of rivers in mountainous regions, in order to create artificial lakes or reservoirs of pure water, from which the supply is derived. The ancients knew and followed this system on a magnificent scale. One of our aqueducts, the Anio Novus drew originally its supply directly from the river Aniene at a place forty miles distant from Rome. It happened that every time the river was swollen by rains, the aqueduct would carry down troubled and undrinkable water, which would fill up the channel with incrustations of carbonate of lime, and choke the minor pipes. To mend the matter, and to obtain a constant influx of pure water, the valley of the Anio was dammed, not once, but three times, across the picturesque gorge or cañon of the Simbruine mountains, between the modern town of Subiaco and the Benedictine abbey of the Sacro Speco, and three artificial lakes were thus obtained, in which the water was purified three times.

The second remark concerns the system employed by the ancients in boring and tunneling the mountains for hydraulic purposes. Two very curious documents have come down to us on this subject in connection, of course, with hydraulic enterprises. The first is the official report of the perforation of a tunnel, to bring down to Bougie, Algeria, (called then Civitas Salditane), the waters of a spring, fourteen miles distant, now called Aïn-Seur. The report, engraved on a marble altar discovered in 1866, near Lambæse, begins with a petition addressed in the year 152 by Varius Clemens, governor of Mauretania to Valerius Etruscus, governor of Numidia. The petition reads as follows: "Varius Clemens greets Valerius Etruscus, and begs him in his own name and in the name of the township of Saldæ to despatch at once the hydraulic engineer of the III legion, Nonius Datus, with orders that he should finish the work, which he seems to have forgotten." The petition was favorably received by the governor and by the engineer, Nonius Datus, who having fulfilled his misson, wrote to the magistrate of Saldæ the following report:

"After leaving my quarters, I met with the brigands on my way, who robbed me even of my clothes and wounded me severely. I succeeded after the encounter in reaching Saldæ, where I was met by the governor, who, after allowing me some rest, took me to the tunnel. There I found everybody sad and despondent, they had given up all hopes that the two opposite sections of the tunnel should meet; because each section had already been excavated beyond the middle of the mountain without effecting the junction. As it always happens in these cases, the fault was attributed to the engineer, as if he had not taken all the precautions to insure the success of the work. What could I have done better? I began by surveying and taking the levels of the mountain: I marked most carefully the axis of the tunnel across the mountain; I drew plans and sections of the whole works, which plans I handed over to Petronius Celer, then governor of Mauretania, and to abound in extra precautions, I summoned the contractor and his workmen, and began the excavation in their presence, with the help of two gangs of experienced veterans, namely, of a detachment of marine-infantry (classicos milites), and of a detachment of Alpine troops (Gæsates). What could I have done more? Well, during the four years I was absent at Lambæse, expecting every day to hear the good tidings of the arrival of the waters at Saldæ, the contractor and the assistant had committed blunder upon blunder; on each advancing section of the tunnel they had diverged from the straight line, each towards his right hand side, and had I waited a little longer before coming, Saldæ would have possessed two tunnels instead of one." Nonius Datus, having discovered the mistake, caused the two diverging arms to be united by a transverse channel; the waters of Aïn-Seur could finally come across the mountain; and their arrival at Saldæ was celebrated with extraordinary rejoicings, in the presence of the governor Varius Clemens and of the engineer.

To come back to my Rome, however, the longest tunnel perforated in its vicinity for the sake of the water-supply is the one of Monte Affliano, between Tivoli and St. Gericomio, 4,950 metres long. Its boring was (by Domitian) intrusted to one of the Imperial contractors, L. Paquedius Festus. A daring and difficult work it was, especially on account of the difficulty of ventilation in a channel only seven feet high, three wide. The contractor, before commencing the perforation, made a vow to a goddess of local worship, named the Bona Dea, to restore her decayed temple on the top of the mountain if the enterprise should succeed. The two opposite sections met most successfully on July 3, 88. The beautiful columns and fragments of statuary discovered by us on the summit of Mount Affliano prove that the vow of L. Paquedins was not what is called the vow of a sailor.

The influence of this magnificent supply of water on the health of the inhabitants of Rome and the Campagna can be easily understood. There was no farm, no country-house, no villa, there was no cluster, however small and insignificant, of rustic population which could not be favored with copious fountains of icy-cold, salubrious water. Villages and towns, such as Ostia, Portus, Gabii, Borillæ, Veii, the ruins of which are scattered to-day in a waterless desert, were, in Roman times, almost overflowed, and their aqueducts can vie in length and magnificence with the main aqueducts of the capital.

As regards public cemeteries — another hot-bed of pestilence — their reform and regulation took place even later than the reform in the supply of water. I speak, of course, of *public* cemeteries for the burial of artisans, of slaves, and of the poorest classes of the population, because people belonging to higher classes usually provided themselves with private tombs, either within the precincts of their villas and farms, or on the border of high roads. It is impossible to conceive an idea of the horrors of a common *carnarium* or foss in the first centuries of Rome. I will give particulars of one only, which occupied a large district on the Esquiline, because these particulars have been discovered by myself, and have not yet been fully disclosed to the general public.

The Esquiline cemetery was divided in two sections: one for the artisans who could afford being buried apart in Columbaria, containing only a given number of cinerary urns; one for the slaves, beggars, prisoners, and so forth, who were thrown in revolting confusion into common pits or fosses. This latter section covered an area 1,000 feet long, 300 deep, and contained many hundred *puticuli* or vaults, 12 feet square, 30 deep, of which I have brought to light and examined about seventy-five. In many cases, the contents of each vault were reduced to a uniform mass of black, viscid, pestilent, unctuous matter; in a few cases the bones could be in a certain measure singled out and identified. You would hardly believe me when I say that men and beasts, bodies and carcasses, and any kind of unmentionable refuse of the town were heaped up in those dens. Fancy what must have been the condition of this hellish district in times of pestilence, when the mouths of the crypts must have been kept wide open the whole day! But there is still something worse. You have certainly heard of the great fortification which protected Rome on the east side, called the Agger, or Embankment of Servius Tullius, from the king who raised it. This fortification, more than one mile long, comprised a ditch or moat one hundred feet wide, thirty deep, with ramparts one hundred feet wide, thirty high, supported and strengthened on the outside by a lofty, battlemented wall. It seems, under the republican rule, and on the occasion of a stupendous mortality — to use the words of Livy — the portion of the huge moat which skirted the cemetery of the Esquiline was filled up with corpses, thrown down as if they were carrion, until the level of the embankment was reached. The discovery of these revolting particulars took place in 1876, under the circumstances which I am going to relate. In building the foundations of a house at the corner of Via Carlo-Alberto and Via Mazzini, the architect, lead into deception by the presence of a solid bed of tufa on the northern half of the building ground, began laying his masonry and filling up the trenches at the uniform depth of twelve feet under the level of the street. All of a sudden, the ground gave way, and one-half of the area was sunk into a chasm thirty feet deep. On careful examination of the circumstances of the catastrophe, it was ascertained that whereas the northern half of the foundations rested on the solid embankment or Agger of Servius Tullius, the southern half had been laid on the site of the ditch, filled up with thousands upon thousands of corpses, which, being brought in contact with the air after twenty centuries, had sunk into dust or nothing, leaving open a huge chasm. According to measurements which I took at the time, this mass of human remains was, at least, one hundred and sixty feet long, one hundred wide, and thirty deep. Giving to each corpse an average space of twenty cubic feet, which is more than sufficient, there were, at least, twenty-four thousand bodies in a comparatively small space.

As if all the evils described were not deemed enough, the town authorities had increased their efficiency by allowing the daily refuse of a population, numbering nearly a million souls, to be heaped up within and around the precincts of this Equiline cemetery. In later times, seven centuries after the foundation of Rome, they endeavored to stop the practice, or at least to regulate it. Decree upon decree was issued on the subject, and a line of stone cippi inscribed with sanitary rules was set up around the edge of the pestiferous ground. I have found three of these police regulations, engraved on square blocks of travertine. Here is the text of one: "C. Sentius, son of Caius, Prætor, by order of the Senate has set up this line of terminal stones, to mark the extent of ground which must be kept absolutely free from dirt and from carcasses and corpses. Here also the burning of corpses is strictly forbidden." Another hand, probably the hand of a man living in the neighborhood and within reach of the effluvia of the place, has written in huge red letters the following entreaty at the foot of the official decree, "Do carry the dirt a little farther; otherwise you will be fined." Couldyou believe that this line of stones, beyond which the refuse of the town could be legally thrown and be allowed to putrify under the burning sun, was only four hundred feet distant from the walls and embankment of Servius Tullius? And would you believe that on the day of the discovery of the above-mentioned stone, June 25th, 1884, I was obliged to relieve each quarter of an hour my gang of workmen, because the smell from that polluted ground (turned up after a putrefaction of twenty centuries) was absolutely offensive and unbearable even for men so hardened to any kind of hardship as my excavators.

The reform in this branch of public hygiene. the suppression of the popular cemetery on the Esquiline, took place only under Augustus, at the suggestion of his enlightened prime minister, C. Cilnius Mæcenas. He obtained from his sovereign and friend the concession of the whole district; buried it under an embankment of pure earth, twenty-five feet high, and a third of a square mile in surface. and on the newly-made ground he laid down his magnificent gardens, the world-known *Horti Maecenatiani*, of which I shall speak at length in one of my next lectures. The event proved to be of such unexpected importance for the improvement of the health of Rome, that Horace himself, the brilliant court poet, thought it worth being sung by his muse:

> Nunc licet Esquiliis habitare salubribus, atque
> Aggere in aprico spatiari, quo modo tristes
> Albis informem spectabant ossibus agrum (Sat. I, 8, 14).

I shall not mention other improvements carried on with the progress of Roman civilization, such as the paving of the streets, the opening of a thick network of roads in the Campagna, the drainage of damp districts, the spreading of suburbs, the careful cultivation of the soil, and so forth; because I shall have occasion to speak of these particulars in my lecture on the Campagna. One subject deserves more attention, because it is little known, the subject of medical attendance either public or private, which attendance is one of the most important factors in the sanitary arrangements of a civilized nation.

(*To be continued.*)

Original Articles.

SPINAL IRRITATION, ITS SYMPTOMS, PATHOLOGY AND TREATMENT.

BY J. LEONARD CORNING, M.D., NEW YORK,
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This affection occurs frequently among both women and men, but its diagnosis is often a matter of some difficulty, owing to the fact that it is sometimes found in conjunction with other affections, as, for example, hysteria and neuralgia. The symptoms, observed in a typical case are, however, so characteristic, that they may reasonably be ascribed to a distinct pathological condition.

Symptoms. Like spinal exhaustion the affection develops gradually in the majority of cases. The first symptoms to appear are vague pains in the dorsal region along the course of the vertebral column. These pains are usually provoked by even slight fatigue, such as that induced by rapid walking or riding. Sometimes the subject complains in the beginning of dull burning sensations between the shoulder blades or at the base of the neck; but whatever the character of the initiatory symptoms may be, the pains in the back become more and more severe in character, and conjointly with these there is almost always marked mental irritability. If at this time an examination be made, certain regions along the course of the vertebral column will be found extremely sensitive to pressure or tapping. A sponge, saturated with hot water, passed along the course of the spinal column, evokes painful sensations; while the wire brush employed in conjunction with the faradic battery, often discloses painful spots, which pressure and the hot sponge fail to reveal. I regard an electrical test of the degree of sensitiveness as of great importance in this and all other forms of obscure spinal affections; indeed, by the employment of this method of investigation, I have frequently succeeded in discovering sensitive areas, which, though exceedingly painful, had failed to reveal themselves upon pressure or percussion. I lay stress upon this point merely because I believe that far too much importance has been ascribed to the results obtainable by digital pressure and percussion. In the more exquisite cases, however, the morbid sensitiveness is so obvious that delicate tests are superfluous. Under these circumstances the friction caused by the clothing is often intolerable, while the passage of the finger along the course of the vertebral column reveals hyperæsthetic areas of the integument, which may be of great extent, or circumscribed in character.

Besides the condition of hyperæsthesia, various paræsthesiæ, such as burning sensations, formication, tingling, and alternating feelings of hot and cold are frequently met with. On the other hand, absolute paralysis and anæsthesia are absent. Disturbances of motility, when they exist, merely consist in a lack of capacity for the performance of operations requiring endurance; — the patient is soon weary, and even moderate use of the muscles is liable to provoke amblitory pains, which, though often intense in character, wander from one portion of the body to another in the most unaccountable manner. Sometimes the subject complains of neuralgiform pains in the face and head, or in the upper or lower extremities; but hardly have these sensations become established, when they gradually, and in some cases suddenly, disappear, only, however, to reappear in the form of vague, visceral, genital or vesical pains. These unstable pains are extremely characteristic, and often give rise to great discomfort and apprehension on the part of the patient, as well as confusion in the diagnosis.

Local spasms are a frequent concomitant of irritable spine. Sometimes they assume the form of fibrillary twitchings, located in single muscles, whereas in another and larger class of cases spasms are widely distributed, involving entire groups of muscles. There is nothing of a violent or epileptoid character in these phenomena; they are usually evanescent in character and disappear under the influence of appropriate treatment. It may readily be conceived that the location of the symptoms exhibited in each case will depend upon whether the functional disturbance is found at the superior, dorsal, or dorso-lumbar portion of the cord.

Thus, if tenderness be found at the cervical portion of the cord, the subject is liable to exhibit vaso-motor disturbances manifesting themselves in sudden blushing and facial pallor upon slight provocation, or in an habitual frigidity of the extremities. Again, if there be hyperæsthesia above the dorsal segments of the vertebral column, digestive and other disturbances are usually present; while should the lumbar portions of the cord be functionally disturbed, vesical derangements, in the form of an increased and frequent desire to urinate give rise to the erroneous supposition that there is paralysis of the sphincter. Should the functional efficiency of the cord be more or less affected throughout its entire extent, the complex of symptoms is greatly amplified — there are palpitations, dyspepsia, spermatorrhœa, vaso-motor disturbances, fibillary twitchings, sleeplessness and great psychical irritability.

Spinal irritation, though a functional affection, is sometimes exceedingly obstinate in character; and even when we succeed in abating or removing the symptoms, they are prone to return. Nevertheless, there is no doubt, that in the vast majority of cases the disease is amenable to treatment, provided the therapeutic measures employed are appropriate, and at the same time rigidly adhered to, even after the symptoms have entirely disappeared.

Pathology. The pathology of spinal irritation is not as satisfactory as might be desired, owing in part to the defective manner in which the few autopsies on record have been conducted, and in part to the extreme difficulty of obtaining post-mortem examinations in this, as in other benignant nervous affections. Some writers entertain the belief that the symptoms are wholly attributable to hyperæmia of the cord, while other observers are equally convinced that anæmia is the true source of the phenomena. For my own part I am entirely of the opinion that the posterior columns, and more particularly those districts of the same, known as the posterior root zones, or columns of Burdach, are involved, and I can also conceive that the posterior horn is implicated, whether the circulatory condition present is one of hyperæmia or anæmia, I am by no means prepared to say with certainty. Of this, however, I am thoroughly persuaded, that the nervous elements themselves are in a state of abnormal irritability, whatever the condition of the circulation may be. And I believe, moreover, that the question of primary importance in treatment is the removal of such irritability by appropriate measures; and that having once accomplished this, we may confidently anticipate a corresponding amelioration in the vascular condition, be the same one of anæmia, hyperæmia or alternate hyperæmia and anæmia.[1] My views in this respect receive substantial support from the well-known relationship of the blood-stream to all active tissues. Further careful clinical and pathological observations may perhaps serve to increase our knowledge respecting the intricate morphological questions involved.

Diagnosis. It is undeniable that spinal irritation is an affection often extremely difficult of accurate diagnosis; at least, this is true of the less typical cases. Where, however, the symptoms are well marked, less difficulty will be experienced in forming a correct conclusion as to the true nature of the affection.

The differentiation of spinal irritation from *hysteria* is, in a large number of cases, exceedingly difficult. This inability to differentiate the two conditions in certain cases does not, however, seriously interfere with the plan of treatment; for, it is but reasonable to infer, that where the symptoms of two diseases are so inextricably blended, there must be a corresponding fusion of pathological causes. On the whole, therefore, the opinion that hysteria and spinal irritation, though separate affections, are frequently associated in one and the same individual, seems plausible. Where, however, the predominant symptoms of hysteria, general spasms, globus, and paralytic phenomena are found in conjunction with only minor indications of spinal irritation, the case should be adjudged one of hysteria.

From *spinal exhaustion*, the affection under consideration differs in this: that in the latter disorder, disturbances of sensibility predominate, whereas, in the former, marked diminution of the functional resources of the cord is the characteristic feature.

Locomotor ataxia and *myelitis*, even in their earlier stages, are not readily confounded with spinal irritation, since the lancinating pains, incoördination, and girdling sensations peculiar to ataxia are wanting; and the same may be said of the anæsthesia, paralysis of the bladder and voluntary muscles of the limbs and contractures, which are so characteristic of the latter affection.

Spinal irritation is difficult to differentiate from *hyperæmia* of the cord, except when the hyperæmia is sufficiently intense to cause paralysis. It has been urged by a medical writer of distinction[2] that "spinal irritation is made worse by the administration of ergot. . . . The reverse is true of strychnia, which, in all cases, aggravates the symptoms of myelitis, meningitis, or congestion, while it is an efficient means of cure in spinal irritation." My own experience does not accord with the above; indeed, it leads me to a diametrically opposite conclusion. At this very moment, I have under my care a gentleman manifesting all the appearances of spinal irritation, in whom the symptoms of the affection are greatly aggravated by strychnia in doses of one forty-eighth of a grain. This phenomenon is readily explained if we admit that the sensory districts of the cord are in a state of erethism. It is a matter of secondary importance whether this condition of irritability is *accompanied* by a hyperæmic or anæmic state of the cord or not.

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[1] Vide: Views of Beard and Rockwell; Treatise on Medical and Surgical Electricity. Second edition. pp. 450. New York. 1875.

[2] "A Treatise on the Diseases of the Nervous System." By William A. Hammond. Page 47, seventh edition, 1881.

Meningeal tumors, during their early stages, may doubtless give rise to symptoms closely resembling those induced by spinal irritation. But the disturbances produced by tumors are stable in character, and confine themselves with more or less strictness to certain districts, whereas, the migratory character of the symptoms of spinal irritation constitutes a distinctive feature.

On the whole, therefore, where severe pain of an amblitory character exists in the spine, accompanied by great tenderness of the spinous processes, but without paralysis, anæsthesia, or other severe symptom pointing to grave organic trouble, it is safe to assume that we have to do with a case of spinal irritation.

Treatment. In the treatment of spinal irritation, the attention of the physician should be directed to those symptoms which owe their origin to the functional derangement of the cord, on the one hand, and to those manifestly attributable to a secondary condition of cerebral erethism on the other.

The removal of the local hyperæsthetic spots, though often a protracted operation, is usually attainable by the employment of a sufficient amount of patience, conjoined with appropriate local measures. Among these have been recommended counter irritation by means of blisters, or the actual cautery. I cannot say I resort to these measures as much as formerly, for reasons which I will presently state. On the other hand, the application of the galvanic current to the spine, one electrode being placed two or three inches above the painful point, and the other an equal distance below it, will be found of service in many instances. The applications should last from fifteen minutes to half an hour, and should be undertaken at least once a day. General faradization also yields excellent results, especially in cases of debility and anæmia. Of internal remedies, iron, quinine, and zinc will be found most useful, where the condition of the stomach will permit the employment of medicine.

Neuralgic pains, stomachic difficulties, and other complications should be treated symptomatically in the order of their occurrence. We have already alluded to the secondary condition of cerebral erethism, manifesting itself in insomnia and extreme mental irritability. These latter symptoms exert an exceedingly prejudicial influence upon the general health of the patient, and serve to sensibly diminish the prospects of a speedy recovery; and they should, therefore, claim the particular attention of the attending physician. For an extended account of the measures to be adopted in the treatment of the various derangements of sleep, I would refer to the special monograph upon that subject by the author of this paper.[3] As regards the irritability, we would recommend the employment of the bromides, Mariani's coca wine, and, where there is no tendency to vaso-motor derangements (cerebral hyperæmia), stimulants may be administered in moderate quantities. And here, I would enter a protest against the extravagant and hysterical utterances of certain persons regarding what they conceive as dangerous attributes of the coca-preparations. In this matter, I agree with Hammond, that there is no foundation, whatever, for this extreme apprehensiveness. I usually give brandy, whiskey, or rum; or, where the stomach will bear it, Burgundy or Bordeaux, which may be taken at dinner. The administration of stimulants is, however, often impossible, owing to extreme susceptibility.

After treating several cases, the physician inevitably becomes aware of the fact that in a certain proportion, his efforts do not meet with complete success; there is, in a word, an inordinate persistence of soreness and pain on pressure above the vertebræ — a condition discouraging at once to physician and patient. In such cases, I have frequently resorted to local medication of the cord by means of deep injections between the vertebræ of the hydrochlorate of cocaine, in solutions of varying strength. The hyperæsthetic spots are those which I usually select for the injections, but I have no hesitancy in making from six to one dozen or more such injections along the course of the spine. Care should be exercised, in making these injections, to place the needle as near the ligamentum insterspinosum as is consistent with a prudent desire to avoid wounding the cord.[4]

The results obtained by this plan of treatment are often astonishingly favorable; and it is matter of surprise to me that in the face of the excellent effects obtained by local medication of nerves, literature contained nothing concerning the application of this principle previous to publication of my first paper.[5] I will merely add that in the *New York Medical Journal* for November 6, 1886, I have described a painless method of anæsthetizing the skin which I believe is destined to prove an important aid in the treatment of hyperæsthetic conditions of the nervous system. At an early day, I purpose publishing a still more explicit account of this method, embodying a wide range of cases. I need only observe that various other medicaments may be employed in the same way.

Finally, it must not be forgotten that this and similar functional affections of the cord exhibit, in spite of the apparently benignant nature of their pathology, a pertinacity which is often in the highest degree trying to patient and physician alike. Perseverance and minute attention to the various phases of each case will often, however, accomplish wonders.

— Among the replies to an advertisement of a musical committee for "a candidate as organist, music-teacher, etc.," was the following one, "Gentlemen — I noticed your advertisement for an organist and music-teacher, either lady or gentleman. Having been both for several years, I offer you my services." An exchange inquires very naturally if this was a hermaphrodite?

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[3] "Brain Rest, being a Disquisition on the Curative Properties of Prolonged Sleep." By J. Leonard Corning, M.D. New York: G. P. Putnam's Sons. 1885. Second edition, page 36, *et seq.*

[4] For the benefit of those who are interested in the development of more potent methods of affecting the cord in disease of the brain, I would refer to my article contained in the New York Medical Journal for October 31, 1885, and also to my monograph on "Local Anæsthesia." New York: D. Appleton & Co. 1886.

[5] Op. cit.

NOTES ON THE TREATMENT OF STONE IN THE BLADDER.[1]

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RECURRENCE OF STONE.

NOT infrequently after the removal of a stone another one forms in a shorter or longer time; and this may come about in one of four ways, which we will consider *seriatim:*

I. A uric-acid stone may be followed by another, on account of the persistence or reappearance of the uric-acid diathesis. The same may be true, though less commonly, in the case of an oxalic stone.

Cases 14 and 15 furnish good instances of the recurrence of uric-acid calculi.

Case 14 was that of a man of fifty, who was first troubled in 1876 by the occasional passage of small stones. He was operated on by lithotrity in several sittings, and was then free until 1883, when his symptoms returned, and he was operated upon then, and again in 1884 by litholapaxy. Several small stones were removed at each operation, and each time he had a considerable period of relief from symptoms. I saw him first in December, 1885, at which time he was again passing small stones, and, by litholapaxy, I removed two uric-acid calculi, of about twelve grains each.

Case 15 is that of a man seventy-five years old, who was relieved of a stone by Dr. Bigelow in 1868 by lithotrity, in two sittings. When I saw him in February, 1886, his trouble had recently returned, and I removed a uric-acid stone weighing nineteen grains.

To prevent this sort of recurrence, patients who have once suffered from a uric-acid or oxalate-of-lime calculus should be instructed in regard to the dietetic and hygienic precautions, which will be likely to counteract a tendency to excessive uric-acid formation. Sugar in every form is harmful in these cases, as are also all fatty articles of food, and rich, highly-seasoned dishes. These should, accordingly, be avoided. Malt liquors and wine, especially the sweeter varieties, should be given up, and if the stimulant effect of alcohol is desired, spirits largely diluted should be preferred.

Systematic exercise should be taken, if possible sufficiently violent to excite moderate perspiration, and the skin should be cared for by regular bathing and vigorous rubbing. If the patient is constipated, his bowels should be regulated, and this may well be done by a morning glass of Friedrichshall or Carlsbad water. Thompson recommends a long course of saline waters for these patients with uric-acid tendencies, and regards their effect as due to a stimulant action upon the liver. Whatever the *rationale* of their use, they are of undoubted benefit when a constipated habit exists.

Where uric-acid crystals are abundant in the urine, and the danger of stone formation is imminent, alkaline diuretics, by correcting the over-acidity of the water, may be of temporary benefit and tide over the danger for that time, but without the addition of general treatment, the uric acid quickly returns upon their disuse.

II. A soft, phosphatic stone may be reproduced after removal, if the chronic cystitis and alkaline condition of the urine which led to its original formation persists. This is not infrequently seen in those cases where an obstruction to the complete emptying of the bladder perpetuates the fermentation of the urine.

Cases 1, 2, and 13 furnish instances of the recurrence of soft, phosphatic stones. Cases 1 and 2, which were operations upon the same patient, have been reported at length in the *Boston Medical and Surgical Journal* for August 28, 1884.

The patient was a man of sixty-five, with an enlarged prostate. which did not allow of the passage of any urine without the aid of a catheter. In May, 1883, a small, soft stone was removed by Dr. Bigelow, the patient returning the next day to the country. In November, 1883, I removed a large number of small calculi, and he was for several months free from discomfort, and his urine was almost clear. He then had an attack of cystitis; his pain returned, and in July, 1884, I again removed a number of small calculi.

Eighteen days later, the alkaline condition of the urine having persisted, the bladder was washed out with the evacuator, and over two hundred little stones, which, altogether, weighed but fourteen and a half grains, were removed. A fortnight later, another washing obtained over a hundred of these little calculi, and six days later, thirty more were pumped out. The urine had now cleared up considerably, and subsequent washings failed to find any more calculi. The separate accretion of all of these little stones about different foci shows how great the tendency in this case to stone formation.

Case 15. A man of sixty, with prostatic obstruction and residual urine, had a stone weighing one hundred and forty grains removed. A subsequent washing with the evacuator did not find any sand or fragments, but he insisted on leaving the hospital before the urine was clear of pus, or had lost its alkalinity. He neglected the daily irrigation of the bladder, which was advised. and, as I afterwards heard, he appeared five months later at the City Hospital, and had a small stone crushed. In answer to an inquiry of mine, Dr. M. F. Gavin, who operated upon him at this time, kindly wrote me as follows: "In M.'s case, the stone was small, and so soft that the moment the crusher seized it. the sense of resistance disappeared. The bladder was washed out, bringing away a quantity of detritus; no fragments. There was no evidence present of any old fragments."

It is evident that, to prevent this sort of recurrence, it is important to entirely relieve the cystitis before allowing the patient to pass from under treatment, and then to send him away with a clear understanding of the importance of immediately correcting any tendency to alkalinity and pus formation.

When an obstructed urethra is the cause of the cystitis, the obstruction should be relieved if possible. If this cannot be accomplished, as often happens in the case of an enlarged prostate, the evils of retained urine must be lessened as far as possible, by systematic catheterization.

The moment that any considerable amount of mucus or other evidence of commencing fermentation appears in the urine of one of these patients, thorough irrigation of the bladder must be instituted and kept up, until the normal condition is again reached.

A good deal may also be accomplished by internal medication in clearing up urine which has become foul and ammoniacal. The occasional usefulness of many diuretics is well known, and buchu, uva ursi, triticum repens, citrate of potash, and even the free use of clear spring water will often help to bring about a good result.

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[1] Concluded from page 520.

Some drugs are thought to have even a more direct action in reducing fermentation. Benzoic acid and its salts have some reputation in this regard, and I have used them in many cases with good effect. Sometimes, however for no apparent reason, they utterly fail, and they have the occasional disadvantage of disturbing the stomach. Eucalyptus oil is also exhibited to check fermentation in the urine. Bartholow ascribes to it great efficacy.

III. Sometimes the successive escape of several stones from the kidney gives rise to several consecutive attacks of stone in the bladder.

The treatment proper for stone in the kidney is appropriate here, together with the prompt removal of the stone when its presence in the bladder is manifest.

IV. Lastly, if a fragment is left after an operation, it may serve as a nucleus for another stone.

The danger of this mischance is greatly increased by any obstruction to the flow of urine, such as is caused by an enlarged prostate. The bladder in such a case is usually sacculated so that fragments are more likely to escape removal by the evacuator, and if a fragment is left it is very unlikely to be afterwards voided by the natural efforts of the bladder, but remains in the residual urine.

In a healthy condition of the bladder, when the urine is thoroughly expelled at each act of micturition the retention of a fragment of small size is not likely to occur.

Case 16 is an instance of a second operation on a patient in whom a minute fragment was left at a previous crushing.

The patient, a man of seventy-four with almost complete obstruction to micturition and a dilated, sacculated bladder, was first operated upon by me in June 1885. At that time a small stone was removed which was itself a fragment of a considerable stone which had been crushed and pumped out by a surgeon at his home in New Brunswick. Subsequent attempts to crush this fragment had failed, and he consequently sought advice from Prof. H. J. Bigelow, who kindly referred him to me.

The fragment in question was very hard to seize with the lithotrite, and it was only when the bladder was almost emptied of water that it could finally be grasped and crushed. The urine cleared up rapidly and he left the hospital apparently free from bladder symptoms, except so much as would naturally be caused by the persisting obstructions in the prostate.

He returned in March. 1886, in very much better health than when he left us, and with a gain of thirty pounds in weight. He again, however, showed symptoms of calculus, and on March 30, 1886, I crushed and removed a stone weighing thirty-four grains, which had as a nucleus a little crumb from the earlier stone which was somewhat darker in color than the surrounding crust. After this operation, he went home well and has remained so.

As a guard against the retention of fragments, as in this case, the bladder should always be washed out with the evacuator one or more times after the operation, before discharging the patient. This can readily be done without ether.

In using the pump the sacculated character of many of these bladders should be remembered, and a careful search should be made lest a fragment be caught and held in some side pocket. The orifice of the evacuating tube should be turned successively towards each part of the cavity in order to dislodge with the current any such fragment.

It has been urged against litholapaxy that recurreuces are specially liable to take place after it, and I have therefore spoken somewhat at length of the precautions which will render the retention of a fragment almost impossible. This is the only cause of recurrence which can fairly be laid at the door of the operation, and it is one from which lithotomy is not exempt. The difficulty of removing the last fragments when a soft stone breaks in the lithotomy forceps is notorious.

The other causes of recurrence are common to every operation, and I have tried to emphasize the importance of first correcting the faulty condition, which made the formation of the stone possible, and then of making each patient understand the future dangers and how they are to be avoided.

LITHOLAPAXY IN THE FEMALE BLADDER.

Case 22 was an instance of this. Some difficulty was anticipated in the matter of seizing fragments, as in women the presence of the uterus behind the bladder makes the posterior wall of the latter irregular and flatter than in man, so that fragments lying upon it would not naturally gravitate to the centre as in the male bladder.

When using the lithotrite at an angle of forty-five degrees the expected difficulty was met. But it was found that when the handle of the instrument was raised to a vertical position, the blades rested on the yielding vaginal wall close to the urethral entrance, and by depressing this made it the most dependent part of the bladder, into which the fragments gravitated and where they were readily seized.

The operation went quickly and easily, without any injury to the urethra, and convalescence was rapid and satisfactory.

FISTULA AFTER LATERAL LITHOTOMY.

Case 3 furnishes an instance of one of the accidents which may follow lateral lithotomy. The patient, a boy of ten, was cut on November 11th, 1884, and a very rough mulberry calculus was removed. The incision entered the urethra a little further forward than was necessary, somewhere about the entrance to the membranous portion. The wound healed slowly and left a fistulous opening through which a small amount of urine escaped at each micturition. There was also a slight involuntary leakage when the bladder was full. After this had persisted for several weeks it was thought probable that the wound in healing had left a slight stricture in front of the fistula, which by its obstruction to the natural flow of urine constantly forced some of it through the opening. An examination showed this to be the case, and the passage of bougies for a few weeks relieved the stricture and brought about a healing of the fistula.

CALCULUS WITH SHOE-STRING NUCLEUS.

Case 10 was interesting in that a leather shoe-string formed the nucleus of the stone. The patient was a young man of twenty, who in October, 1885, came up from New Brunswick with symptoms of stone which had troubled him since the previous spring.

A stone being felt, he was etherized and it was easily seized and crushed.

At the first withdrawal of the lithotrite, its jaws came out clogged with bits of a leather shoe-string. Other short bits were pumped out with the débris of the stone and again other portions were removed with the lithotrite. At the end of the operation 113 grains of calculus matter and eight inches of string had been obtained.

It was subsequently learned from the patient that during the previous April he had been confined to bed by a sore foot and finding it hard to pass water had improvised a bougie and had let it slip from his fingers into the bladder. He had not before mentioned the fact to his physician because he supposed that the string had long since dissolved.

STRICTURE OF THE URETHRA COMPLICATING LITHOLAPAXY.

In Cases 7 and 18 a stricture of the urethra complicated the operation. In both instances the stricture was divulsed and the litholapaxy was at once proceeded with; no difficulty being met in its performance and there being no subsequent ill-effects during convalescence. Dr. Bigelow has shown by many successful cases that these two operations may be safely and advantageously combined in one sitting.

Case 21 was an example of a still further complication. This patient not only had a close stricture, but also had several false passages starting from the urethra in front of it; these resulted from previous attempts to reach the bladder. After divulsion of the stricture these pockets so interfered with the introduction of instruments that it became evident that the large calculus which was found could not be safely removed through the urethra, and consequently suprapubic lithotomy was resorted to.

For a full account of this case, see *Boston Medical and Surgical Journal*, November 11th, 1886.

REPORT OF PROGRESS RELATING TO FOOD AND DRUGS.

BY B. F. DAVENPORT, M.D., OF BOSTON.

ADULTERATIONS IN WINE AND SPIRITS.

The following comment, made by Dr. S. W. Abbott in the late Public Health Supplement to the Seventh Annual Report of the State Board of Health, upon the report of the analyst on his examination of over one hundred samples of wine and distilled spirits, of which but ten were found to fairly be what they claimed to be, is of general interest to the profession: Noting that the principal adulterants were found to be alcohol, water, sugar, fruit extracts, and flavoring ethers, and that in no case was any ingredient found more harmful than the alcohol itself, he adds: "These examinations have also shown the falsity of a popular impression, which has been created and fostered by the ill-advised statements of public lecturers, and also published documents that the harmful effect of the habitual use of alcoholic stimulants is due to the adulterations to which they are subjected, rather than to the alcohol which they contain. It is sufficient to say that such statements have no foundation in fact, nor are they in the interest of justice, temperance, or truth."

LEAD IN HAIR DYES, AND MORPHINE IN OPIUM-HABIT CURES.

In the same reports, he also notes the large number of hair dyes found by the analyst to contain lead, and that almost all the so-called opium habit "cures" or "antidotes" so extensively advertised throughout the country were found by the analyst to contain morphine, the very thing for the use of which they had been so falsely lauded, and, therefore, were being so vainly used.

HOPEINE.

A new narcotic substance, under the name of hopeine, has been placed upon the London market as a substitute for morphine and quinine by a firm, who claimed that it was an alkaloid obtained by them from hops, and that they had found it present in the largest quantities in the wild hops of Central America. The substance is not found in German hops. On chemical analysis, Dr. Paul and others have found the substance to be of a variable nature, but that it usually corresponded to an admixture of two parts of morphine with one of cocaine, and he characterizes the attempt to introduce upon a pseudo-scientific basis an article that is only a mixture of two well-known substances as a piece of foolish impudence that almost passes belief. Moreover, Dr. A. Gray states that the wild hop grows so sparingly that he had never seen it where he could have gathered a single pound of the dried hops.

EULYLYPTOL.

A preparation, under the name of eulylyptol, has been recommended in *Journ. Pharm.*, October 15, p. 361, by Dr. Schmeltz, as an antiseptic preferable to iodoform, corrosive sublimate, or carbolic acid. It consists of a mixture of six parts of salicylic acid and one each of carbolic acid and oil of eucalyptus. The carbolic acid seems to enter into a chemical union with the other ingredients, and is not to be found in a free state. The mixture has a strong aromatic odor, and an acrid burning taste. It is nearly insoluble in water, but readily soluble in strong alcohol, ether, chloroform, and in alcohol and glycerine. It is also soluble in ammonia and alkaline solutions. According to Dr. Schmeltz, it completely arrests the fermentation of all putrescible substances. It will preserve urine for months. In many respects it seems to resemble salol, the new antiseptic produced by Prof. von Mencki, reported favorably upon by M. Sohli in *La Semaine Médecale*, April 14, 1886, and recommended as preferable to the usual forms in which salicylic acid is used is the treatment of rheumatism.

NATIONAL FORMULARY.[1]

Under the auspices of the American Pharmaceutical Association, a committee has been appointed, consisting of five pharmacists resident in New York City and Brooklyn, and one representative from each of the State Pharmaceutical Association, to prepare a standard and recognized guide for the preparation of such compounds as are not officinal in our National Pharmacopœia, but which are above the level of mere trade-receipts, and are not of a trivial or improper character.

The special committee presented a report at the late meeting of the Association, containing the following propositions: "Scope of the National Formulary — The National Formulary, to be published under the authority of the American Pharmaceutical Association, may contain the formulas of such preparations as have either been formerly officinal in the United States Pharmacopœia and have been discarded, though still in demand, or such as have never been officinal, but deserve recognition, because more or less generally in use. Among the latter may be any preparations contained in foreign pharmacopœias, if there is known to be a sufficient demand for them in any section of this country. It shall also contain the preparations belonging to so-called "elegant pharmacy," but it shall not be encumbered with purely technical, trivial, or fancy preparations."

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[1] American Druggist, October, 1886.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES M. GREEN, M.D., SECRETARY.

October 9, 1886, the President, Dr. A. D. Sinclair, in the chair.

EXTRAORDINARY CARDIAC EXCITEMENT BEFORE A FIRST MENSTRUATION.

Dr. Draper reported the following case: The patient was an overgrown, nervous, well-developed girl, aged thirteen years and two months. Two years ago she was under medical treatment for chorea. During the past three years she had not attended school. Recently, her health had been satisfactory, and it was the intention that she should presently resume school discipline. Her mind was undeveloped and her tastes were childish; she liked the plays and companionship of little girls much younger than herself. She had never menstruated.

In the night of July 1st, she was restless and uneasy, sleeping but little. Her mother attributed the unrest to a somewhat later and heartier supper than she was accustomed to and recalled also that the girl exercised rather more vigorously than usual after supper. Dr. Draper saw the patient at 3.30, A.M., July 2d. She was tossing, restless, anxious, and irritable. She complained of pain in her left side and of the "thumping" of her heart. There was an occasional short, dry cough,— the familiar cough of cardiac palpitation. The hand over the heart detected a rapid but regular and not violent action of that organ. The stethoscope discovered no abnormal sounds; the rapid action was the only abnormality. There was no irregularity or intermission, then or later. The heart-beats, at this visit and subsequently (on one occasion verified in consultation) were counted as follows:

July 2d, 3.30, A.M. . .	212	July 4th, 9.30, A.M. . .	234
" 2d, 7.30, P.M. . .	232	" 4th, 5.15, P.M. . .	230
" 3d, 10, A.M. . .	228	" 5th, A.M. . .	98.
" 3d, 5.30, P.M. . .	236	" 6th, A.M. . .	80.

The highest temperature which the thermometer recorded meanwhile was 100.5° in the afternoon of July 2d.

The culmination of the case was reached July 5th, in the afternoon of which day menstruation began in a perfectly normal manner, without pain or other disorder. The pulse quickly regained its normal rate and kept it thenceforward. In August and September there was no recurrence, either of the catamenia or of cardiac disturbance.

During the three days, July 2d, 3d, and 4th, various measures directed to the control of the heart were wholly negative in their effect. Rest in bed, low diet, counter-irritants, emetics, cardiac sedatives and stimulants (aconite, veratrum, digitalis), proved unavailing; but with the premonitory indications of the menstrual function the heart resumed its natural action.

AXILLARY LYMPHANGITIS WITH LYMPHORRHAGIA? OR SUPERNUMERARY MAMMA WITH LACTEAL SECRETION?

Dr. A. H. Johnson, of Salem, reported, by invitation, the following case of axillary tumor coincident with pregnancy:

Mrs. S., already the mother of two children, was expecting her third confinement during the first week in August, 1886. Some time in April she discovered a lump in the right axilla. Although it grew each week very noticeably, she made no mention of it to her friends. During the second week in July it was accidently discovered by her husband, who at once called me to examine it. I called on the 11th of July and found in the right axilla a pendulous tumor bearing a close resemblance to a male scrotum. It was pear-shaped and somewhat flattened by compression between the arm and the chest. Its constricted base seemed but slightly adherent to the subjacent tissues. The skin covering it was thin, but loose. Around its base was the growth of hair belonging to the axilla. When taken in the hand and squeezed, the upper portion of it felt much like a varicocele, while distributed in its mass, irregular semi-elastic lumps could be felt, varying from one and a half inches long and three-fourths of an inch in width, to one inch in length and one-fourth or one-half an inch in width. It seemed like a growth made up of irregular, elongated and semi-fluctuating lobules of fat. It was painless and gave but little inconvenience. Owing to its harmless character treatment was deferred until after delivery. The patient was not seen again until the 4th of August, the day of her confinement. During the little more than three weeks since my first examination, it had increased about one-third in size, and another lump the size of an English walnut had appeared in the left axilla. After a comparatively easy and natural delivery, with the distention of the breasts, the tumor in the axilla enlarged. It became tense, tender, smooth, and slightly reddened; and measured nine inches in circumference. As the breasts yielded their milk the tumor grew softer and smaller, and at the end of a week was reduced about one-fourth in size. Seventeen days after delivery I was called to explain a new feature of the growth, and learned that the patient had for several days found her clothing about the right side of her chest quite wet. The source of this moisture was traced to the axilla. It was then discovered that when the tumor was squeezed there issued from four or more minute openings, scarcely perceptible to the naked eye, a fluid resembling milk. From that day to the time of this report the tumor becomes a little distended when the breasts are full, just previous to nursing the child, and when pressed continues to yield a milky fluid in small quantities. The smaller lump in the left axilla has disappeared. Is this a case of lymphangitis with lymphorrhagia or a case of supernumerary mamma? If the latter, why was there no such development of these glands in the two previous pregnancies?

Dr. Johnson subsequently made the following additional report:

Soon after the last meeting I took from our patient, in separate bottles, two samples of lacteal fluid, one from the breast and the other from the axillary tumor, and examined them with the microscope. The fluid from the tumor is to the naked eye a much thicker and cream-like liquid than the thin bluish breast-milk. Under the microscope the specimen from the axillary glands reveals in addition to the finely emulcified fat of the breast-milk, a coarser emulsion of fat with large colostrum cells, the whole field being crowded with these more solid constituents of milk.

Soon after my return to Salem I found in the "Quarterly Compendium of Medical Science" a report of a paper on the "Development of Mammary Functions by the Skin of Lying-in-Women," which was contributed by Dr. F. H. Champreys to the Royal Medical and Chirurgical Society. In this paper the author reports thirty cases which had occurred in the General Lying-in Hospital, all illustrating the title of his paper. In it he says that "the cases of axillary lumps are believed to be now described for the first time." "They seem to prove that in lying-in women the sebaceous follicles of the skin are capable of producing true mammary secretions." . . . "They confirm the opinion that the breast is a highly specialized aggregation of highly specialized sebaceous follicles." "Dr. G. D. Pollock believed that this was the first paper that had been contributed upon this subject." Dr. Creighton "believed that the lumps or glands were not derived from *sebaceous* glands, but from another cutaneous structure that existed in the human axilla. He had incidentally described the glandular stratum in a paper read before the Society four or five years ago. Similar structures were met with in the skin of a dog. In the human axilla they had been described by Sappey, Kölliker, and Frey. These glands were coated by a remarkable layer of plain muscular fibres. The remarkable muscular coating would enable a diagnosis to be made between them and sebaceous glands when an opportunity for anatomical examination of such lumps arrived. Dr. Champney was inclined to accept Dr. Creighton's view of the origin of these lumps." He then added that "these lumps *were not perceptible before delivery*, swelled after parturition, and again slowly decreased in size; in these features and in yielding a secretion of milk they differed altogether from lipomata."

If Dr. Champney is correct in this deduction from his thirty cases, then in the case I have reported, we probably have a lipoma combined with a Champney "axillary lump," made up of specially developed cutaneous glands peculiar to the axilla. If so, then, we shall have a lipomata left when the breasts become inactive, and an opportunity for anatomical examination. If not, then Champney's generalization must be corrected, since the lump in the case of Mrs. S., appeared at least three and a half months before delivery.

Dr. Sinclair had seen two cases similar to those reported. The breasts were enormously developed, and swellings appeared in each axilla. These swellings were oblong in shape, the size of a Bartlett pear: they never secreted anything so far as he could see. One woman had borne several children and these swellings appeared after every labor. In one case a slight swelling occurred at the menstrual period. She had always regarded these tumors as supernumerary mammæ. They could not be emptied, and were very tender at first. The breasts, in one case, measured eighteen inches across.

Dr. Reynolds asked if supernumerary glands were not situated below the mammæ and in pairs.

Dr. Brown had seen it stated that these glands were either just below the mammæ or on the abdomen.

Dr. Baker had read of a child, three years of age, who had a nipple in the clavicular region; but there was no sign of a gland.

Dr. J. T. G. Nichols, present by invitation, reported the following case:

INDUCED LABOR AT THE EIGHTH MONTH ON ACCOUNT OF PELVIC DEFORMITY.

Mrs. B., thirty-seven years of age. First labor, September 18, 1882. Conjugate diameter rather less than four inches. The sacral promontory was prominent and on the horizontal ramus of the left pubes near the symphysis was an exostasis as large as a horse-chestnut. Forceps were used without success, and labor was terminated by craniotomy and subsequent version. The child, a male, weighed twelve pounds. The mother recovered well. She was advised to have labor induced prematurely should she again become pregnant.

In January, 1884, she aborted at about three months.

She became pregnant for the third time in March, 1884, menstruation ceasing on the 20th.

November 29th, at 9, P.M., a large elastic bougie was passed into the uterus to the depth of seven inches. There was no hæmorrhage. The head of the fœtus presented. She had a severe cough and the bougie was found outside the uterus on the morning of the 30th. There had been no pains, but the os was softer and there was a slight discharge of dark-brown mucus. The bougie was replaced and kept in place by a cotton plug. On the 1st of December the bougie having been retained in its place, there had been a few slight and irregular pains in the back and thighs. At 4.30, P.M., the vagina was moist, the bloody mucus increased in quantity, the os soft, admitting two fingers easily. The patient was etherized and the os fully dilated by the hand in about forty minutes. The membranes were so firm that I was able to reach a foot without rupturing them, turning the child "as in a bucket of water," as Gooch expresses it, and delivering it without delay. The child, a female, weighed seven and one-half pounds. Both mother and child did well. The child is now, at two years of age, an unusually strong and healthy specimen.

November 3d, 1885, menstruation ceased. July 11th, at 3, P.M., a bougie was passed into the uterus. July 12th, at 3, P.M., there had been no pains of any strength or regularity. The os was soft, admitting two fingers, lubricated with bloody mucus, the head of the child presenting. The patient was etherized and the os dilated by the hand with the greatest facility, the whole process of dilatation and delivery by version occupying less than ten minutes. The child, a boy, weighed eight and a half pounds, and got on very well. The mother recovered without an untoward symptom. At the present time the child is as strong as one born at full term.

Though the use of a bougie failed to bring on efficient labor pains, yet it seemed to be of service by its action upon the os uteri, as shown by the quite abundant secretion of mucus thoroughly tinged with blood, and by the ease with which manual dilatation was accomplished. I should resort to its use in any case which did not call for immediate action.

The President said he had never found it necessary to use a bougie to prepare the cervix for manual dilatation, and never failed to accomplish dilatation with the fingers alone. The parts yield at intervals of from six to ten minutes, and from one to four hours would be ample time to open the cervix sufficiently to perform podalic version.

Dr. Reynolds, while agreeing with the President as to the ease of manual dilatation in most instances, had seen cases in which the greatest difficulty was experienced. He queried whether venesection might not be advisable in cases of obstinate cervices.

Dr. Ingalls thought that steel dilators should never be used to dilate a firm cervix, as they were liable to do harm: the fingers are much the best instruments.

Dr. Hosmer recalled attention to a case[1] he had reported to the Society in June, in which he had been unable to dilate the cervix, and the patient, an eclamptic, died undelivered. He had never failed in this procedure before, and wished to cite his case as showing that digitable dilatation is not always so easy as is generally supposed.

Dr. Green had seen two cases in which digital dilatation was extremely difficult. In one case, seen recently, he was obliged to deliver at the sixth month, on account of severe hæmorrhage from placenta prævia marginalis. The cervix would admit only one finger and had a hard cartilaginous feel: it was impossible to introduce a second finger far enough to be of any use, and after two hours of fruitless effort (there was no hæmorrhage at the time of operation) a Barnes' bag was used and by its means sufficient dilatation accomplished to make the use of two fingers possible. The cervix soon yielded thereto, and the uterus was emptied. While, therefore, he believed digital dilatation to be easily accomplished as a rule, there were certainly occasional exceptions.

A NEW PORTABLE CASE FOR GYNÆCOLOGICAL INSTRUMENTS.

Dr. Baker exhibited a convenient bag he had devised for containing gynæcological instruments. The bag opened down to the bottom like a valise: there was ample space for a case of bottles, for cotton tampons, pessaries, etc., and the instruments were conveniently and compactly disposed in the sides and flaps.

SPECIMEN OF ADHERENT PLACENTA.

Dr. Driver, a guest, showed a placenta which had been adherent and was removed with the fingers: it was very thin in part, and in part very thick.

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NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated meeting, November 15, 1886.

Dr. T. Gaillard Thomas read a paper on

LAPAROTOMY AS A DIAGNOSTIC RESOURCE.

During the last century, he said, medicine had been slowly but steadily rising from the lower level of the arts and gradually assuming its place among the sciences. Abstract opinions had become worthless, and facts capable of demonstration to our senses ruled the hour, and controlled professional thought. As this salutary change had developed, every observer must have been struck by the fact that one of its chief factors, and at the same time, to a certain degree, one of its direct results, had been the great development of the art of diagnosis accomplished by the subordination of theoretical methods of exploration and investigation to those which were purely physical.

Throughout the whole domain of surgery, there was no field in which diagnosis was more surrounded by difficulties than that of abdominal neoplasms. This was due to three facts; *first*, the superposition of the intestines; *second*, the great thickness to which the abdominal walls commonly attained; and, *third*, the accumulation of gases in the intestines, which increased all the pre-existing difficulties of exploration. Formerly, the diagnosis of abdominal tumors was allowed to rest upon deductions capable of being drawn from rational and physical methods, the latter of which were limited by the abdominal walls without and the pelvic roof within; but to-day, surgeons devoting themselves to this department of our art were fully agreed as to the propriety of opening the abdominal walls for the purpose of exploring the viscera fully by touch, and to a limited extent by sight.

It seemed to him that no more important era had of late years marked the advance of abdominal surgery, than the general recognition of the fact that when doubt exists as to the diagnosis of abdominal neoplasms or the significance of certain pathological conditions within the peritoneum, the question should be settled by explorative incision. Of the propriety of this practice there could be no possible doubt. After an experience yielded by seven or eight hundred cases, approximately, of laparotomy for various causes, extending over a period of twenty-three years, he felt sure that he could say with entire truth that he had never once regretted opening the abdomen, and that he had in a dozen cases, at least, deeply regretted having failed to do so. He thought it was certain that in the future explorative abdominal incision would become the rule in all cases of the following conditions which did not yield to medical means, and concerning the etiology of which there was great doubt; (1) wounds and injuries of the abdominal viscera; (2) intestinal obstructions; (3) the presence of stones in the gall-bladder or kidneys; (4) the accumulation of blood, pus or serous fluid from any cause; (5) the existence of a neoplasm in any part of the abdomen; (6) the occurrence of serious organic changes in certain of the viscera of the abdomen, such as the kidneys, the spleen, the uterus, the Fallopian tubes or the ovaries; (7) ectopic gestation.

Even under the most favorable circumstances, the most skilful diagnostician was constantly liable to make errors without its aid; and hence it was that explorative incision was peculiarly valuable. Dr. Thomas said he knew of no way in which he could better convey his views and give his experience upon this subject than by mentioning first, some cases in which he had to regret non-interference, and then relating others in which more active measures had produced happier results.

Case I. About seventeen years ago, he was called in consultation to see a strong, healthy coachman, about twenty-five years of age, who had been suddenly seized with obstruction of the bowels, which had resisted all medical means and was evidently going to result fatally. The question of laparotomy was carefully canvassed, and it was unfortunately decided not to perform it. The patient died, and on a post-mortem examination a loop of intestine was found constricted by a string of false membrane, the result probably of some long past peritonitis. This was apparent as soon as the abdomen was opened. It was the sole cause of the obstruction, and could at once have been overcome by the snip of a pair of scissors. At that time, however, laparotomy, had it failed, would have met with universal condemnation, and, said Dr. Thomas, "we probably lacked the moral courage to meet the issue, and let the poor fellow die, hoping against hope for a relief which became less and less likely to occur with every hour that elapsed."

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[1] See Vol. CXV, No. 17, page 403 of this Journal.

Case II, was that of a patient seen fifteen years ago in consultation with Dr. Otis, who suffered from a uterine fibroid which had grown to such a size that it filled the whole abdomen, and pressed so much upon the viscera under the diaphragm that it was evident that the patient would soon be exhausted unless the tumor was removed. The question of extirpation was carefully considered, and the decision left to Dr. Thomas. At that time the operation was very rarely performed, and still more rarely was it successful. He decided against operation, and the patient died. Upon autopsy a tumor weighing forty pounds was found entirely unattached in the peritoneal cavity and connected with the uterus by a pedicle not larger than two fingers placed side by side. Removal, therefore, would have been easy, and recovery probable; but influenced by the spirit of the times which frowned upon the removal of a large solid tumor of the abdomen, he hesitated to perform the operation. Here an exploratory incision would have made its practicability quite evident.

Case III. In the early part of his experience as an ovariotomist, a lady suffering from a very large abdominal tumor called upon him with the statement that she had consulted the three most eminent operators living in this country at that time, that they had all agreed that the tumor was a solid one connected with the uterus; and that they all advised against operation. Dr. Thomas agreed with the opinions already expressed, and the patient went home. In about a year she died, and the autopsy showed that the neoplasm was a multilocular ovarian tumor, entirely free from adhesions, with a small pedicle, and which could have been removed with every prospect of success. The reasons for the obscurity of the diagnosis were the following: The tumor was composed of innumerable small cysts, the walls of which were thick and the fluid within them colloid.

Case IV was another one of intestinal obstruction, occurring in a young Irishman, in which it was decided not to operate, and at the autopsy the following curious condition was found: the transverse colon at its middle was distended with hardened fæcal matter held in one indissoluble mass by a quantity of hay such as is fed to horses, which penetrated it in every way. It was certain that upon abdominal section this would have been readily discovered, and it was probable that by a process of kneading it could have been dislodged and pressed onwards towards the rectum. Dr. Thomas was never able to learn what had induced the man to swallow the hay.

Case V was one which proved to be extra-uterine pregnancy. There were five physicians in consultation and the vote stood two in favor of exploratory laparotomy, and three opposed to it; Dr. Thomas being one of the two who advocated the procedure. The patient died, and upon post-mortem examination, a three months fœtus was found in the Fallopian tube at its fibriated extremity. The amniotic sac was unbroken, but a slight rent had occurred in the muscular covering of the sac which had opened an artery of sufficient size to cause death by hæmorrhage in the three days which elapsed between the inception of the accident and the fatal result.

Having remarked that he could mention still a number of other similar cases, did time permit, Dr. Thomas said that in his own defence, he would remind his hearers that almost all of this variety of his cases occurred fifteen or twenty years ago, and that this number of years, so rapid had been the recent advance of abdominal surgery, carried us back into the ancient history of the subject. Few such cases occurred to him now, for the very reason that he was a strong advocate for explorative incision as a diagnostic resource. He then proceeded to narrate a few out of the very large number of cases in his later experience, which illustrated the brilliant results which commonly attend upon this procedure.

Case I. A patient was brought to him for abdominal dropsy, for which tapping had been repeatedly practised, and in whose pelvic cavity a solid tumor, the size of the adult head, could be distinctly felt. This was regarded as a large uterine fibroid, the presence of which had induced ascites, and the removal of which was regarded as entirely impracticable, on account of the weak and exhausted condition to which the patient had become reduced. Dr. Thomas proposed explorative incision, agreeing with the relatives that he would be governed by the light this shed upon the case as to his subsequent action. As soon as his hand passed into the abdomen, he found that the fluid was not the result of ascites, but was ovarian fluid, which poured forth from a ruptured ovarian cyst, which, in its collapsed state, now occupied the pelvic cavity, giving rise to the belief that it was a fibroid. The operation for the removal of the sac was an exceedingly simple one, and the patient made a rapid recovery.

The second case was one of hæmato-salpinx. in which the excessive distension of the Fallopian tubes gave rise to a sensation of solidity, which made the diagnosis before operation very obscure. Both tubes and their corresponding ovaries were removed, and the patient was entirely cured.

The third case was quoted as illustrating the fact that cases of abdominal tumor are sometimes utterly beyond the realm of diagnosis until the cavity is opened. For years this patient had had a firm tumor behind the uterus, when suddenly she became almost collapsed, and suffered greatly from pain in the tumor, which nearly doubled in size in a day or two. Laparotomy was performed, and a large blood-cyst was emptied from the distended pouch of Douglas, and he shelled out the skull of a fœtus of probably six months of intra-uterine life. The patient died ten days after the operation from cardiac thrombosis.

The fourth case was one of intestinal obstruction, caused, as was found on opening the abdomen, by a mass of malignant growth encircling a considerable portion of the large intestine. The patient died about a month after the operation.

There was one class of cases which, in his hands, Dr. Thomas said explorative incision had yielded particularly brilliant results, namely, cases of ascites in the female; and he directed a considerable portion of the paper to the discussion of this subject. He enumerated the causes of ascites as to frequency in the following order: (1) organic diseases of the liver; (2) chronic peritonitis; (3) tubercular peritonitis; (4) malarial spanæmia accompanying great splenic enlargement; (5) the existence of neoplasms within the peritoneal cavity; (6) the prolonged existence of excessive fæcal impaction. Some might doubt the last of these causes, but he had personal experience with it, which had perfectly convinced him of its etiological significance. Later, he went on to make the special point that some cases of excessive ascites, which, by repeated tappings, prove fatal, are due to insignificant uterine or ovarian tumors, which are too small for recognition unless specially and carefully looked for, and the removal of which relieves the fluid accumulation, which, by its exhausting influence, destroys life. These tumors were sometimes no larger than small apples, and could not be recognized, except by the careful examination of an expert. In stout women, or even in those that are thin, they could not be discovered after accumulation of ascitic fluid, even by a master in diagnosis. And, as he had had sufficient evidence in his experience, in some cases, even when a tumor in the pelvis as large as a cocoanut co-existed with the ascites, no connection between the two pathological conditions, as cause and effect, were ordinarily traced by the medical attendant. Should this be the case; should the existence of the neoplasm not be detected, or should the malign influence not be appreciated, even when its presence had been diagnosticated, the physician would probably endeavor to cause absorption by pressing into action the three emunctories of the body. This usually failed, and if it did not, the cause of the symptom remaining after the symptom itself had been removed, frequently repeated resort had to be had to the plan, which, in time, impaired nutrition and exhausted the vital energies.

If, on the other hand, tapping or aspiration were employed, the beginning of the end soon showed itself, and it became merely a question of time how long the system of the patient would bear the exhausting drain to which it was exposed. Dr. Thomas said he had met with a number of cases in which he had succeeded in completely curing aggravated cases of ascites, after tapping had been repeatedly resorted to, and after all hope of recovery had been given up. A few of these were as follows:

Case I. A lady from Connecticut had been repeatedly tapped for ascites, and was rapidly growing weaker from the drain upon her system. After each tapping, a round, hard tumor, about as large as the head of a five-year old child, could be readily detected in the pelvis, and this could also be obscurely felt, even when the dropsical effusion ceased. He opened the abdomen as an explorative procedure, and, finding a fibroid attached to the fundus uteri, removed it, with the effect of perfectly curing the patient.

Case II. A lady from Canada came to him with ascites, which was accompanied by the presence of a solid tumor over one ovary, as large as a cocoanut. She had been tapped once. He removed a solid tumor of the left ovary, and she entirely recovered, having now remained free from dropsy for two years.

Case III. About a year ago, a patient was sent to him suffering from ascites, in whom he could detect by vaginal touch what seemed to be a pelvic neoplasm. He made an explorative incision, found a tumor in Douglas's cul-de-sac, no larger than an apple, and removed it. It was found to be of a sarcomatous nature. The patient recovered from the operation and from the abdominal dropsy, but her physician in Connecticut had recently written to say that a hard tumor could now again be felt in the pelvis, and that ascites was beginning again to show itself. Dr. Thomas thought it highly probable that without removal of the malignant growth, the case would long ago have ended fatally.

Case IV was a counterpart of No. III, except that the post-uterine tumor was a benign fibroid, attached by a rather slender pedicle to the posterior wall of the uterus. It was very difficult — indeed, impossible — to say why, in a certain small number of cases, these tumors created ascites, while they so often occupied the peritoneal cavity for years without causing any such trouble whatever.

Case V. Some years ago he saw in consultation a lady who suffered from severe enteralgia which was caused by the presence of an ovarian cyst as large as the adult head, which was perfectly movable in the abdominal cavity. Fourteen years afterwards dropsy was caused by the nomadic tendencies of the growth, and the patient suffered much distress. Laparotomy was performed, and a monocyst of the ovary with the longest pedicle that he ever saw was removed. In connection with this case Dr. Thomas said that he had removed one ovarian tumor which had lasted twenty-four years, another which had lasted sixteen years, and another which had lasted nine years.

In view of the experience of these and similar cases he said that he felt justified in assuming the position that in cases of ascites in the female, before the patient was relegated to the usual practice of repeated tapping with its universally bad results as to cure, the most thorough investigation as to the possible existence of small neoplasms as important pathological factors should be made, and if signs of their existence were obtained, explorative incision should be practised as a "forlorn hope" that relief might be obtained.

There were but two points connected with exploratory incision which he wished to refer to before closing. The first was the singular fact that in certain cases of abdominal incision in which diagnosis alone was practicable, and others in which removal of the tubes and ovaries proved to be impossible, great improvement sometimes resulted to the patient's general and local condition from the explorative effort alone. The second point was the necessity for certain rules which should be observed in the performance of this simple surgical procedure. They are as follows:

(1) Every explorative incision should be made under the strictest antiseptic precautions. As to strict cleanliness, all are agreed; if antiseptics of chemical character are valueless, they at least, in all probability, do no harm. While the question as to their utility is still *sub judice*, give the patient the benefit of the doubt, and employ them.

(2) Always employ an anæsthetic.

(3) Always make an incision which will admit the whole hand; one which will admit two fingers only is hardly warrantable. If possible, let but one man's hand be passed into the abdominal cavity.

(4) Never hurry an explorative incision, but never prolong one unnecessarily. Let discussion as to diagnosis occur after the peritoneum is closed: not while it is open.

DISCUSSION.

Dr. **Joseph D. Bryant** said that the question of exploratory laparotomy was to his mind the most important one at the present time connected with the subject of abdominal surgery. The distinction should invariably be borne in mind between exploratory laparotomy and what he termed laparotomy in its entirety. He believed that exploratory laparotomy was justifiable in all cases in which the diagnosis was doubtful, but with this reservation, that the means should always be at hand for performing the operation in a proper manner as regards antiseptic precautions, hygienic surroundings, etc. Unless the operation was surrounded with proper safe-guards, there was great danger that discredit would be thrown upon it, and that it would be relegated to the low position which it occupied a few years ago.

During the late war, gun-shot wounds of the abdomen, under the expectant plan of treatment, showed, notwithstanding the many discouraging circumstances which attended them, a percentage of from five to seven recoveries. To-day in laparotomy performed in its entirety, (which included a thorough examination of the abdominal cavity and its contents, the suturing of the wounded intestines, the thorough cleansing of the cavity, and the closure of the wound), there was found to be a percentage of recoveries of no less than sixteen, a gain of more than half. These figures included not only the reported cases, but a considerable number which had come to his personal knowledge, but which had never been publicly placed on record. In the cases actually reported there were nearly twenty-five per cent. of recoveries.

Dr. **E. G. Janeway** said that the part of the paper which particularly interested him was that which referred to certain diseases of the abdominal cavity. The question of laparotomy in medical cases was all the time coming more and more prominently before the profession. In peritonitis, however, the conditions were usually so unfavorable that it was impossible that the exploratory operation would be attended with very brilliant results. He said he became so impressed with the unfortunate results attending purely medical treatment in many cases of peritonitis, that in a case last spring he resolved to give the patient the benefit of the best surgical advice, and called Drs. W. T. Bull and Bryant in consultation. It was one in which there was no hope of recovery whatever, unless from operative procedure; and as this offered a possible chance (though the prospect was not by any means encouraging), it was resolved to perform laparotomy. This was accordingly done, but the patient unfortunately lived but for twelve hours afterward; the autopsy showing a perforation of the vermiform appendix. Still, he believed that the operation was justifiable, and he should recommend the same again in any case where the diagnosis could be made sufficiently early.

There was always more or less uncertainty, however, about the diagnosis in such cases, as was well illustrated in that of a physician which had come to his notice. This gentleman had already had attacks of what was apparently well-marked perityphilitis, when there was great pain and tenderness in the right iliac fossa; accompanied by a temperature of 104 lasting a week or ten days. Last, he had another such attack while in Boston, and laparotomy was performed there. Curiously enough, however, the exploration of the abdominal cavity revealed the fact that there was no assignable cause to be found for the trouble; though all the special symptoms regarded as characteristic of perityphilitis were present. Fortunately, the case terminated favorably, and now, at the end of five days after the operation, the patient was doing well.

In many cases of perforation of the intestines in typhoid fever he would be inclined to recommend the trial of laparotomy, if the condition were recognized (especially by the presence of hepatic resonance) sufficiently early; and one case of this kind with a favorable result had already been reported in Germany.

Dr. **Ira B. Read** presented the specimens from a case of

RUPTURE OF AN ANEURISM OF THE THORACIC AORTA,

as a sequel to a paper read before the Association several months ago. The case then reported was one of double popliteal aneurism where both femoral arteries were successfully ligated, the one in June, 1882, and the other in February, 1883. It was consequently more than three and a half years since the last operation, and more than four years since the first. The patient while pursuing his usual avocations died suddenly on the afternoon of October 29th, and at the autopsy made the following day the pericardium was found filled with blood. On opening it the heart was found to be completely imbedded in a large clot of blood, and further search showed that there was a rupture of the ascending portion of the aorta, the orifice in the sac easily admitting the finger. There was, however, but little dilatation observed, and other parts of the aorta showed marked atheromatous degenerations; so that rupture would soon have occurred in some of these had not the point of rupture described proved the weakest.

Dr. **Read** also exhibited a section of the femoral artery above and below the point of ligation. Below, the artery was occluded by what seemed to be an organized fibrous growth, while above, there was the ordinary appearance of the normal artery. Unfortunately, he said, he had never been able to examine the patient for abnormal heart-sounds or aneurismal bruits since the last operation; but at that time there were no physical signs of aortic aneurism.

He had not been able to find any probable cause for the arterial condition which existed in this case. The patient being a young man of thirty, apparently in full vigor, with no history of syphilis, either recent or remote, and not intemperate, he could only accept the fact that there was an atheromatous condition of the arteries which predisposed to aneurism and finally led to his death. The heart was normal in size, and the lungs and liver healthy in appearance; but the spleen and kidneys were very much enlarged.

Dr. **Janeway** presented a specimen of

PERFORATION OF THE INTESTINE IN A CASE OF TYPHOID FEVER.

Peritonitis was present for two and a half days before death, but the usual features of the liver on percussion was not replaced by resonance sufficiently early to permit any possible hope from a resort to exploratory laparotomy. The gas in such cases sometimes escaped very slowly, and the difficulty in regard to the operation was that, unless the liver flatness was lost and there was severe pain, we could not feel assured that peritonitis was present. Indeed, in all cases there was some degree of uncertainty, since instances of supposed perforation and peritonitis had been known to recover. In reality, however, they were cases of retinitis or of gastritis. Such cases, therefore, should make us hesitate to perform laparotomy unless the diagnosis were very clear.

President, Dr. C. A. Leale, presented a specimen of

FAHLBERG'S SACCHARINE.

This is a derivative of coal tar, and is said to be from 1,200 to 5,000 times as sweet as cane sugar. It is comparatively insoluble, and it is not known as yet whether it has any medicinal qualities or not.

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Recent Literature.

First Annual Report of the State Board of Health and Vital Statistics of Pennsylvania. Harrisburgh, 1886.

This first report shows that the State Board of Health of Pennsylvania has at once taken its place as an active, efficient organization. The first portion of the report consists of an abstract of its proceedings up to Oct. 1, 1885, together with a catalogue of its library.

The appendices forms the second and larger portion of the report.

Appendix A contains the reports of the Standing Committees, chief among which is the report of the Committee on Water-Supply, Sewerage, and kindred topics. This report is entirely devoted to the subject of the pollution of the Schuylkill River, and contains a carefully compiled table of statistics as to the industries along the banks of the river.

Appendix B deals with the sanitary condition of certain cities, chiefly that of Harrisburg.

Appendix C contains reports on epidemics and sources of disease, and is especially valuable for its very full and minutely detailed account of the epidemic of typhoid fever at Plymouth. The number taken sick was 1,153, deaths 114, and the financial cost of the epidemic estimated at $97,120.25. Reports upon other epidemics of typhoid fever and also of small-pox made up the remainder of this appendix.

Appendix D consists mainly of reports of inspections of local nuisances, and of camp-grounds.

Appendix E contains the quarantine regulations of Philadelphia, and also a description of the disinfecting apparatus employed at the Municipal Hospital in that city. This consists of a fire-proof building containing a furnace with disinfecting chamber (8 by 11 feet) for dry heat, and a fumigating chamber (6 by 11 feet). Another incinerating furnace has been constructed for the destruction of such articles as are worthless, or could not be disinfected by other means. A small fee is charged for disinfection, to those who are able to pay for the process. Great care is taken, in the conveyance of infected articles by a properly constructed vehicle.

The remaining appendices, F and G, contain the regulations of the Board, its circulars, forms, and official correspondence.

The power conferred upon the Board by Section 7 of the Organic Act, making the Board the supervisor of registration is an important one, and if fully exercised will make the State a valuable contributor to the vital statistics of the nation.

Ninth Biennial Report of the State Board of Health of California. Sacramento. 1886.

The efficiency of the State Board was crippled for a season by the loss of three of its members. Its President, Dr. Gibbens, the Secretary, Dr. Hatch, and also Dr. Rowell, the two former by death, and the latter by resignation.

The State Board have endeavored to secure a Registration Law, but without avail. A bill providing for "the analysis of mineral waters, plants, food and drugs, and for the prevention of adulteration" was enacted, but no adequate provision was made for the compensation of the State Analyst authorized by the same act.

The total number of deaths reported to the Board for the year ending June 30, 1885, was 8,238, of which number 4,741 were males and 3,002 were females. The deaths from consumption were 1,227, or a slightly less rate than that of Massachusetts.

The report contains a detailed account of the indigent sick of the State, treated in the County Hospitals. A considerable portion of the report is devoted to climatological discussion, particularly of certain vallies, and of the sea-coast region.

Other papers follow upon Trichinosis, Quarantine, Yellow Fever, and the Influence of Alcohol upon the Human Family. The latter is clearly stated, but in the paragraphs upon the poisonous adulteration of liquors, does not agree with the results obtained by examination made upon the Atlantic coast.

The following statement on page 69, that in "Massachusetts three hundred and ninety-three thousand cases of typhoid fever, with forty thousand deaths, *have been traced* to specific contamination of drinking water," shows an amount of discrimination as to the causes of this disease, which even the most enthusiastic sanitarian would hardly have dreamed to exist.

The Private Treatment of the Insane as Single Patients. By Edward East, M.R.C.S., L.S.A. London: J. & A. Churchill. 1886. pp. 67.

There is little doubt that insane patients of the wealthy class, might, in many instances, be spared not a little pain, could the practicability of private non-asylum treatment be satisfactorily demonstrated to the general practitioner. The value of Dr. East's *brochure* lies in his successful endeavor to show the desirability of treating singly, certain acute cases of insanity in persons of means, in properly selected quarters away from home. Useful information is given as to the selection of cases. The number both of cases and forms of insanity which are here considered suitable for this kind of care is not excessive when it is remembered that the means for securing a suitable house, and proper attendance and medical supervision are supposed to be always available. The writer says much that is true, and more that is overstated regarding the disastrous influences of asylum surroundings. The disadvantages of the method advocated, however few they may be, might also have been weighed with its merits, without injuring the author's cause. As it is, he will hardly be credited with giving dispassionate and impartial advice. The number of the insane of this class, who are treated at home, is large enough to call for precise details for guidance in practice. In the dearth of such information, many of Dr. East's suggestions will be especially welcome.

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RESEARCHES ON SNAKE-POISON.[1]

It is a pleasure to study the new memoir in which Dr. Mitchell has continued the account of his work on snake venoms. He secured the fortunate collaboration of Professor Reichert, and the coöperation of several institutions and scientific men. The new researches have been executed with so great skill, the results are so important, and the presentation of the whole matter is so excellent that the memoir must at once be ranked a classic, and the many persons, who coöperated with the authors, are doubtless well pleased with the new knowledge they have helped to harvest.

The subject of snake-poisons has manifold interests. The naturalist seeking the possible history of the evolution of such a gift finds suggestiveness in the similarity of the venomous secretion to that of the salivary glands, and in the affinity of the toxic substances to the normal proteid constituents of the blood. The physiologist wonders over the unknown device by which the tissues producing a poison remain in contact with it and yet are unharmed, the puzzle here being really the same as with the stomach, which digests all tissues save its own. The toxicologists are struck by the dissimilarity of the action of this poison from all others, while the pathologists watch with surprise the rapid and remarkable alterations of the tissues as well as the violent functional disturbances produced by minimal doses of the venom. Best of all, the physician hopes from such studies to gain new resources for the relief of suffering.

The memoir, which is published in handsome quarto form by the Smithsonian Institution, is an admirable example of scientific thoroughness and intelligence. The facts are presented without waste of phrases, in a natural sequence. Each assertion is confirmed by a careful statement of the character and number of experiments made, and the direct observations are clearly given as such; the interpretation is always presented separately. The expressions employed are exact, clear, and definite, and scarce a word is said not justified by the data at command. An occasional remissness may be noted, but no slip of consequence. We cite one flaw, which will illustrate the degree of error to be detected here and there. On page 5 the authors say: "nor can the venom of one kind of snake be distinguished with certainty by any physical peculiarity from that of any other, however remote they may be in the scale of being." The sentence implies that the authors know exhaustively all the physical peculiarities of all snakes, which of course they never meant to say. Nothing shows better the degree of merit of a writing than the faults we find in it. An honest use of adjectives designates a fault, such as we have given an example of, as small.

The essay by Dr. Mitchell and Dr. Reichert deserves praise not only for its display of that care and accuracy, which comes from good training and an appreciation of the requirements of scientific research, but also for the quality of thought, which is an ability and not an acquisition by education. We are glad to point to such an excellent essay as an example of American scientific culture. And as we look at the formidable bibliography of their subject given by the authors we are happy to think that there is one more paper, which is not mentioned in the list, but which contains the best of what has yet been done.

The paper may be best described as giving, first, an account of the poisonous globulins and poisonous peptones of the venom from a chemical standpoint; second, an account of the effects upon the living organism of the venom, and of each of its poisonous constituents.

The venoms bear a strong resemblance in some respects to the saliva of other vertebrates. The active principles of the venom are contained in its liquid parts only. The solid constituents are harmless. The venom may be dried and preserved indefinitely in this condition, with but very slight impairment of its toxicity. It will also keep dissolved in glycerine, probably for any length of time. It contains representatives of two classes of proteids, *globulins* and *peptones*, which are the toxic elements. During the intervals of digestion, the poison may be absorbed by the stomach in fatal quantities.

The poison exerts a powerful local effect upon the living tissues, and produces more rapid necrotic changes than any known substance. It causes œdema, swelling, attended with darkening of parts by infiltration of incoagulable blood, breaking down of tissues, putrefaction, and sloughing. It renders the blood incoagulable. When brought in contact with a vascular tissue of a warm-blooded animal, it produces such a change in the capillary bloodvessels that their walls are unable to resist the normal blood-pressure, thus allowing the blood-corpuscles to escape into the tissues. These lesions are, however, not analogous to those of inflammation, since, in the latter process, it is principally the white corpuscles which emigrate from the blood, and the blood is highly coagulable, while here the blood exudes *en masse*, and coagulates with difficulty, if at all. The action upon the red blood-globules is remarkable. These bodies undergo substantial modifications, that is, they lose their bi-concave shape, become spherical and softened, and fuse together into irregular masses, acting like soft, elastic, colloid material. Except as concerns the paralysis of the respiratory centres, the action upon the nervous system is of but little importance. Certain alterations in the blood-pressure and pulse-rate and in the respiratory movements have been determined, but seem to be subsidiary.

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[1] By Dr. S. Weir Mitchell and Dr. E. T. Reichert. Published by the Smithsonian Institute.

Death in venom-poisoning may occur through paralysis of the respiratory centres, paralysis of the heart, hæmorrhages in the medulla, or possibly through the inability of the profoundly-altered red blood-globules to perform their functions. There can be no question, however, that the respiratory centres are the parts of the system most vulnerable to venom, and that death is commonly due to their paralysis.

The fact that the active principles of venom are proteids, and closely related chemically to elements normally existing in the blood, renders almost hopeless the search for a chemical antidote which can prove available after the poison has reached the circulation, since it is obvious that we cannot expect to discover any substance, which, when placed in the blood, will destroy the deadly principles of venom without inducing a similar destruction of vital components in the circulating fluid. The outlook then for an antidote against venom, which may be available after the absorption of the poison, lies clearly in the direction of a physiological antagonist, or, in other words, of a substance which will oppose the actions of venom upon the most vulnerable parts of the system. The activities of venoms are, however, manifested in such diverse ways, and so profoundly and rapidly, that it does not seem probable that we shall ever discover an agent which will be capable, at the same time, of acting efficiently in counteracting all the terrible energies of these poisons.

The best treatment is a prompt application of a local antidote. Of the generally available local antidotes, the most promising are potassic permanganate, ferric chloride, and tincture of iodine.

Travellers among the Bushmen in South Africa report that they are in the habit of using the dried poison-sac of one snake as an antidote to the poisonous effects of the bite of a different species of reptile; and experience has taught them to rely so thoroughly upon the success of such an application that they do not fear the bite of any snake, however poisonous, if provided with such an antidote. The poison-sacs being reduced to powder are rubbed into the bite or into the incisions around it.

Among some tribes of the Bushmen an even greater power as an antidote is attributed to a small saurian called by them "N'auboo." This little lizard is dried and then powdered, and is rubbed into incisions around the bite of the poisonous snake. Whether with man or beast, this application is held in the highest esteem by the natives, and the observations of several travellers tend to confirm the statements of the natives as to the antidotal power of these poison-sacs and lizards.

An investigation of such claims by so competent an authority as Dr. Mitchell would be of interest.

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ON THE TREATMENT OF RETRO-DEVIATIONS OF THE UTERUS.

At the meeting of German Naturalists and Physicians recently held in Berlin, Professor Fraenkel, of Breslau, read a paper on retro-deviations of the uterus, in which he embodied the results of his gynæcological experience with these misplacements, for the past four years, or since the Thomas retroversion pessary has come into vogue in Germany.

Since October, 1882, Fraenkel has treated 5,180 persons suffering from gynæcological affections; of these, 936 or 18.07 per cent., were cases of retro-deviation, that is, 645 retroflexions and 291 retroversions; the latter figure as contrasted with the number of retroflexions, proves, so Fraenkel says, the inaccuracy of Bantock's statement that retroversion is the most frequent form of retro-deviation. Of these 936 cases of retro-deviation, 417 were patients seen in private practice, and 519 were out-door patients, treated at the polyclinic; the latter class belonged to the lower walks of life, were women who for the most part had undergone frequent pregnancies, were obliged to work hard, and had lacked the proper care during their confinements; these causes, coupled with habitual lack of suitable nourishment and rest, being fruitful in uterine misplacements, and especially retro-deviations.

In forming a judgment as to the frequency and permanence of a cure in these misplacements, Fraenkel was obliged to rely on the 417 cases in private practice, not being able to follow out the results of the treatment of the out-door patients. Of these 417 patients, 123 were cases where the uterus was irreducible, where no mechanical treatment was necessary, or where the patient was subsequently lost sight of; only 294 cases were left for a fair trial of the value of mechanical support.

The first step in the treatment was of course, to rectify the retro-deviation; this Fraenkel was generally able to accomplish with the hand alone, the patient being in the knee-elbow position; in only 23 cases was he obliged to make use of the sound to straighten out the uterus. In 47 cases he was compelled to call in the aid of an anæsthetic. The only pessary which Fraenkel has used for the past four years is the Thomas pessary, which, he thinks, is sure to retain the uterus in its normal position, keeps clean, and may be worn six months or more without being changed. Another advantage of this pessary is that it allows sexual connection as well as conception; it is, moreover, sufficiently flexible, may be moulded into any shape to fit the pelvis, and renders possible a permanent cure.

It is hardly necessary to say that retroflexion of the uterus entails sterility, absolute or relative. Retroflexion of the gravid uterus demands only an expectant treatment — provided that symptoms dependent on stasis, or compression of the uterus or neighboring viscera do not exist. The gravid uterus in retroflexion often spontaneously straightens itself as that organ rises out of the pelvis; it is not true, however, according to Fraenkel, that pregnancy cures the retro-deviation, which is almost sure to return after the accouchement. To prevent this, he advises in cases liable to this accident, the application of a large Hodge pessary the eighth or ninth day after confinement.

Of the 294 cases which Fraenkel has treated with the Thomas pessary, there are, he says, 24 in which there is no doubt as to an absolute and permanent cure. These patients have been continually under his observation. The average time during which the pessary was worn was a year; the maximum was 2¼ years, the minimum 2¼ and 3 months. He has no doubt that this ratio of 8.1 per cent. of permanently cured will be greatly increased as observations are continued.

"Despite all," says Fraenkel, "it must be confessed that every kind of pessary is an inconvenience. It is for this reason that gynæcologists have sought to cure the retro-deviation by surgical means. Hence it is that in 1884 Alexander Adam proposed his brilliant operation of shortening the round ligaments. According to the statistics of Doleris this operation has now been performed 118 times; in one-fourth of these cases for prolapses, in the other three-fourths for retro-deviation. Of these patients, three died from the operation, fourteen were without result, and in many of them a pessary became again necessary afterwards. The indications for the Alexander-Adam operation are still uncertain; in general they are said to be: the existence of a retroverted or retroflexed uterus, with descent of the ovaries which are tumefied and too sensitive to tolerate a pessary. Obesity and muscular atrophy in aged women render the operation more difficult, the round ligaments being hard to find, and in these cases the operation may be followed by an inguinal hernia.

"The period of observation is still too short to decide as to the definite success of this operation. In some instances, eight to twelve months after the operation, the result was quite satisfactory. From principle, however, we ought to decline the operation, because there have been cases of death, and because we ought not to hazard the lives of our patients to cure an affection which in no way menaces their existence.

"The failure of the operation depends on the fact that due regard is not had to the causes of the retro-deviation, or the prolapses. Shortening of the round ligaments does not always cause a retro-deviation to disappear, for either these ligaments again relax, or the shortening is such that a permanent pathological anteversion takes place, causing no less trouble to the patient than the previous retroversion.

"Is the descent of the ovaries an indication for the Alexander-Adam operation? I reply in the negative. If the prolapsed ovaries are movable, they may be reduced with the uterus, and are tributary to a mechanical treatment by the pessary; if they are adherent, very sensitive, and if they give rise to reflex neuralgias, it is better to perform castration, and to treat at the same time the retroflexion after the method of Schrœder, by attaching the broad ligament of the uterus (which must be put into a position of anteversion) in the inferior angle of the abdominal wound, and causing it to become adherent thereto. I know of but one indication for the Alexander-Adam operation, namely, grave prolapses, with retroflexion, or laceration of the cervix."

In the discussion which followed the reading of this paper, Kuestner, Hofmeir, Czerny, Viet, Frank, Schwarz, and Martin took part, approving in general of the views of Fraenkel above epitomized.

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THE GASTRONOMIC VALUE OF ODORS.

UNDER this head, Mr. Henry T. Finck writes an interesting article in the *Contemporary Review*. Instead of agreeing with Kant that smell "is the least grateful and indispensable of the senses, and that it is not worth while to cultivate it" he affirms "that a better knowledge of the facts compels us to urge that it is of the utmost importance that this sense should be cultivated and its gastronomic function universally recognized." "Were this done," he adds, "the average health and happiness of the community would be increased twenty per cent. or more. For it is no exaggeration to say that not one cook in a hundred knows how to cook, nor one person in a hundred how to eat."

In explaining why cooking and eating are arts in which practice has made few experts, he says that it has not been made sufficiently plain that everything in these arts depends on the sense of smell. He regards the proper object of cookery "to preserve and develop the countless delicious perfumes latent in the raw material of food, or to add others where the food is deficient in natural flavor;" and that the object of rational dining is to enjoy these gastronomic perfumes as intensely and as long as possible, on account of the advantages resulting therefrom to health and happiness."

Mr. Finck repudiates the notion that the indulgence of taste "is an ignoble sense of pleasure," as an echo of mediæval asceticism. The secret of the vitality and vigor of genuine epicures, he says, is because they live on the quintessence of food, which escapes most people. Now such epicures are generally hale and manly fellows, and jovial companions. They enjoy the full fragrance of every morsel they eat, by constantly breathing through their nose. There are two ways in which the efforts to extract all its fragrance from a morsel of food benefits the epicure: (1) To make the sensation one of "linked sweetness long drawn out," it is necessary to keep the morsel in the mouth as long as possible. Now the habit of eating slowly, is of the utmost importance if the organs of digestion are to be kept in a healthy condition. Mr. Finck repeats as probable a suggestion that Mr. Gladstone owes his remarkable physical vigor to certain rules of chewing food which he adopted in 1848, and to which he has adhered ever since: "he laid down as a rule for himself and children that thirty-two bites should be given to each mouthful of meat, and a somewhat less number to bread, fish, etc."

(2) A second and direct advantage resulting from an effort to get at the fragrant odors of food, he thinks, results from the value of these odors, when agreeable, in stimulating the flow of saliva and other alimentary

juices, thus making it sure that the food eaten will be thoroughly utilized in renovating the system. "This stimulating effect of gastronomic odors also explains the French saying that the appetite comes while eating, as well as our habit of reserving sweetmeats, nuts, cheese, etc., for the end of a meal, when rich odors are needed to brace up the flagging appetite. So great and salubrious is the effect of gastronomic odors in stimulating all the glands and functions of the body, that a dinner of savory, fragrant courses may produce in the diner a feeling of warmth and exhilaration, resembling the effects of wine, but with none of the depressing after effects following excessive indulgence in that liquor."

From an olfactory point of view this writer divides agreeable elements into two classes; those which are more fragrant externally, and those which develop superior odors after they are crushed by the teeth or tongue. Strawberries, apples, peaches, have a more refined and flower-like fragrance before they are put in the mouth than after. Cheeses, on the other hand, are not generally regarded as fragrant till they are being eaten. "The odor of Limburger is insupportable to many who, after they have courageously smuggled it past the nasal fortress find it very appetizing and good." The disagreeable external odor is neutralized by the fragrance which is set free as the cheese is crushed in the mouth.

Reference is made to Sir Henry Thompson's book on "Food and Feeding," which speaks of the appetizing odors of fresh meat and vegetables discerned in the national soup of France. He objects to the dried and compressed vegetables so much used at present, because "all the finest qualities of scent and flavor, with some of the fresh juices, are lost in the drying process." In braising, or rational stewing, the meat "becomes impregnated with the odors and flavors of fresh vegetables and sweet herbs." In roasting and broiling, the essential thing is to expose the meat to great heat at the very beginning, so as to coagulate the albumen and prevent the juices and aroma from escaping; then it must be finished under a lower temperature. "Frying, too, which is commonly decried as a barbarous method of cooking, because the dishes are apt to be soaked with unpalatable fat, becomes a valuable culinary method, if the lard is heated to about 400°, for then the object plunged into it is immediately surrounded with a delicious crust, which keeps out the fat, while it keeps *in* the juice and flavor."

In answering the question why dark meats are considered more dainty than white, Mr. Finck replies that it is because the natural aroma is always richer in dark meats. It also explains why the professional gourmand prefers game to poultry, for, in game, all the meat is dark and savory, that is, fragrant, because birds lead a more active life than domestic fowl, which have only dark meat on those limbs that are actively exercised.

In drinking wine, the most important thing, he says, to remember is that its essence, its soul, lies in the perfume or "bouquet." On this bouquet the commercial or gastronomic value of wines depend almost entirely.

Old wines, as a rule, are best, because age mellows their tartness, and intensifies their perfume. "Wine, unlike beer, should always be sipped, and the smaller the quantity taken at a time, the more delicious will be the fragrance."

Mr. Finck's article contains many sound dietetic hints, mixed with a certain amount of amusing gastronomic dilettanteism. If the attainment of remarkable physical vigor by the average American family depends upon the adoption of the rules for mastication attributed to Mr. Gladstone, we fear the digestive millenium for this nation is far removed. The man who counts the "bites" expended upon each article of food is a physiological prig, and there is no surer way of checking the natural functions of a gland than concentrating the mind too closely upon it.

MEDICAL NOTES.

— *Science* makes the somewhat astonishing announcement to its readers of "a new treatment for consumption consisting in the inhalation of *bacteria in the form of spray*."

— A recent presidential decree in France, says *Science*, regulates the instruction in gymnastics in the *lycées* and colleges for girls. The instruction must be given by female teachers, who must have received a certificate of aptitude from the proper authorities. Such teachers are to receive from 1,200 to 2,000 francs per year each, and may be required to teach sixteen hours a week. They must teach at least twelve hours a week.

BOSTON.

— As an example of enterprise in business, the following clauses from the announcement of a pharmaceutical firm recently established are certainly suggestive: In addition to the ordinary duties of the druggist, it is here proposed to examine the *indications* of the prescription, and to choose a quality of articles in its composition which will or will not (apparently) produce "decided effects."

"Squibb's preparations will be used in all prescriptions where minute accuracy of dose, and decided effects of the remedies are indicated. *Confidential*— Great reduction in price will be made on all prescriptions, but more particularly on those marked P. — poor, and V. P. — very poor. On physician's orders marked "self," for *anything* in our store (to be used by himself and family), *very* low prices will be made."

NEW YORK.

— Dr. Valentine Mott has been making a series of preventive inoculations in the case of two sons and an office-boy of Dr. T. W. Foster, of Yazoo County, Miss., who was bitten by a rabid dog on the third of November. Immediately afterwards Dr. Foster left home with the intention of taking the boys to Paris to be treated by Pasteur; but learning, on his arrival in New York, that Dr. Mott was provided with proper material for inoculating, which had originally been obtained from Pasteur, he decided to have the treatment carried out here. The process has now been completed, and the children, who suffered no inconvenience from the inoculations, are all in good condition. The young son of Dr. Nowell, of Jersey City, who was bitten by a dog supposed to be rabid, in June last, and afterwards subjected to the Pasteur treatment at the hands of Dr. Mott, continues well up to the present time. In his case the inoculations were discontinued after four had been made, as the boy exhibited certain distressing cardiac and respiratory symptoms for a short time after each inoculation, and his father was unwilling to have the treatment continued any longer.

— It has been ascertained that false-registering lactometers, marked as authorized by the Board of Health, have been sold to certain milk dealers, and a firm on College Place is to be prosecuted by the Board for their manufacture.

— Diphtheria of a fatal type has become increasingly prevalent of late. Among its victims a short time since, were three children of Dr. John Clausnitzen, a German physician living on Bleecker Street, and it is supposed they contracted the disease at the public school which they attended; an inspection by the Health Department revealing the existence of several sanitary defects about the building.

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Correspondence.

COLOR-BLINDNESS AMONG APPLICANTS FOR THE NAVY.

Boston, 15 Chestnut Street, December 3, 1886.

Mr. Editor,—The report of the Surgeon-General of the United States Navy states that "of the whole number of persons examined for enlistment during the year, 10,913, 79 were rejected for color-blindness, or feeble color-sense, 7.2+ per 1000 examined." This may be misunderstood, and it supposed that the medical officers of the navy could not detect the *four per cent.* always found among males. I have authority for stating that the seventy-nine were the defective among those only who were tested as to their color-sense. The report does not, unfortunately, say how many these latter were. Many applicants are turned aside at once for other cause, and their vision not examined. Dr. Gunnell, the present Surgeon-General, *now* requires the whole examination to be gone through with in every case, from which we shall have some valuable scientific data.

The report also states that during the last four years, out of 495 applicants for the Naval Academy, *eight* have been rejected on account of defective color-sense. Now all these applicants had been recommended by members of Congress, etc., and supposed to have been examined by some medical man as to their physical fitness, as is usual. This enforces my letter to the Journal of April 29th, 1886, on "Physical Examinations of Candidates for the United States Naval and Military Academies," in which I warn medical gentlemen examining candidates at the request of members of Congress.

Respectfully yours,
B. Joy Jeffries, M.D.,

CALCULI. THEIR ALLEGED "SPONTANEOUS" FRACTURE.[1]

Boston, December 4, 1886.

Mr. Editor, — Friable stones are no doubt broken by the contractions of a thickened bladder, much as English walnuts are in the hand. In the Harvard Medical School Museum there was a mass of little calculi from a patient, I think of the late Dr. Gay, which I supposed to have been so comminuted. There may be other causes of "spontaneous fracture," but this is probably a common one.

Very truly yours, H. J. B.

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NEW YORK SKIN AND CANCER HOSPITAL.

New York, December 4, 1886.

Mr. Editor, — It will interest many of your readers to learn that the New York Skin and Cancer Hospital, 243 East 34th Street, New York, and its country branch at Fordham, Westchester County, N. Y., have been for some time, and are now, ready for the admission of patients from this and other States. Applications may be directed to the undersigned Secretary of the Medical Board.

Yours very respectfully,
A. Jacobi, M.D., *Pres. Med. Board.*
L. D. Bulkley, M.D., 4 East 37th St., N. Y., *Sec. Med. Board.*

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REGULATION OF THE PRACTICE OF MEDICINE.

Leavenworth, Kansas, November 27, 1886.

Mr. Editor, — Pinon salve is the name of a remedy prepared by Dr. (?) Fowler of this city and his son in Kansas City, Mo., who claim to have derived their medical knowledge and skill from the Indians and from nature. The "*Doctor*" says other physicians don't like to have him practice because he has no "*diplomy*," but he uses only herbs and no minerals, therefore he thinks he is justified in treating patients, and does so, relying mainly on his cure-all "Pinon Salve." Whether there is any necessity for enacting laws and enforcing them to regulate the practice of medicine I leave to your judgment, after reading the following testimony given by the "*Doctor*" and a girl living in the house with one of his patients, named Carrie Carter, before the coroner in an investigation as to the cause of Miss Carter's death. I append the evidence copied verbatim from the coroner's records

Very truly yours, W. D. Bidwell, M.D.

Maria Johnson, being sworn, says, "I live here with the deceased and others. She complained about one o'clock on the night of the 23d inst. of cramps all over her body. I gave her red-pepper tea. It had no effect on her. When morning came, I went for Dr. Fowler, and he came at ten o'clock. The deceased was still in pain. He then gave her the half of a dose of morphine he had in a spoon of water, and *in ten minutes* he gave her the other half. Then she went to sleep, and soon waking, she complained of an itching and a hurting in her face. She then fell asleep, and we woke her once. She opened her eyes, and went to sleep again, and died at half-past eight last evening. She was subject to inward pains, and suffered in her limbs from rheumatism. Her breathing was hard and rapid before she died." Maria Johnson.

George Fowler, being sworn, states, "I am a practising physician, and was called on the 24th of this month to see and prescribe for a girl named Carrie Carter, corner of Dakota and Third in this city. On my arrival, I found her suffering from a severe attack of bilious colic. I gave her *five grains of morphine* in two doses, half an hour intervening between the two doses. In my judgment, from the symptoms she manifested she was *struck with death* when I arrived, her under jaw falling down, and her eyes rolling back, leaving nothing but the whites to be seen. Her

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[1] See Journal, Dec. 2d.

pulse had moved up towards her elbow, which, in my opinion, is a strong indication of approaching death. I observed the first dose of morphine had no effect in allaying the pain, and in fifteen minutes after taking the second dose, she gradually got into a case of stupor. I then made an examination externally of her abdomen, and found small lumps over the surface of her bowels, and to the best of my opinion, the pain and spasms accrued from these lumps. I then left the house, but returned between two and three o'clock, and found her sleeping, breathing very hard. Next morning I again called, and she was dead. *I do not think five grains of morphine was too much when divided into two parts, half an hour intervening between the doses.* Some time ago I gave her sister, Mrs. Richardson, *six grains of morphine*, and it had the effect of only making her drowsy. I generally buy my medicine at Aller's drug store, and use very little of it."

Attest, George Fowler. John C. Lynch, *Coroner.*

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 27, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,439,039	715	291	20.93	14.82	1.82	9.10	5.85
Philadelphia	971,363	404	136	16.25	4.75	2.25	8.50	—
Brooklyn	690,000	307	109	19.80	13.20	1.65	11.22	.33
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	164	50	12.81	14.03	1.83	4.27	1.22
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	127	42	18.96	20.64	—	12.64	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	140	48	13.49	12.07	2.84	3.55	.71
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	87	29	23.80	5.95	—	15.47	—
Pittsburgh	190,000	74	40	43.20	8.10	4.05	13.50	12 15
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	14	4	28.56	21.42	—	7.14	7.14
Charleston	60,145	44	17	9.08	18 16	—	4.54	—
Worcester	68,383	16	7	12.50	25.00	—	6.25	—
Lowell	64,051	21	12	28.56	14.28	—	19.04	—
Cambridge	59,660	26	8	19.25	7.70	—	11.55	—
Fall River	56,863	25	16	12.00	12.00	—	12.00	—
Lynn	45,861	14	3	14.28	21.42	7.14	7.14	—
Lawrence	38,825	11	2	—	9.09	—	—	—
Springfield	37,577	8	1	12.50	25.00	—	12.50	—
New Bedford	33,393	12	1	8.33	25.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	2	11.11	11.11	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	3	0	—	—	—	—	—
Taunton	23,674	9	—	11.11	11.11	—	—	—
Haverhill	21,795	8	1	25.00	—	—	—	—
Gloucester	21,713	7	2	57.12	28.56	—	57.12	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	1	—	20.00	—	20.00	—
Malden	16,407	—	—	20.00	—	—	—	—
Fitchburg	15,375	2	1	—	50.00	—	—	—
Waltham	14,609	0	0	—	—	—	—	—
Newburyport	13,716	4	0	—	25.00	—	—	—
Northampton	12,896	8	4	25.00	12.50	—	25.00	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,264: under five years of age 827: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 441, lung diseases 303, consumption 290, diphtheria and croup 202, measles 59, diarrhœal diseases 52, typhoid fever 51, malarial fever 31, scarlet fever 20, whooping-cough 10, cerebro-spinal meningitis seven, puerperal fever five, erysipelas four. From typhoid fever, Philadelphia 13, New York 10, Baltimore six. Brooklyn and Boston five each, District of Columbia three, Pittsburgh and Cambridge two each, Charleston, New Bedford, Salem, Taunton and Haverhill one each. From malarial fevers, New York 10, Brooklyn six, New Orleans seven, Philadelphia four, Baltimore, District of Columbia, Nashville and Charleston one each. From scarlet fever, Brooklyn six, New York four, Philadelphia three, Pittsburgh four, Boston two, Baltimore one. From whooping-cough New York and Pittsburgh three each, Brooklyn, Boston, New Orleans and District of Columbia one each. From cerebro-spinal meningitis, New York four, Lowell two, Nashville one. From puerperal fever, Philadelphia two, Brooklyn, Boston and Worcester one each. From erysipelas, New York, Brooklyn, New Orleans and Pittsburgh one each. One case of small-pox reported in Pittsburgh.

In the 19 cities and greater towns of Massachusetts, with a population of 983,791 (population of the State 1,941,465), the total death-rate for the week was 19.03 against 16.64 and 19.33 for the two preceding weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,093,817, for the week ending November 6th, the death-rate was 18.2. Deaths reported 3,172: infants under one year of age 793; acute diseases of the respiratory organs (London) 293, diarrhœa 102, scarlet fever 74, measles 66, fever 52, whooping-cough 42, diphtheria 32.

The death-rates ranged from 11.9 in Derby to 28.0 in Wolverhampton; Birkenhead 14.2; Birmington 15.0; Huddersfield 21.2; Hull 17.2; Leeds 23.2; Leicester 16.8; Liverpool 19.8; London 16.7; Manchester 24.5; Nottingham 14.6; Sheffield 20.1; Sunderland 15.6.

In Edinburgh 24.8; Glasgow 24.1; Dublin 26.2.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending November 13th the death-rate was 19.5. Deaths reported 3,407: infants under one year of age 886: acute diseases of the respiratory organs (London) 321, scarlet fever 91, measles 81, diarrhœa 80, fever 69, diphtheria 36, whooping-cough 44.

The death-rates ranged from 13.9 in Brighton to 30.0 in Oldham; Birmingham 18.1; Bradford 17.4; Hull 20.7; Leeds 21.7; Leicester 17.6; Liverpool 23.8; London 17.9; Manchester 23.8; Nottingham 19.2; Sheffield 17.3.

In Edinburgh 21.1; Glasgow 23.4; Dublin 23.6.

For the week ending November 13th, in the Swiss towns, there were 32 deaths from consumption, lung diseases 16, diarrhœal diseases nine, diphtheria and croup four, measles two, whooping-cough two, puerperal fever two, typhoid fever one.

The death-rates were: at Zurich 9.5; Geneva 21.1; Basle 21.5; Berne 17.7.

The meteorological record for the week ending November 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Nov. 27, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...21	29.971	41.0	49.1	37.0	76.0	55.0	65.0	65.3	W.	N.W.	N.W.	12	13	4	C.	F.	C.	—	—
Monday,.. 22	30.195	39.9	46.6	32.1	81.0	40.0	45.0	55.3	W.	N.W.	N.E.	7	10	2	C.	C.	O.	—	—
Tuesday,..23	29.681	49.9	59.8	36.1	79.0	99.0	90.0	89.3	S.E.	S.	S.W.	13	7	16	R.	R.	O.	—	—
Wednes... 24	29.713	45.2	63.3	36.2	75.0	60.0	62.0	66.3	W.	N.W.	W.	12	24	10	C.	C.	C.	—	—
Thursday, 25	29.788	37.4	39.8	34.2	64.0	83.0	100.0	82.3	W.	E.	N.	6	9	6	O.	R.	R.	—	—
Friday, ...26	30.103	34.7	39.5	31.5	71.0	57.0	74.0	67.3	W.	N.W.	W.	20	21	9	C.	F.	C.	—	—
Saturday, .27	30.257	32.5	40.3	26.5	82.0	48.0	69.0	66.3	W.	W.	W.	8	11	6	C.	C.	C.	33.	1.00
Mean, the Week.	29.958	40.1	48.3	33.4				70.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 27, 1886, TO DECEMBER 3, 1886.

Caldwell, Daniel G., major and surgeon. Granted twenty days extension of his leave of absence. S. O. 278, A. G. O., December 1, 1886.

Moseley, E. B., captain and assistant surgeon. Relieved from duty as attending surgeon in San Francisco, Cal. S. O. 99, Division of the Pacific, November 19, 1886.

Moseley, Edward B., captain and assistant surgeon. Directed to take charge of the medical purveying depot, San Francisco, Cal., until the arrival of a proper bonded officer. S. O. 99, Division of the Pacific, November 19, 1886.

Tesson, Louis S., captain and assistant surgeon. Granted leave of absence for four months, to date from November 13, 1886. S. O. 278, A. G. O., December 1, 1886.

Egan, Peter R., first lieutenant and assistant surgeon. Assigned to duty at Fort Clark, Tex. S. O. 162, Department of Texas, November 22, 1886.

Wakeman, Wm. J., first lieutenant and assistant surgeon. Leave of absence extended three months. S. O. 274, A. G. O., November 26, 1886.

McCaw, W. D., first lieutenant and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared. S. O. 274, A. G. O., November 26, 1886.

Anderson, C. L. G., first lieutenant and assistant surgeon. (Recently appointed). Ordered for assignment in Department of Arizona. S. O. 277, A. G. O., November 30, 1886.

Ball, Robert R., first lieutenant and assistant surgeon. (Recently appointed.) Ordered for duty in Department of the Missouri. S. O. 278, A. G. O., December 1, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 4, 1886.

Farnell, W. G., surgeon. Detached from the "Kearsarge," proceed home and wait orders.

Gatewood, J. D., passed assistant surgeon. Detached from the "Kearsarge," proceed home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING NOVEMBER 27, 1886.

Williams, L. L., assistant surgeon. Granted leave of absence for twenty-four days, to take effect when relieved, November 15, 1886.

McIntosh, W. P., assistant surgeon. Granted leave of absence for twenty-seven days, November 26, 1886.

Norman, Seaton, assistant surgeon. When relieved to rejoin station (New York); granted leave of absence for twenty-three days, November 27, 1886.

APPOINTMENT.

Dr. W. L. Munro, of Providence, has been appointed Surgeon to Out-patients at the Rhode Island Hospital.

SOCIETY NOTICES.

Rhode Island Medical Society. — A regular quarterly meeting of the Rhode Island Medical Society will be held in Lyceum Hall, 62 Westminster Street Providence, on Thursday, December 16, 1886, at 10 o'clock, A.M. Papers by Drs. W. R. White, F. P. Capron, and C. V. Chapin.

G. D. Hersey, *Secretary*.

Suffolk District Medical Society. Obstetric and Gynæcological Section. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, December 15th, at 7.45 o'clock. The meeting will open with a discussion upon a paper read at the last meeting by Dr. E. W. Cushing, entitled, "On Erosions of the Os Uteri, with Demonstrations by Stereoptican of Photographs from Life and Micro-photographs." Drs. R. H. Fitz, W. H. Baker, H. O. Marcy, W. E. Boardman, C. M. Green and J. W. Elliot will take part in the debate. Reader: by invitation, Dr. W. S. Brown, of Stoneham, "The Rôle of the Ovary." Refreshments after the meeting.

James R. Chadwick, M.D., *Chairman*.
Robert B. Dixon, M.D., *Secretary*.

DEATH.

Died, in Boston, December 4, 1886, Frederic Clinton Woodbury, M.D., M.M.S.S., aged twenty-five years.

BOOKS AND PAMPHLETS RECEIVED.

The Physicians' Visiting List. (Lindsay and Blakiston's) for 1887. Thirty-Sixth Year of its Publication.

A Case of Injury from a Strong Electric Current. By Harold N. Mayer, M.D., Assistant to the Chair for Diseases of the Nervous System, Rush College, Chicago. (Reprint.)

A Summary of Tolsti's Views on Arterio-Capillary Sclerosis. By F. B. Stephenson, M.D., United States Navy. New York: 1886. (Reprint.)

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Lectures.

SCIENTIFIC MEN AND THEIR DUTIES.[1]

BY JOHN S. BILLINGS, M.D., LL D., (HARV.), *Surgeon U. S. A.*

Mr. Chairman and Fellow Members of the Philosophical Society: — The honor of the presidency of such a society as this — carrying with it, as it does, the duty of giving at the close of the term of office an address on some subject of general interest, has been aptly compared to the little book mentioned in the Revelations of St. John — the little book which was "sweet in the mouth but bitter in the belly." I can only thank you for the honor, and ask your indulgence as to the somewhat discursive remarks which I am about to inflict upon you.

There is a Spanish proverb to the effect that no man can at the same time ring the bell and walk in the procession. For a few moments to-night I am to ring the bell, and being thus out of the procession I can glance for a moment at that part of it which is nearest. At first sight it does not appear to be a very homogeneous or well-ordered parade, for the individual members seem to be scattering in every direction, and even sometimes to be pulling in opposite ways; yet there is, after all, a definite movement of the whole mass in the direction of what we call progress. It is not this general movement that I shall speak of, but rather of the tendencies of individuals or of certain classes; some of the molecular movements, so to speak, which are not only curious and interesting of themselves, but which have an important bearing upon the mass, and some comprehension of which is necessary to a right understanding of the present condition and future prospects of science in this country.

The part of the procession of which I speak is made up of that body or class of men who are known to the public generally as "scientists," "scientific men," or "men of science." As commonly used, all these terms have much the same significance; but there are, nevertheless, shades of distinction between them, and in fact we need several other terms for purposes of classification of the rather heterogeneous mass to which they are applied. The word "scientist" is a coinage of the newspaper reporter, and as ordinarily used, is very comprehensive. Webster defines a scientist as being "one learned in science, a savant" — that is, a wise man — and the word is often used in this sense. But the suggestion which the word conveys to my mind is rather that of one whom the public suppose to be a wise man, whether he is so or not, of one who claims to be scientific. I shall, therefore, use the term "scientist" in the broadest sense, as including scientific men, whether they claim to be such or not, and those who claim to be scientific men whether they are so or not.

By a scientific man I mean a man who uses scientific method in the work to which he specially devotes himself; who possesses scientific knowledge, not in all departments, but in certain special fields. By scientific knowledge we mean knowledge which is definite and which can be accurately expressed. It is true that this can rarely be done completely, so that each proposition shall precisely indicate its own conditions, but this is the ideal at which we aim. There is no man now living who can properly be termed a complete savant, or scientist, in Webster's sense of the word. There are a few men who are not only thoroughly scientific in their own special departments, but are also men possessed of much knowledge upon other subjects and who habitually think scientifically upon most matters to which they give consideration; but these men are the first to admit the incompleteness and superficiality of the knowledge of many subjects which they possess, and to embrace the opportunity which such a society as this affords of meeting with students of other branches and of making that specially advantageous exchange in which each gives and receives, yet retains all that he had at first.

Almost all men suppose that they think scientifically upon all subjects; but, as a matter of fact, the number of persons who are so free from personal equation due to heredity, to early associations, to emotions of various kinds, or to temporary disorder of the digestive or nervous machinery that their mental vision is at all times achromatic and not astigmatic, is very small indeed.

Every educated, healthy man possesses some scientific knowledge, and it is not possible to fix any single test or characteristic which will distinguish the scientific from the unscientific man. There are scientific tailors, bankers and politicians, as well as physicists, chemists, and biologists. Kant's rule, that in each special branch of knowledge the amount of science, properly so called, is equal to the amount of mathematics it contains, corresponds to the definition of pure science as including mathematics and logic, and nothing else. It also corresponds to the distinction which most persons, consciously or unconsciously, make between the so-called physical and the natural or biological sciences. Most of us, I presume, have for the higher mathematics, and for the astronomers and physicists who use them, that profound respect which pertains to comparative ignorance, and to a belief that capacity for the higher branches of abstract analysis is a much rarer mental quality than are those required for the average work of the naturalist. I do not, however, propose to discuss the hierarchy of the sciences; and the term science is now so generally used in the sense of knowledge, more or less accurate, of any subject, more especially in the relations of causes and effects, that we must use the word in this sense, and leave to the future the task of devising terms which will distinguish the sciences, properly so called, from those branches of study and occupation of which the most that can be said is that they have a scientific side. It is a sad thing that words should thus become polarized and spoiled, but there seems to be no way of preventing it.

In a general way we may say that a scientific man exercises the intellectual more than the emotional faculties, and is governed by his reason rather than by his feelings. He should be a man of both general and special culture, who has a little accurate information on many subjects, and much accurate information on some one or two subjects, and who, moreover, is aware of his own ignorance, and is not ashamed to confess it.

We must admit that many persons who are known as scientists do not correspond to this definition. Have you never heard, and perhaps assented to, some such statements as these: "Smith is a scientist, but he does n't seem to have good, common sense," or "he is a scientific crank?"

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[1] President's address before the Philosophical Society of Washington, D. C., December 4th, 1886.

The unscientific mind has been defined as one which "is willing to accept and make statements of which it has no clear conception to begin with, and of whose truth it is not assured. It is the state of mind where opinions are given and accepted without ever being subjected to rigid tests." Accepting this definition, and also the implied definition of a scientific mind as being the reverse of this, let us for a moment depart from the beaten track which presidential addresses usually follow, and instead of proceeding at once to eulogize the scientific mind and to recapitulate the wonderful results it has produced, let us consider the unscientific mind a little, not in a spirit of lofty condescension and ill-disguised contempt, but sympathetically, and from the best side that we can find. As this is the kind of mind which most of us share with our neighbors, to a greater or less degree, it may be as well not to take too gloomy a view of it. In the first place, the men with unscientific minds form the immense majority of the human race.

Our associations, habits, customs, laws, occupations, and pleasures are, in the main, suited to these unscientific minds, whose enjoyment of social intercourse, of the every-day occurrences of life, of fiction, of art, poetry, and the drama is, perhaps, none the less because they give and accept opinions without subjecting them to rigid tests. It is because there are a goodly number of men who do this that the sermons of clergymen, the advice of lawyers, and the prescriptions of physicians have a market value. This unscientific public has its uses. We can at least claim that we furnish the materials for the truly scientific mind to work with and upon; it is out of this undifferentiated mass that the scientific mind supposes itself to be developed by specialization, and from it that it obtains the means of its own existence. The man with the unscientific mind, who amuses himself with business enterprises, and who does not care in the least about ohms or pangenesis, may, nevertheless, be a man who does as much good in the world, is as valuable a citizen, and as pleasant a companion as some of the men of scientific minds with whom we are acquainted.

And, in this connection, I venture to express my sympathy for two classes of men who have in all ages been generally condemned and scorned by others, namely, rich men and those who want to be rich. I do not know that they need the sympathy, for our wealthy citizens appear to support with much equanimity the disapprobation with which they are visited by lecturers and writers — a condemnation which seems in all ages to have been bestowed on those who have by those who have not.

So far as those who actually are rich are concerned, we may, I suppose, admit that a few of them — those who furnish the money to endow universities and professorships, to build laboratories, or to furnish in other ways the means of support to scientific men — are not wholly bad. Then, also, it is not always a man's own fault that he is rich; even a scientist may accidentally and against his will become rich.

As to those who are not rich, but who wish to be rich, whose chief desire and object is to make money, either to avoid the necessity for further labor, or to secure their wives and children from want, or for the sake of power and desire to rule, I presume it is unsafe to try to offer any apologies for their existence. But when it is claimed for any class of men, scientists or others, that they do not want these things it is well to remember the remarks made by old Sandy Mackay after he had heard a sermon on universal brotherhood: "And so the deevil's dead. Puir auld Nickie; and him so little appreciated, too. Every gowk laying his sins on auld Nick's back. But I'd no bury him until he began to smell a wee strong like. It's a grewsome thing is premature interment."

I have tried to indicate briefly the sense in which the terms "scientist" and "scientific man" are to be used and understood, and you see it is not an easy matter. The difficulty is less as regards the term "man of science." By this expression we mean a man who belongs to science peculiarly and especially, whose chief object in life is scientific investigation, whose thoughts and hopes and desires are mainly concentrated upon his search for new knowledge, whose thirst for fresh and accurate information is constant and unsatiable. These are the men who have most advanced science, and whom we delight to honor, more especially in these later days, by glowing eulogiums of their zeal, energy, and disinterestedness.

The man of science, as defined by his eulogists, is the *beau idéal* of a philosopher, a man whose life is dedicated to the advancement of knowledge for its own sake, and not for the sake of money or fame, or of professional position or advancement. He undertakes scientific investigations exclusively or mainly because he loves the work itself, and not with any reference to the probable utility of the results. Such men delight in mental effort, or in the observation of natural phenomena, or in experimental work, or in historical research in giving play to their imagination, in framing hypotheses, and then in endeavoring to verify or disapprove them, but always the main incentive is their own personal satisfaction (with which may be mingled some desire for personal fame), and not the pleasure or the good of others. Carried to an extreme, the eulogy of such men and their work is expressed in the toast of the Mathematical Society of England: "Pure mathematics; may it never be of use to any man!" Now, it is one thing to seek one's own pleasure, and quite another thing to pride one's self upon doing so. The men who do their scientific work for the love of it do some of the best work, and, as a rule, do not pride themselves on it, or feel or express contempt for those who seek their pleasure and amusement in other directions. It is only from a certain class of eulogists of pure science, so called, that we get such specimens of scientific "dudeism" as the toast just quoted, opposed to which may be cited the Arab saying that "A wise man without works is like a cloud without water."

There are other men who devote themselves to scientific work, but who prefer to seek information that may be useful; who try to advance our knowledge of Nature's laws in order that man may know how to adapt himself and his surroundings to those laws, and thus be healthier and happier. They make investigations, like the men of pure science — investigations in which they may or may not take pleasure, but which they make, even if tedious and disagreeable, for the sake or solving some problem of practical importance. These are the men who receive from the public the most honor, for it is seen that their work benefits others. After all, this is not peculiar to the votaries of science. In all countries and all times, and among all sorts and conditions of men, it has always been agreed that the best life, that which most deserves praise, is that which is devoted to the helping others, which is unselfish, not stained by envy or jealousy, and which has as its main pleasure and spring of action the desire of making other lives more pleasant, of bringing light into the dark places, of helping humanity.

But, on the other hand, the man who makes a profession of doing this, and who makes a living by so doing, the professional philanthropist, whether he be scientist or emotionalist, is by no means to be judged by his own assertions. Some wise German long ago remarked that "*Esel singen schlecht, weil sie zu hoch anstimmen*" — that is, "asses sing badly because they pitch their voices too high," and it is a criticism which it is well to bear in mind.

In one of the sermons of Kin O's[2] the preacher tells the story of a powerful clam who laughed at the fears of other fish, saying that when he shut himself up he felt no anxiety; but on trying this method on one occasion, when he opened his shell he found himself in a fishmonger's shop. And to rely on one's own talents, on the services one may have rendered, on cleverness, judgment, strength, or official position, and to feel secure in these, is to court the fate of the clam.

There are not very many men of science, and there are no satisfactory means of increasing the number; it is just as useless to exhort men to love science, or to sneer at them because they do not, as it is to advise them to be six feet three inches high, or to condemn a man because his hair is not red.

While the ideal man of science must have a "clear, cold, keen intellect, as inevitable and as merciless in its conclusions as a logic engine," it would seem that, in the opinion of some, his greatness and superiority consists not so much in the amount of knowledge he possesses, or in what he does with it, as in the intensity and purity of his desire for knowledge.

This so-called thirst for knowledge must be closely analogous to an instinctive desire for exercise of an organ or faculty, such as that which leads a rat to gnaw, or a man of fine physique to delight in exercise. Such instincts should not be neglected. If the rat does not gnaw, his teeth will become inconvenient or injurious to himself, but it is not clear that he deserves any special eulogium merely because he gnaws.

It will be observed that the definition of a scientific man or man of science, says nothing about his manners or morals. We may infer that a man devoted to science would have neither time nor inclination for dissipation or vice; that he would be virtuous either because of being passionless, or because of his clear foresight of the consequences of yielding to temptation.

My own experience, however, would indicate that this inference is not correct, or that some supposed scientific men have been wrongly classified as such. How far the possession of a scientific mind and of scientific knowledge compensates, or atones for, ill-breeding or immorality, for surliness, vanity, and petty jealousy, for neglect of wife or children, for uncleanliness, physical and mental, is a question which can only be answered in each individual case; but the mere fact that a man desires knowledge for its own sake appears to me to have little to do with such questions. I would prefer to know whether the man's knowledge and work is of any use to his fellow-men, whether he is the cause of some happiness in others which would not exist without him. And it may be noted that while utility is of small account in the eyes of some eulogists of the man of science, they almost invariably base their claims for his honor and support upon his usefulness.

The precise limit beyond which a scientist should not make money has not yet been precisely determined, but in this vicinity there are some reasons for thinking that the maximum limit is about $5,000 per annum. If there are any members of the Philosophical Society of Washington who are making more than this, or who, as the result of careful and scientific introspection, discover in themselves the dawning of a desire to make more than this, they may console themselves with the reflection that the precise ethics and etiquette which should govern their action under such painful circumstances have not yet been formulated. The more they demonstrate their indifference to mere pecuniary considerations, the more creditable it is to them; so much all are agreed upon; but this is nothing new, nor is it specially applicable to scientists. Yet while each may and must settle such questions as himself for himself, let him be very cautious and chary about trying to settle them for other people. Denunciations of other men engaged in scientific pursuits, on the ground that their motives are not the proper ones, are often based on insufficient or inaccurate knowledge, and seldom, I think, do good.

This is a country and an age of hurry, and there seems to be a desire to rush scientific work, as well as other things. One might suppose, from some of the literature on the subject, that the great object is to make discoveries as fast as possible; to get all the mathematical problems worked out; all the chemical combinations made; all the insects and plants properly labelled; all the bones and muscles of every animal figured and described. From the point of view of the man of science, there does not seem to be occasion for such haste. Suppose that every living thing were known, figured, and described. Would the naturalist be any happier? Those who wish to make use of the results of scientific investigation, of course, desire to hasten the work, and when they furnish the means, we cannot object to their urgency; moreover, there is certainly no occasion to fear that our stock of that peculiar form of bliss known as ignorance will be soon materially diminished.

From my individual point of view, one of the prominent features in the scientific procession is that part of it which is connected with Government work. Our Society brings together a large number of scientific men connected with the various Departments, some of them original investigators; most of them men whose chief, though not only pleasure is study. A few of them have important administrative duties, and are brought into close relations with the heads of Departments and with Congress. Upon men in such positions a double demand is made, and they are subject to criticism from two very different standpoints. On the one hand are the scientists, calling for investigations which shall increase knowledge, without special reference to utility, and sometimes asking that employment be given to a particular scientist, on the ground that the work to which he wishes to devote himself is of no known use, and, therefore, will not support him. On the other hand, is the demand from the business men's point of view — that they shall show practical results; that in demands for appropriations from the public funds, they shall demonstrate that the use to be made of such appropriations is for the public good, and that their accounts shall show that the money has been properly expended — "properly," not merely in the sense of usefully, but also in the legal sense — in the sense which was meant by Congress in granting the funds. Nay, more, they must consider not only the intentions of Congress, but the opinions of the accounting officers of the Treasury, the comptroller and auditor, and their clerks, and not rely solely on their own interpretation of the statutes, if they would work to the best advantage, and not have life made a perpetual burden and vexation of spirit.

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[2] Cornhill Magazine, August, 1869, p. 196.

There is a tendency on the part of business men and lawyers to the belief that scientific men are not good organizers or administrators, and should be kept in leading-strings; that it is unwise to trust them with the expenditure of, or the accounting for, money, and that the precise direction in which they are to investigate should be pointed out to them. In other words, that they should be made problem-solving machines as far as possible. When we reflect on the number of persons, who, like Mark Twain's cat, feel that they are "nearly lightning on superintending"; on the desire for power and authority, which is almost universal, the tendency to this opinion is not to be wondered at. Moreover, as regards the man of science, there is some reason for it in the very terms by which he is defined, the characteristics for which he is chiefly eulogized.

The typical man of science is, in fact, in many cases an abnormity, just as a great poet, a great painter, or a great musician is apt to be, and this not only in an unusual development of one part of the brain, but in an inferior development in others. True, there are exceptions to this rule — great and illustrious exceptions; but I think we must admit that the man of science often lacks tact, and is indifferent to, and careless about matters which do not concern his special work, and especially about matters of accounts and pecuniary details. If such a man is at the head of a bureau, whose work requires many subordinates, and the disbursement of large sums of money, he may consider the business management of his office as a nuisance, and delegate as much of it as possible to some subordinate official, who, after a time, becomes the real head and director of the bureau. Evil results have, however, been very rare, and the recognition of the possibility of their occurrence is by no means an admission that they are a necessity, and still less of the proposition that administrative officers should not be scientific men.

I feel very sure that there are always available scientific men, thoroughly well informed in their several departments, who are also thoroughly good business men, and are as well qualified for administrative work as any. When such men are really wanted, they can always be found, and, as a matter of fact, a goodly number of them have been found, and are now in the Government service.

The head of a bureau has great responsibilities; and while his position is, in many respects, a desirable one, it would not be eagerly sought for by most scientific men if its duties were fully understood.

In the first place the bureau chief must give up a great part of his time to routine hack work. During his business, or office, hours he can do little else than this routine work, partly because of its amount, and partly because of the frequent interruptions to which he is subjected. His visitors are of all kinds and come from all sorts of motives — some to pass away half an hour, some to get information, some seeking office.

It will not work well if he takes the ground that his time is too important to be wasted on casual callers and refers them to some assistant. In the second place he must, to a great extent at least, give up the pleasure of personal investigation of questions that specially interest him, and turn them over to others. It rarely happens that he can carry out his own plans in his own way, and perhaps it is well that this should be the case. The general character of his work is usually determined for him either by his predecessors, or by Congress, or by the general consensus of opinion of scientific men interested in the particular subject or subjects to which it relates. This last has very properly much weight; in fact, it has much more weight than one might suppose, if he judged from some criticisms made upon the work of some of our bureaus whose work is more or less scientific. In these criticisms it is urged that the work has not been properly planned and correlated; that it should not be left within the power of one man to say what should be done; that the plans for work should be prepared by disinterested scientific men — as, for instance, by a committee of the National Academy — and that the function of the bureau official should be executive only.

I have seen a good deal of this kind of literature within the last ten or twelve years, and some of the authors of it are very distinguished men in scientific work; yet I venture to question the wisdom of such suggestions. As a rule, the plans for any extended scientific work to be undertaken by a Government department are the result of very extended consultation with specialists, and meet with the approval of the majority of them. Were it otherwise, the difficulties in obtaining regular annual appropriations for such work would be great and cumulative, for in a short time the disapproval of the majority of the scientific public would make itself felt in Congress. It is true that the *vis inertiæ* of an established bureau is very great. The heads of Departments change with each new administration, but the heads of bureaus remain; and if an unfit man succeeds in obtaining one of these positions, it is a matter of great difficulty to displace him; but it seems to me to be wiser to direct the main effort to getting right men in right places rather than to attempt to elaborate a system which shall give good results with inferior men as the executive agents, which attempt is a waste of energy.

You are all familiar with the results of the inquiry which has been made by a Congressional committee into the organization and work of certain bureaus which are especially connected with scientific interests, and with the different opinions which this inquiry has brought out from scientific men. I think that the conclusion of the majority of the committee, that the work is, on the whole, being well done, and that the people are getting the worth of their money, is generally assented to. True, some mistakes have been made, some force has been wasted, some officials have not given satisfaction; but is it probable that any other system would give so much better results that it is wise to run the risk of change?

This question brings us to the only definite proposition which has been made in this direction, namely, the proposed Department of Science, to which all the bureaus whose work is mainly scientific, such as the Coast Survey, the Geological Survey, the Signal Service, the Naval Observatory, etc., shall be transferred.

The arguments in favor of this are familiar to you, and, as regards one or two of the bureaus, it is probable that the proposed change would effect an improvement; but as to the desirability of centralization and consolidation of scientific interests and scientific work into one department under a single head, I confess that I have serious doubts.

One of the strongest arguments in favor of such consolidation that I have seen, is the address of the late president of the Chemical Society of Washington, Professor Clarke, "On the Relations of the Government to Chemistry," delivered about a year ago. Professor Clarke advises the creation of a large, completely-equipped laboratory, planned by chemists and managed by chemists, in which all the chemical researches required by any department of the Government shall be made, and the abandonment of individual laboratories in the several bureaus on the ground that these last are small, imperfectly equipped, and not properly specialized; that each chemist in them has too broad a range of duty and receives too small a salary to command the best professional ability. He would have a national laboratory, in which one specialist shall deal only with metals, another with food products, a third with drugs, etc., while over the whole, directing and correlating their work, shall preside the ideal chemist, the all-round man, recognized as the leader of the chemists of the United States. And so should the country get better and cheaper results. It is an enticing plan and one which might be extended to many other fields of work. Granting the premises that we shall have the best possible equipment, with the best possible man at the head of it, and a sufficient corps of trained specialists, each of whom will contentedly do his own work as directed and be satisfied, so that there shall be no jealousies, or strikes, or boycotting, and we have made a long stride toward Utopia. But before we centralize in this way we must settle the question of classification. Just as in arranging a large library there are many books which belong in several different sections, so it is in applied science. Is it certain that the examination of food-products or of drugs, should be made under the direction of the national chemist rather than under that of the departments which are most interested in the composition and quality of these articles? This does not seem to be a self-evident proposition by any means. The opinion of a scientific man as to whether the Government should or should not undertake to carry out any particular branch of scientific research and publish the results, whether it should attempt to do such work through officers of the Army and Navy, or more or less exclusively through persons specially employed for the purpose, whether the scientific work shall be done under the direction of those who wish to use, and care only for, the practical results, or whether the scientific man shall himself be the administrative head and direct the manner in which his results shall be applied; the opinion of a scientific man on such points, I say, will differ according to the part he expects or desires to take in the work, according to the nature of the work, according to whether he is an Army or Navy officer or not, according to whether he takes more pleasure in scientific investigations than in administrative problems, and so forth.

It is necessary, therefore, to apply a correction for personal equation to each individual set of opinions before its true weight and value can be estimated, and, unfortunately, no general formula for this purpose has yet been worked out.

I can only indicate my own opinions, which are those of an Army officer, who has all he wants to do, who does not covet any of his neighbors' work or goods, and who does not care to have any more masters than those which he is at present trying to serve. You see that I give you some of the data for the formula by which you are to correct my statements, but this is all I can do.

I am not inclined at present to urge the creation of a department of science as an independent department of the Government having at its head a Cabinet officer. Whether such an organization may become expedient in the future seems to me doubtful; but at all events I think the time has not yet come for it.

(To be continued.)

ON THE HYGIENIC LAWS AND SANITARY CONDITIONS OF ANCIENT ROME.[1]

BY PROF. RODOLFO LANCIANI, LL.D.,
Government Director of Archæological Researches at Rome.

The hospital, even in its most rudimentary shape, was not known in Rome much before the third century of the Christian Era. In fact, Celsus Aurelianus, an eminent physician, who wrote at the beginning of the third century a treatise "On Acute and Chronic Diseases" — "*De Morbis Acutis et Chronicis*" — reproaches his colleagues for their obstinacy in keeping the patients in absolute confinement, as a practice injurious to the progress of science. It is not difficult to explain this state of things. First, the members of the higher classes of society were not in need of public sanitary institutions; secondly, the slaves, of whom the manufacturing and trading class was mostly composed, had to be assisted at the expense of their own masters in case of sickness; and besides, medicine was not known and practised as a science, but only on an empiric sort of routine. Hence the consequence that patients were compelled to confide more in gods than in men, and trust in a supernatural help to get rid of their ailments. We must also bear in mind that charity was a feeling altogether unknown in ancient times, and suffocated, at any rate, by the spirit of conquest, by the maintenance of slavery, and by the passion for bloody and revolting gladiatorial shows, which rendered even the most tender Roman hearts and souls insensible to the sufferings of the neighbor.

Livy asserts (I, 12) that the Romans kept always faithful to the precept of Numa: "*unam opem ægris corporibus relictam si pax veniaque ab diis impetrata esset*" — that the peace and good-will of gods were the only remedies and means to recuperate the lost health. Thus the more common cases of sickness to which mankind is subject were deified and idolized, and temples and shrines were set up in their honor. I have mentioned above the altars of the Fever, the sacred wood of Mephitis, the shrine of Orbona, and so on. Apollo, as a God of Hygiene, had a temple near the theatre of Marcellus. This temple, built in the year 321 of Rome, and opened for public worship two years later, on the occasion of a terrific stroke of pestilence, has been re-discovered quite by accident nine years ago, in the cellar of a third-class inn, near the Piazza Montanara, called the Albergo della Catena. It will be excavated, we hope, in 1887, in consequence of the destruction of the neighboring ghetto; and considering its state of remarkable preservation, we trust we shall be able to find, at least, fragments of the famous group by Praxiteles and Scopas, representing Apollo fulminating Niobe and her sons, a group described by Pliny (xxxv., 5, 28). Next in importance to the temple of Apollo was the temple of Health, the site of which corresponds nearly to that of the Barberini Palace, on the northern slope of the Quirinal. Women laboring in child-birth could apply to not less than thirteen goddesses, beginning from Juno Lucina, down to Deverra, Diana, Alemona, Nona, Decima, Partula, Antevorta, Postvorta, Eugeria, Fluonia Uterina, Intercidona, etc.

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[1] Concluded from page 541.

In the year 459, Rome being in danger of annihilation by another plague, followed, as Livy says, by a stupendous mortality, the Sybilline books were consulted, as they always were in cases of supreme danger. The answer was: "*Æsculapium ab Epidauro Romæ arcessendum*" (x., 32) — Æsculapius must be removed from Epidaurus to Rome — and so they did. The new god was comfortably and neatly installed in an island on the Tiber, now called the island of S. Bartolomeo, and its temple became the greatest sanitary establishment in the metropolis.

The practice followed by Roman lower classes was this: "Patients in danger of life were brought into the perystile or atrium of the sanctuary and put to sleep there, evidently by means of narcotic drugs, in order that Æsculapius could manifest in their dreams the proper way of healing their troubles. Once the recipe obtained, the priests themselves would undertake the cure of the guests; and if the cure succeeded, by some unforeseen and wonderful coincidence, then an *ex-voto* was suspended in the sacristy of the sanctuary, together with a tablet describing the happy event. Here is the text of one, given by Thomassinus: "In this last day, said the oracle to Caius the Blind: come to the sacred altar and kneel in front of it, then touch it on the left-hand side, and apply instantly the hand to the eye. Having obeyed, he recovered at once the eyesight, amidst the applause of the assembled multitudes." Is it not a striking coincidence, is it not a striking proof of the vitality of tradition in Rome, the fact that the very same island of the Tiber, the very same spot on the island should have always been since Roman times, and should be now, the seat of a hospital, the hospital of S. John Calibitas? Another curious anecdote is this: It seems that at the entrance of the Fabrician Bridge, leading from the Campus Martius into the island, there were shops for the sale of *ex votos* of every description, exactly as they are to be seen now on the approaches to the great sanctuaries of the Catholic countries. One of these shops has been discovered only six months ago, in the foundations of the left embankment of the Tiber. It contained a large number of anatomical specimens in painted terra-cotta, magnificently modelled from nature, and representing heads, ears, eyes, breasts, arms, hands, knees, legs, feet — *ex-votos* to be offered by happy mothers, etc. The most interesting pieces are three life-size human trunks, cut open right across, and showing the whole anatomical apparatus of the various organs and intestines, such as the lungs, liver, heart, bowels, etc. These pieces have not yet been examined by experts, and, consequently, I am not able to say whether they are capable of throwing any light on ancient hygienic and anatomical matters.

You must not suppose that men of education would resort to such absurdities as those I have described in connection with the temple of Æsculapius. Cicero has strongly condemned the practice in his book, "De Divinitate," but the populace, in spite of such good advice, would adhere to its ignorance and superstition, and this obstinacy had then, and has still, such a firm hold, and such deep roots in the Italian lowest classes, that, only one year ago, in September, 1885, when the cholera broke out in Sicily, physicians trying to exercise their mission of charity were stabbed and killed by the dying patients, as they are stabbed and killed in Hungary and Croatia.

Another strange practice, imported from the East into Rome, was the exposure of the sick in the streets and under open porticos, in order that passers-by could give them advice from personal experience. The first physicians in Rome, if such name can be given to men knowing only the use of a few herbs and potions, came from Abruzzi and from the shores of the lake of Fucino. In progress of time, patrician families secured, at a high price, the services of slaves, experts in medicine, to whom the office of a modern "*valet de chambre*" was assigned. These slaves, emancipated after long, successful services, would open shops, called sometimes *Medicinæ*, sometimes *Farmacopolæ*, in which drugs and physics were sold, and surgical operations performed. For these operations, the patient was put into anæsthesia in a much surer way than we do now with chloroform or laughing-gas. A successful physician was sure to receive high official distinctions. Areagathus, a Peloponnesian who migrated to Rome in 219, not only was rewarded with the citizenship, but obtained a residence, with shop and office, bought at public expense. Asclepias, from Drusa, Bythinia, was almost deified by the populace, and held in great estimation by Crassus and Cicero. Julius Cæsar was the first statesman to promote the welfare of hygienists, by recognizing them as professors of a liberal art, with rights to citizenship. Augustus, having been cured by his freedman, Antonius Musa, from a dangerous illness, by means of fomentations and cold compresses, made him a knight, honored him with a bronze statue in the temple of Æsculapius, and exempted forever his colleagues from any kind of income-tax. Nero organized the service by naming an archiater, or superintendent of court-physicians. Schools of medicine were opened, and students organized themselves in a corporation, the seat of which was on the Esquiline. When one of the professors was called to visit a patient, he was followed by the whole body of pupils, because, there being no hospitals at the time, this was the only way they could learn and gain experience. Martial describes one of these professional visits in the ninth epigram of the fifth book, and relates how, having sent for Dr. Symmachus, he came at once to his bed, accompanied by more than one hundred disciples, who, one by one, felt his pulse with hands almost frozen by the northern wind, or tramontana, which happened to be blowing at the time.

The merit of having organized a service of public assistance, in the true modern and philanthropic sense of the word, belongs to Antoninus Pius, who acted. I am sure, under the indirect pressure of Christian influence and charity, the new faith having made immense progress in Rome under his wise, temperate rule.

The new sanitary codex comprised the institution of head-physicians (archiaters) in every inhabited centre, and a set of rules for the medical service in the largest cities of the empire. These medical officers had to be elected by the town council, and to be approved by the patres-familiæ. In progress of time, the election had further to be sanctioned by the College of Physicians practising in the same town, and even by the Emperor himself. The assistance to the poor was compulsory and gratuitous.

Such are the results of the campaign thus engaged in by the Romans against malaria, and fought with the means I have endeavored to describe, one by one.

Original Article.

A CASE OF GASTROTOMY. DIGITAL EXPLORATION OF ŒSOPHAGUS, AND REMOVAL OF PLATE OF TEETH. RECOVERY.[1]

Remarks upon the Operation, and Observations upon the Anatomy of the Œsophagus.

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Many cases have been recorded where foreign bodies have become lodged in the œsophagus. The most common seat of impaction or lodgement is the very beginning of the tube, at the level of the cricoid cartilage, where its calibre is less than at any other point. It is at or just above this point that smooth and rounded bodies become checked in their course. When their diameter exceeds that of the distended œsophagus they are either regurgitated or produce death by impediment to the air-passages. If a smooth body once passes the first constriction of the œsophagus, it meets no further resistance until the opening in the diaphragm is reached. This is usually passed because the diameter at this part is greater than at the first constriction. When, however, the body is angular, irregular, or with sharp points it is much more likely to become impacted at these natural constrictions, though it may become arrested at any part in the tube, its sharp points catching in the mucous membrane.

The symptoms which follow the impaction of a foreign body in the œsophagus, may be very slight, so that little attention will be paid to them by the patient. We may observe pain, dysphagia, suffocation, spasms, alterations in the voice, cough, expectoration, deformity, or none of these may be present.[2] The immediate symptoms depend upon the shape and size of the body. Pieces of meat may be large enough to produce suffocation, and this is not uncommon in old people who have lost their teeth. Immediate pains may be caused by laceration of the walls of the œsophagus by sharp points or by the pressure of a large body. It may be said that the immediate symptoms are not severe and rarely cause death. Subsequently we may have inflammatory conditions, ulcerations, hæmorrhage, starvation or tolerance of the foreign body.

The inflammatory changes which may follow are œsophagitis or periœsophagitis with formation of abscess. The body may become detached in this way. The abscess may break into the œsophagus or outwardly, or into a neighboring organ. Ulceration may extend into the trachea and bronchi or it may erode a bloodvessel and cause death by fatal hæmorrhage, or by asphyxia. The pleura or pericardium may also be perforated. Death rarely follows primarily, but is generally due to the secondary changes mentioned. A foreign body lodged in the œsophagus, when natural efforts have failed to dislodge it, must either be extracted, pushed down into the stomach or cut out, or it must be left to itself and palliative measures adopted.

Œsophagotomy is to be resorted to only after all other means have failed. Up to the present year this method has been the last and only resort, and it has afforded relief only in those cases where impacted bodies have been within reach from the external incision in the neck.

The possibility of reaching the œsophagus from below has been alluded to by several writers, and œsophageal strictures have been treated instrumentally after the stomach has been opened for purposes of alimentation. Prof. Loreta, of Bologna, in a monograph published in 1884 [3] mentions cases of gastrotomy not only for digital dilatation of the pylorus but also for divulsion of œsophageal stricture. He gives four cases with recovery in which a small opening was made in the stomach, instruments passed into the œsophagus, and the stricture divulsed. The operation was completed by sewing up both stomach and abdominal wound. Bergmann and Schattauer have succeeded in passing bougies through a stricture of the œsophagus from below. Wentlechner has passed a delicate sound down through the stricture and out of the opening in the stomach. He also attached a thread to the lower end of the sound and by means of it drew up after it larger instruments, drainage-tubes, etc.[4] Von Hacker[5] did a similar operation and obtained a good result in a cicatricial contraction of the œsophagus by the introduction of a Nélaton catheter stretched over a whalebone guide. In a letter to Dr. Randolph Winslow, of Baltimore, he mentioned two cases in which the operation of dilatation by the use of drainage tubes attached to filiform bougies had been performed, in one of which he states that the operation had already been successful, and the other had been but recently performed at the time of writing.[6]

In these cases advantage has been taken of the gastric fistula already existing to approach the œsophagus from below, or a small incision has been made into the stomach for the introduction of bougies or divulsors of small diameter.

I can find no recorded cases where the œsophagus has been explored with the fingers, the hand being introduced into the stomach.

The experience gained in the following case with an experimental study of the anatomy of the parts concerned, convinces me that this surgical procedure may be undertaken in many cases where operative measures have hitherto been considered out of the question. In twelve subjects I found the distance in a straight line from the centre of an incision five inches long, one inch below and parallel to the margin of the ribs on the left side, beginning at the outer border of the rectus abdominis to the œsophageal opening in the diaphragm, to be 7.55 inches. Through an incision of five inches in the anterior wall of the stomach the hand and forearm could easily be passed and the index and middle finger introduced through the diaphragmatic opening their whole length, about two and a half inches. There was some difficulty at first in finding the cardiac opening, but this was very soon overcome.

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[1] Read at the Meeting of the Suffolk District Medical Society, Section for Surgery, November 3, 1886.

[2] Poulet. Foreign Bodies, Vol. 1.

[3] See Review by Ancona in Archives Gén. de Médicéne, 1885, ii p. 318.

[4] Philadelphia Med. News, September 4, 1886, p. 267.

[5] Von Hacker. Ueber die Magen-Operationen.

[6] Dr R. Winslow in Philadelphia Med. News, September 25, 1886, p. 360.

The best method of introducing an instrument into the œsophagus is as follows: The cut in the stomach should be made at the point which presents itself most naturally at the centre of the abdominal incision, that is, about four inches from the pylorus. The assistant makes tense the lesser curvature by traction with the thumb and finger downwards, forwards and to the left. The lesser curvature is thus straightened out and the mucous surface of the stomach corresponding to it is formed into a sort of groove, along which the instrument glides directly into the cardiac orifice. To do this easily one must accustom himself to the operation by repeated experiments upon the cadaver. Great assistance can be gained by finding the diaphragmatic opening outside the œsophagus, with the left hand. I was able in this way repeatedly to grasp coins placed in the œsophagus beyond reach of the fingers by means of forceps. In cases of foreign bodies the œsophagus should be examined before the stomach is opened, for it may be possible thus to dislodge them. A small incision should then be made into the stomach through which efforts may be made to remove the body by means of instruments. Later this may be enlarged enough to admit the hand. It is important to ascertain as accurately as possible the position of the foreign body with reference to the opening in the diaphragm, not only that we may be sure it is within reach of the finger from below, but also that we may know its relations with other organs.

At the diaphragm the œsophagus is not in contact with the pleura, and it is not so closely related to the aorta behind. A foreign body impacted here would not be in such close relations with important structures, and the danger from ulceration and perforation would be less. This fact would have weight in deciding upon a palliative course of treatment. Moreover, an abscess at this point would most naturally drain into the stomach. Two inches higher up, the œsophagus is directly in contact with the heart in front, the aorta behind, and the pleural cavities on each side.

The danger of erosion of arteries, perforation of the pleura and pericardium, abscess of the mediastinum, etc., would be very much greater than at the diaphragm and we might not feel ourselves justified in waiting. Finally, it may be demonstrated that the body is beyond the reach of the finger and the surgeon will then be called upon to decide whether it is better to open the stomach for the purpose of using instruments of traction, or to attack from above by œsophagotomy.

The following table gives the measurements of the distance from the upper incisors, when the head is fully extended, to the opening in the diaphragm, as well as the measurements referred to above.

No.	Height. Ft.	Height. In.	From Incisors. In.	From Abdominal Cut. In.
1	6		14¼	Not Taken.
2	4	3 (deformed).	10½	" "
3	5	4	15	8¼
4	5	7½	16½	7¼
5	5	6	17¾	8½
6	5	3¾	15	7¼
7	5	4	15¾	6¾
8	5	7	15½	7¼
9	5	5¾	15¼	7¼
10	5	6	16¼	7⅜
11	5	7	16¾	8
12	5	4	15¼	7
13	4	10	15½	7½
14	5	¼	14	8¼
Average	5	5	15	7.55

From these figures it may fairly be said that a foreign body may be reached with the finger from below, when its distance from the incision, determined by the probang, in not less than thirteen inches. In a cadaver in which this measurement was fifteen and three-quarters inches, I was able to touch, grasp, and remove with my fingers a silver quarter-dollar situated twelve and one-half inches from the incisors. This was repeated several times with larger coins, silver half-dollars and dollars.

A glance at this table will show that the distance from the incisors to the diaphragm does not bear a constant ratio to the height. A man of six feet measured fourteen inches, while another of four feet ten inches, measured fifteen and one-half. Without regarding the height we may say that the average distance is about fifteen inches in fourteen subjects taken at random.

Since reading this paper and hearing Dr. Cheever's remarks in regard to the distance he could reach down the œsophagus in his cases of œsophagotomy, I have dissected with special reference to this point. I find that in a female subject with a measurement of fifteen and three-fourths inches from incisors to diaphragm, not only can the aorta be reached easily after left œsophagotomy in neck, but the finger can be hooked under the arch. When the left index was in contact with the lower disc of a silver dollar in the œsophagus, the right middle finger introduced from above through the neck, could very easily be made to touch the upper. It was next found practicable to pass a half-dollar from one hand to the other, and finally the *fingers* were made to touch each other. In four other subjects these experiments were repeated and the fingers could be brought in contact with ease.

From these observations I think it may be asserted that *there is no part of the human œsophagus which may not be reached, or very nearly reached, with the finger either by gastrotomy or by œsophagotomy.* Also that with the finger as a guide instruments may be used with intelligence upon any part of the canal.

The following unique case illustrates clinically the truth of some of the anatomical observations recorded above. It should be said, however, that these facts were not known at the time of the operation, and it was not thought to be at all certain that the foreign body was within reach of the fingers. Preparations were made beforehand for the use of a long forceps both for crushing and for tractions, and it was even thought that the lithotrite might be necessary. The case illustrates also the remarkable tolerance of the œsophagus at times. As will be seen, a grave complication already existed without giving any sign of its presence, namely, a periœsophageal abscess which the manipulations of the operation caused to break into the lung. The other symptoms present, pain and starvation, in themselves rendered the operation imperative. The facts made known by the operation and subsequent history prove that if a much earlier attempt at removal had been made, the danger of inflammation and starvation would have been avoided and the chance of recovery from the operation itself would have been better.

John McCarty, thirty-seven years of age, six feet one and one-half inches high, very robust, teamster, came to the medical room of the Out-Patient Department of the Massachusetts General Hospital, September 26th, 1886. He was referred to me as out-patient surgeon. He said that three days before, while eating he had swallowed his false teeth. He described the plate as being about the size of a silver half-dollar carrying the four anterior teeth of the left upper jaw, and as leaving two small hooks by which it was fastened to the teeth still left in that bone. I passed a small ivory probang into the œsophagus and detected the foreign body easily. It was situated far down in the tube apparently near the stomach. He was recommended for admission and was assigned to Dr. Beach.

On entrance he felt weak and complained of pain under the sternum between the nipples. There was also a little soreness on pressure. Had some pain in taking a long breath. Swallowed liquid food. Two days later felt better; was examined by Dr. Beach. An ivory-tipped probang struck against a hard body apparently just above the cardiac opening of the stomach. A good-sized stomach-tube passed by the teeth. A coin probang was caught under the plate. On pulling, the end broke off.

September 29. Consultation of surgeons decided against operation.

October 3d. One week after accident was able to take soft food well.

October 7th. Passed end of probang *per rectum.*

October 23d. Had some pain and soreness apparently at the pylorus. Some nausea. A stomach-tube was passed into the stomach without obstruction. Was given charpie cut fine mixed with white of egg.[7]

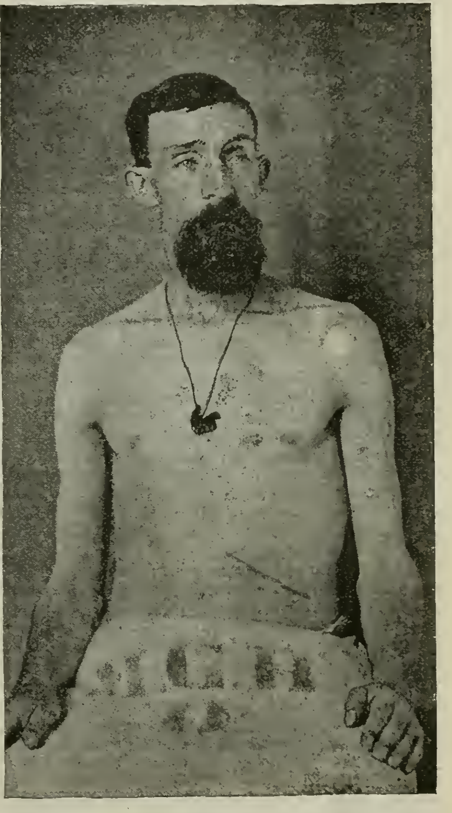
November 10th. Was improving in health and strength. Had good appetite and less pain.

Discharged, to report if he has any trouble.

December 3d. Reported that he felt comfortable; had not passed teeth.[8]

Patient re-entered hospital July 23d, 1886. Says he has been losing flesh since leaving the hospital, and now weighs one hundred and thirteen pounds, about sixty-five pounds less than before accident. He has considerable soreness when he swallows, and at times is unable to retain any food. He is very much emaciated, though his health is good.[9]

I examined again with the ivory probang, and found a foreign body exactly in the same spot as the year before. His condition at this time was quite deplorable. From a robust and strong man, whose normal weight was one hundred and eighty pounds, he had become extremely emaciated. It was with great difficulty that he could swallow enough liquid food to keep alive. Solid food could not be taken at all. He complained of constant and severe pain in the epigastrium, and in the back. From the date of entrance until August 5th he was carefully observed. It was found that the probang came in contact with the foreign body just fourteen inches from the incisor teeth. As nearly as could be estimated, this would make their position about two inches above the line of the nipples (see Fig.), and some little distance above the cardiac opening of the stomach. In this position, the plate, with its sharp edges, would lie between the heart in front, and the thoracic aorta behind, and separated on either side from the pleura by the thickness of the œsophageal wall.



From a photograph taken 3 months after operation. The plate is suspended on the chest wall to show as accurately as possible its location when lodged in the œsophagus. The distance from the plate to the centre of the abdominal incision is 12 inches. As the stomach was drawn out of the abdominal wound two or three inches the distance from the opening in the stomach to the foreign body was at least 12 inches.

After careful consideration of the case, I advised that an attempt be made to remove the plate by opening the stomach. The patient gladly consented. For two days before the operation nothing was taken into the stomach, except water and stimulants, food being given entirely by enemata. It was not practicable to wash out the stomach, because of the difficulty in passing a stomach-tube by the obstruction.

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[7] See Poulet, Vol. 1, p 158. Case in which the irregularities of a plate of teeth, lodged in stomach, were covered and concealed after a diet of oakum and raisins continued one week. Expulsion from rectum with oakum adherent and irregularities thereby smoothed.

[8] Mass. Gen. Hosp. Records, Vol. 219, p. 200.

[9] Mass. Gen. Hosp. Records, Vol. 226, p. 80.

August 5th, 1886. Patient was carefully etherized. An unsuccessful attempt was first made to demonstrate beyond possibility of a doubt the presence of the foreign body. Some difficulty presented itself in doing this, and the attempt was abandoned to save time. Moreover, it was not essential, as the probang had been used the day before in studying the location of the plate.

An incision about six inches long was made one and one-half inches below and parallel to the margin of the ribs in the left hypochondrium. It began at the outer border of the *rectus abdominis*, three inches from tip of ensiform cartilage, and extended outwards and downwards. The abdominal wall was rapidly cut, layer by layer, until, all bleeding having been stopped, the peritoneal cavity was opened. The abdominal opening was held up by means of a T-hook at each extremity. The stomach was found lying empty in its usual position. An external examination was made of the cardiac orifice and of the whole stomach, to see if the foreign body might not be found and dislodged by manipulations. Nothing could be detected either in the stomach or the diaphragmatic opening. The stomach was now drawn out of the abdominal wound as far as possible, and placed upon a carbolized towel, and in this position all the subsequent manipulations were done. A small incision about one and one-half inches long was first made through the anterior wall of the stomach, beginning near the pylorus, and extending upwards and backwards midway between the greater and lesser curvatures. The walls were very thick and vascular. After cutting through the peritoneal and muscular layer, a dense network of large and tortuous vessels came into view, which, on being divided, bled very profusely. This was controlled by smooth-bladed, hæmostatic forceps.

After two unsuccessful attempts to introduce grasping instruments into the œsophagus through this small opening, I enlarged the incision sufficiently to admit my hand and forearm. The stomach was first wiped out with sponges and held with T-hooks. The walls of the diaphragmatic opening were found with some difficulty after passing the hand seemingly a very great distance. The middle and index fingers were then pushed up the œsophagus between the heart in front and aorta behind until the plate was felt, with the teeth pointing downwards, apparently embedded in a mass of soft granulations. The hand was withdrawn, and long-bladed forceps introduced into the œsophagus, guided by the index finger, but attempts to grasp the plate were unsuccessful. I then re-introduced my hand, and by careful manipulation with the index finger, succeeded in detaching the left extremity of the plate from its bed in the left side of the canal. The other extremity was then loosened from the right side, and the plate passed easily into my fingers, and was withdrawn from the stomach.

The mucous membrane was united with a continuous silk suture, to control the hæmorrhage which followed the removal of the hæmostatic forceps. The peritoneal surface was closed with thirty-six fine, silk sutures, after the method of Lembert, placed three-sixteenths of an inch apart, the line of union being most perfect and beautiful. The stomach was then dropped back into the abdominal cavity, and the external wound closed in the usual manner with interrupted deep and superficial silk sutures. Iodoform and gauze dressings were applied, with compression. Time of operation, one hour and a quarter.

Although very little blood escaped, the peritoneal cavity was carefully sponged out. "At the end of the operation the patient's pulse was full and strong. At 3 P. M., was having much pain in his side, and was very restless. He complained of cold, and his extremities were chilly to touch. Given brandy freely by rectum. At 5.30, much more comfortable and warm; pulse good. Washes mouth with water, but does not swallow it. Has enema of milk, ℥iss, and brandy, ʒss, every two hours." During the afternoon vomited a small amount of blood. Evening temperature, 98°.

August 6th. Very comfortable; given ʒi of water.

August 7th. In the morning quite comfortable, except for a slight cough. In the afternoon, he had severe fits of coughing, and after much exertion and distress, would raise ʒi to ʒii of thick, tenacious pus. Raised during day about ℥viii. Temperature 101.8°.

August 8th. Much better. Raises ℥ii to ℥iv of pus in twenty-four hours. Began to take whiskey and water by mouth, a teaspoonful every ten minutes. Fed by rectum at frequent intervals. Temperature 99.2°.

August 11th. Stitches removed; wound firmly united.

August 13th. Milk by mouth, ʒss every one-half hour. Some suppuration of stitch-holes, which were enlarged and dressed with a Phenyle pad.

August 14th. ℥ii milk, broth, or ice cream every hour. Ale at intervals. Expectoration much less, and cough not so troublesome.

August 19th. Scraped beef, with cracker for dinner.

August 21st. Given solid food in quite large quantities. No pain; scarcely any cough or expectoration. Wound healed.

August 24th. Sits up in bed.

August 27th. Lungs examined by Dr. E. N. Whittier. Dulness, with broncho-vesicular respiration and bronchophony at base of right lung, which accounts for slight elevation of temperature.

September 2d. Walks about ward. 4th. Out in wheel-chair.

September 5th. Weighs one hundred and twenty-one pounds. No cough; signs in lungs disappearing.

September 12th. Weight, one hundred and twenty-seven and a half pounds.

September 18th. Sent to convalescent ward in the country.

October 7th. Returns much stronger. Weight, one hundred and forty-four pounds; no cough.

October 19th. Weight, one hundred and fifty-two pounds.

October 25th. Goes to work as teamster.

November 30th. Weight, one hundred and fifty-nine pounds.

The following are all the recorded cases of gastrotomy for removal of foreign bodies from the stomach to which any allusion is made by writers on this subject, with a few additional ones which I have been able to collect.

CASES OF GASTROTOMY FOR REMOVAL OF FOREIGN BODIES.

1602. The first authentic case on record in which gastrotomy was done for the removal of a foreign body is that of Florian Mathis, in Prague, surgeon to the Emperor Leopold, who successfully extracted a knife twenty-one centimeters long, from the stomach of a Bohemian juggler in 1602. The knife had remained in the stomach fifty-one days, without causing any great inconvenience or suffering. After the application of plasters, the point of the knife-blade penetrated the pyloric end of the stomach, and was there found and removed. After a few weeks, complete recovery.[10]

1635, July 9th. Dr. Daniel Schwabe, of Königsburg, did gastrotomy for the removal of a table-knife eighteen centimeters long and one and a half centimeters broad, swallowed May 25th, 1635, and which had remained in the stomach forty-one days, without causing any essential trouble. A cut was made on the left side beneath the short ribs, the stomach was pierced with curved needles, and the knife drawn out through a cut made upon the knife blade, which could be felt through the walls. The wound in the stomach was left to take care of itself, and the abdominal wound united with five stitches. Complete recovery.[11] "This man, Grunheyde, has played many parts, figuring in Schwabe's case, Gruger's, Becker's, Shoval's, and Mentzer's, and referred to by the careless even as Nevin's or Larrey's."

1692. Wesener, in Halle, removed from a boy of sixteen years, a knife, which had remained in the stomach seven months without causing any severe symptoms. Seven months after swallowing the knife, an ulceration broke out three fingers breadths below the pit of the stomach, with marked redness. Six days afterwards spontaneous opening, with fœtid pus. Nine weeks later the knife projected from the wound; its point was fastened to the abdominal wall with silk threads. Two weeks later it was entirely removed. Complete recovery.[12]

1720. Hübner, in Rastemberg, removed from a woman a knife sixteen and a half centimeters long, which had been in the stomach eleven days. For three days no disturbance; then sharp pain, and shortly after, the knife point could be felt in the left side. On the eleventh day an incision was made in the left hypochondrium, in the spot where there was evidence of slight suppuration. At this point the knife had penetrated the stomach wall. Recovery in a short time.[13]

1786. Frizac, in Toulouse, removed a knife four and a half centimeters long from the stomach of a porter. An incision was made in the epigastrium, parallel to the linea alba, through which the point of the blade of the knife could be felt, and which had already pierced the stomach wall. The point was grasped with forceps, the opening in the stomach enlarged, and the knife extracted. Two stitches were put in the stomach wound, and one quill suture in the abdominal wound. Healing of the wound and recovery. Baron Larrey was present at this operation, and the case is probably authentic, although it has been overlooked until very recently.[14]

1819. Cayroche removed from a woman of twenty-four a silver fork seventeen centimeters long and two centimeters broad, which had been in the stomach two hundred and twenty-nine days. The fork could be felt through the epigastrium, the handle to the right and the prongs to the left. In five months severe vomiting, then pain, emaciation, swelling in the left side as large as a hen's egg. An incision five centimeters long was made over the tumor from above downwards, the rectus abdominus was drawn to one side, and the stomach was opened. The fork was withdrawn tines first. Recovery in fifty-one days.

1822. Reynaud, in Grénoble, removed a fork from the stomach of a young juggler, where it had remained thirty-one days. Gastrotomy was done on the right side of the abdomen, where the foreign body could be felt. Complete recovery. Man still living in 1875.[15]

1823. A Dr. L——, endorsed by Sedillot, took a silver spoon from the stomach of a soldier.[16] This may be the same case as that quoted by Credé as follows:—

1823. Bertherand removed a silver-coffee spoon from a cavalry man. It had remained in the stomach one week, and had caused pain there, with swelling of the epigastrium. With the exploring needle a hard resonant body was felt. The cut was enlarged, and the spoon withdrawn with forceps. The stomach and abdominal surfaces everywhere adherent. Simple dressing. Rapid and permanent recovery.[17]

1830. Garcia is said to have removed a stick ten inches long from the stomach.[18] This case is considered doubtful.

1836. Fideli, in Riva. A peasant woman, fifty years of age, swallowed a brass fork with four tines, ten inches long without the handle, which remained in the stomach two and a half years. She had terrible pain, sleeplessness, severe cramps, vomiting with every attempt to take food. Fifteen months later an abscess appeared in the right hypochondrium. Two months later a large amount of pus was discharged through the mouth. One month later opening of the abscess outwardly. After repeated closing and breaking out of the wound, the sharp end of the fork appeared. For eleven months the condition continued the same, without the fork protruding any farther. Then for the first time the opening of the abscess was enlarged, and the fork removed. Convulsions followed, with trifling hæmorrhage. For thirty hours' food was discharged through the wound. Fifteen days later it was healed.

1848. Tilanus, in Leiden, removed a silver fork from the stomach of an insane girl thirty-two years old. The fork was twenty-one centimeters long. There was also in the stomach a piece of earthen ware two centimeters long, one centimeter thick, of pyramidal form. Soon after swallowing them she became emaciated and weak, with intense dysphagia. Location of the foreign body made out by palpation. Patient etherized. An incision eight centimeters long, along the linea alba, from a point three centimeters below the ensiform cartilage, was made. The stomach could not be seen, but it could be felt along the left border of the wound. It was drawn forward and fixed with two forceps. An incision two centimeters long was made through the anterior wall of the stomach, and was accompanied by quite severe hæmorrhage. After prolonged efforts, the fork, as well as the piece of earthen ware, was discovered and removed. The wound in the stomach was closed with five sutures, the ends of which were left sticking out of the lower angle of the wound. The abdominal wound was closed with simple sutures, and adhesive plaster placed over all. On the first and second days occasional vomiting of a greenish yellow fluid. Abdomen somewhat painful, tender, and tympanitic. Pulse 100° on the second day, small and weak. Death on the morning of the third day. Autopsy.—Plastic exudation in the neighborhood of the wound. The stomach, liver and abdominal wall glued together. The stomach wound entirely closed. Great dilation of the stomach. The upper third of the œsophagus considerably wounded and perforated in the neighborhood of the larynx. Suppurating sinus near the thyroid gland.[19]

1855. J. Bell's case, also reported by T. B. Neal.[20] This was a man who, in a drunken fit, in imitation of a juggler, swallowed, on a bet, a bar of lead ten inches long by three-fourths by one-half, weighing one pound, on Christmas day, 1854. Pain, vomiting and gastritis supervened. January 3d, 1855, an incision four inches long was made from the umbilicus to the false ribs, two inches to the left of the median line. An incision was made into the stomach just long enough to get the bar out. No sutures were put into the stomach itself, the contraction of its walls being sufficient to bring the edges of the wound together. The abdominal wound was closed with sutures. Thirteen days later the wound was entirely healed. February 19th he was about his work.[21]

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[10] Otis. Med. and Surg. Hist. of the War, 2d Surgical Vol., page 59. Also Credé, Langenbeck's Archives, Vol. 33, 1886, page 584.

[11] Otis. Loc. cit. Credé Loc. cit., page 580.

[12] Credé. Loc. cit., page 584.

[13] Credé. Loc. cit., page 584.

[14] Otis. Loc. cit.

[15] Credé. Loc. cit., page 586.

[16] Otis. Loc. cit.

[17] Sedillot Contributions à la Chirurgie, 1868. Vol. 2, page 456. Quoted by Credé, Loc. cit.

[18] Otis. Loc. cit.

[19] Credé. Loc. cit., page 580.

[20] This case has been quoted both by Poulet and by Credé, as two distinct cases.

1856. Glück, in 1856, made an unsuccessful attempt to remove a laryngeal probang which had been accidentally introduced into the stomach.[22]

1856. ——— in Frankreich von? A fork was removed by gastrotomy, with recovery.[23]

1857. Bouchet, in Lyons, removed a silver fork from a woman's stomach. Result unknown.[22]

1858. Hohlbeck, in Wodkinsk. An iron table fork, with wooden handle, twenty-one centimeters long, was swallowed by a peasant with delirium tremens, and remained in his stomach six and a half months. There was pain in the stomach, loss of appetite, nausea and vomiting. There was found in the left side of the peritoneal cavity, between the seventh and eighth ribs, a small fluctuating spot with a fistula, secreting fetid pus, in which the metallic body could be felt. An incision was made at this point, and the fork extracted. The patient died three months later with caries of the sternum and ribs. Autopsy showed complete adhesion of the stomach wound with the abdominal parietes.[23]

1875–6. Leon Labbé. L., eighteen years, March 30, 1874, swallowed a German-silver fork with five prongs, while imitating a juggler. Had immediate symptoms of asphyxia which suddenly ceased after passing larynx. Fifteen days after there was intense pain and repeated syncope. When this attack had passed, a swelling appeared, corresponding to the point occupied by the greater curvature of the stomach. From this time the patient had alternations of pain and complete freedom from it. His general health became much affected. After some months it was decided to attempt an operation, as the teeth of the fork could be distinctly felt at the limit of the hypochondrium and epigastrium. Caustics were first applied to make the stomach adhere to the abdominal wall, without success. April 9th, an incision was made, and by the aid of forceps, a part of the stomach was drawn through the opening. The fold thus formed was held by a thread. With eight sutures the stomach was fastened to the circumference of the wound. The wall of the stomach was then opened, and with a little manipulation, the fork was removed. Rapid and complete recovery.[24]

1879. J. C. McKee, America.[25] January 15, 1879, a laborer, aged twenty-eight, was playing slight-of-hand tricks with a piece of copper wire, three inches long, which he made mysteriously disappear into his nostril. Suddenly it disappeared into the pharynx and the stomach. Took castor oil without benefit. Worked for two months; then acute pain came on near umbilicus on right side of abdomen, three inches to right below. Tumor gradually formed. Cut down upon the tumor May 4th, and the wire was removed. In this case the foreign body was probably not in the stomach.

1880. Billé's case.[26] This patient used a pencil covered by a sponge, and the whole attached to a new silver wire fifty centimeters long, for the purpose of clearing the slime out of his œsophagus. May 2, 1877, it broke off, and part was left in the œsophagus. Billé first did an œsophagotomy at the level of the hyoid bone, but was not able to grasp the wire. Later he did gastrotomy by an incision through the abdominal wall and peritoneum three and a half centimeters long, two fingers' breadth below the margin of the ribs. An incision two and a half centimeters long was made into the stomach, which was made solid with the abdominal wall before incising the mucous coat. The sponge was felt near the pylorus. This was seized with a pair of forceps and the whole extracted. The upper end of the wire was in the lower extremity of the œsophagus. The whole fragment was thirty-one and five-tenths centimeters long. Patient died five days after operation.

1880. Fleury, L. A.,[27] South America, reports the case of a cook who, July 8, 1880, while trying to amuse some children by pretending to swallow a plated dinner fork, accidentally let it slip from his fingers, and felt it passing down into his stomach. There was no inconvenience except slight nausea and vomiting. September 8th, two months later, while jumping a low wall, felt a sharp, stinging pain in the abdomen. The prongs of the fork could be felt distinctly through the abdominal wall. Operation September 14, 1880. A cut three inches long was made in the epigastric region, along the external border of the left *rectus abdominis* at the point where the body was felt. A circular incision was made around the tines of the fork in the stomach wall, and the fork extracted. The handle was in the pylorus and the prongs in the anterior surface of the stomach. Next day patient doing well. Ice water diet. Complete recovery.

1880. Felizet[28] removed a spoon from a patient of nineteen. The stomach was first inflated with ether, so as to be easily seen and grasped. Discharged well in three weeks.

1882. Dr. Beattie Bean sent an account of a gastrotomy for foreign body to the *Lancet* from Hong Kong. Ito, a young man, swallowed a tooth-brush. Five days afterwards Dr. Hashimoto, principal of the highest medical college in Japan, was called in. He advised opening the stomach. A cross cut was made, and the stomach laid bare. The brush was found embedded with its sharp handle partly through the walls. It was taken out, and both wounds deftly sewn up. The man was reported to be in a fair way to recovery.[29]

1883. Kocher, Berne, removed a broken coin-probang from the stomach of a man thirty-seven years old. It had been there one day, and caused hardly any disturbance. An incision was made through the abdominal wall two centimeters below the margin of the ribs. The stomach was opened by an incision three centimeters long, midway between the greater and lesser curvatures, through which the foreign body was extracted. The wound in the stomach was closed with ten Lembert sutures. Recovery without interruption.[30]

1883. Gussenbauer, Prague. A sword-swallower, nineteen years of age, broke off into his stomach a sword blade twenty-seven centimeters long, two centimeters broad; the broken end was jagged and the point rounded. It remained in his stomach two days. Emetics and suspending by the feet were tried unsuccessfully. On the following day, by sounding and palpation, the foreign body could not be detected. There was fever, vomiting and hiccough. After cutting through the abdominal wall, the point of the sword could be felt wholly in the cavity of the stomach, lying obliquely from above down to the left. After cutting through the stomach wall, the body was removed with little trouble. Death followed in two days from septic peritonitis. The point of the sword had pierced the stomach wall, and the other end had perforated the œsophagus.[30]

1882. Schönborn, Königsberg, reported at the Congress of German surgeons in Berlin, a case of gastrotomy for the removal of a ball of hair from the stomach of a young girl. She had been in the habit of biting off the ends of her hair, and swallowing them to clear her voice. A tumor was found in the left side of the abdomen, supposed to be at the time either spleen, omentum, or floating kidney. It was found to be a bundle of matted hair lying in the stomach as large as two fists. Laparotomy was performed and the tumor easily found. A long incision was made through the anterior wall of the stomach, and the ball of hair found lying free in its cavity. It was removed, and the stomach wound closed with sixty-five Madelung stitches. Both wounds healed by first intention, and patient was discharged in three weeks.[31]

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[21] Iowa Med. Jour., Keokuk, 1854-5, ii, 261-266. Also Boston Med. and Surg. Jour., 1859-60, LXI, 489-493. Also Am. Jour. Med. Sciences, 1855, July, p. 272.

[22] Otis and Credé. Loc. cit.

[23] Credé. Loc. cit., page 588.

[24] L'Abeille Med. de Paris, 1876, xxxiii, 161-163.

[25] N. Y. Med. Record, xv, June 26, 1879.

[26] Berlin Klin. Wochen., 1880.

[27] Med. Press. and Circ., N. S., xxxii, 1881, page 321.

[28] Deutsch. Med. Zeit.

[29] Lancet, 1882, ii, 1014.

[30] Credé. Loc. cit., page 582.

1883. Knowlsley Thornton reported a similar case in 1883. That of a young girl of seventeen, who had for some years swallowed the combings of her hair. There was a tumor in the region of her stomach. A transverse incision was made into the stomach to avoid the vessels. The abdominal cut was in the linea alba. A mass of hair nine inches long was removed from the stomach, and the wound closed with fifteen sutures. Next day one sponge was missed. The abdominal wound was re-opened, and the missing sponge found. The patient made a good recovery.[32]

1883. Gerard, in Bourgueil. A man of thirty years had lodged in his stomach for six weeks a piece of elm-wood twenty-one and five-tenths centimeters long. There was pain, nausea and vomiting. Purgatives were used without success. Six weeks later an abscess appeared four centimeters under the border of the ribs, which was opened, and in the bottom of it the foreign body could be felt. Ten centimeters of it was cut off and removed. He gave forty grammes of castor oil, and the rest of the piece came with the stool on the following morning. Recovery in fourteen days.[33]

1885. Billroth. A girl of nineteen years of age swallowed a plate of six teeth. Palpation of the abdomen was painless, and nothing abnormal could be detected. An incision eleven centimeters long, beginning seven centimeters under the ensiform cartilage in the median line, and extending obliquely downward and to the left. After a long search, the foreign body was felt and fixed. It was shoved into a part of the stomach which was drawn forward by two stitches (thread slings). Opening of stomach, extraction, closure with superficial stitches and several Lembert stitches. Stitch of abdominal wall in three stages.[31]

1885. Credé, Dresden. A hair-dresser, twenty-four years of age, swallowed, in his sleep, a plate with eight teeth and two clamps. In the first week there was pain in the pylorus, then nausea, vomiting, sleeplessness, and great excitement. An oblique cut was made, beginning at the ensiform cartilage, parallel to the ribs, twelve centimeters long. Out of this the stomach was drawn. The plate could be felt through the pylorus. A cut was made through the stomach wall, beginning two inches from the pylorus, and extending five centimeters, through which the teeth were removed. The stomach was sewed up with three rows of stitches, and replaced in the abdominal cavity. The abdominal wound was sutured and dressed with iodoform. Very little reaction, no vomiting. Discharged on the twenty-first day in good health.[31]

1886. "Dr. Bernays, of St. Louis, last week successfully performed a gastrotomy upon a tailor, aged forty, for the extraction of an ordinary silver-plated dinner knife nine and a half inches long, which he had swallowed in imitation of the juggler's feat."[34]

Polaillon, of Paris, is said to have removed a foreign body from the stomach this year with recovery.

Following the classification of cases adopted by Credé we have the following tables of gastrotomies:

(*a*) For foreign body in œsophagus.

No.	Operator.	Nature of Body.	Length of Cut.	Result.
1	Richardson, 1886.	Set of teeth.	6 inches.	Recovery.

(*b*) For foreign body in stomach.

I

CASES WHERE THE STOMACH WALLS ARE UNINJURED AND NON-ADHERENT.

No.	Operator.	Nature of Body.	Length of Cut.	Result.
1	Schwab, 1635.	Knife.	Small.	Recovery.
2	Tilan's, 1848.	Silver fork.	2 cm.	Death.
3	J. Bell, 1855.	Bar of lead.	Small.	Recovery.
4	Labbé, 1875–6.	Fork.	Small.	"
5	Billé, 1880.	Silver wire.	2½ cm.	Death.
6	Kocher, 1883.	Coin probang.	3 cm.	Recovery.
7	Gussenbauer, 1883.	Sword blade.	Small.	Death.
8	Schönborn, 1882.	Ball of hair.	Quite large ?	Recovery.
9	Thornton, 1883.	Ball of hair.	" "	"
10	Billroth, 1885.	Set of teeth.	Small.	"
11	Credé, 1885.	Set of teeth.	5 cm.	"

II

CASES WHERE THE STOMACH WALL IS INJURED AND ADHERENT.

No.	Operation.	Nature of Body.	Result.
1	Florian Mathis, 1602.	Knife.	Recovery.
2	Wesener, 1692	Knife.	"
3	Hübner, 1720.	Knife.	"
4	Frizac, 1786.	Knife.	"
5	Cayroche, 1819.	Silver fork.	"
6	Bertherand, 1823.	Silver spoon.	"
7	Fideli, 1836.	Brass fork.	"
8	Hohlbeck, 1858.	Iron fork.	Death.
9	McKee, 1879.	Copper wire.	Recovery.
10	Fleury, 1880.	Fork.	"
11	Gerard, 1882.	Wood.	"

III

INCOMPLETE OR NOT WELL AUTHENTICATED CASES.

No.	Operation.	Nature of Body.	Result.
1	Reynaud.	Fork.	Recovery.
2	Dr. L——	Silver spoon.	"
3	Garcia, 1830.	Stick ot wood.	"
4	Glück, 1856.	Laryngeal probang.	Death.
5	——, 1856.	Fork.	Recovery.
6	Bouchet.	Silver fork.	Unknown
7	Felizet, 1880.	Spoon.	Recovery.
8	Hashimoto, 1882.	Tooth brush.	"
9	Bernays, 1886.	Knife } Not yet reported fully.	(?)
10	Polaillon, 1886.		

From the above tables we see: (1) 12 authentic cases where the stomach, uninjured and non-adherent, has been opened. Of these 3 died. (2) 11 cases where the stomach was injured and adherent, with 10 recoveries and 1 death. (3) 10 the authenticity of which is doubtful, with 6 recoveries, 1 death, and 3 doubtful, or, as yet unreported. Total of 33 cases, with 26 recoveries, 4 deaths, and 3 uncertain. Credé collected 26 cases. Of these the same one is mentioned twice — as J. Bell's and W. Bell's. Of these 25 cases, 21 recovered and 4 died. This list includes all the cases he was able to find, both the authentic and the doubtful. One case recorded by him, that of "J. Meckel" (J. A. McKee, U. S. A.), was probably not a gastrotomy, as the foreign body presented itself at the abdominal wall to the right and below the umbilicus.[35] This leaves his cases as 20 recoveries and 4 deaths.

We may therefore assert that the operation is a very successful one. The numerous recorded deaths which have followed the impaction of foreign bodies in the œsophagus, whether attended by the most violent and painful manifestations of their presence, or even unaccompanied by any symptoms whatever, the constant danger of inflammation, ulceration, perforation of important structures, hæmorrhage and exhaustion, make it imperative that the surgeon should exhaust all the resources of his art to afford relief.

When all other means have failed, and the foreign body is found by measurement to be within reach by œsophagotomy, this should be done as soon as serious symptoms appear. If it is found that the body is within reach from below, that is, more than thirteen, possibly twelve inches from the incision, and if the patient is in danger, as shown by constitutional symptoms, or imperilled by starvation, the stomach should be opened immediately, and attempts made to dislodge. If the symptoms are not urgent, a reasonable time should be allowed for natural efforts to aid in expulsion, but the operation should be done early enough to prevent the secondary changes of ulceration and perforation. If it is demonstrated that the foreign body is beyond the reach of œsophagotomy, and yet too high to be easily reached by the fingers from below, suitable instruments should be introduced through the stomach, guided by the finger, if necessary, for cutting, crushing, grasping or pulling down. I am convinced that in most persons no part of the œsophagus is beyond the reach of the fingers. In some cases there may be a very narrow interval which cannot be reached from one end or the other of the tube, but the surgeon's finger can be brought so near even in these cases that it may fairly be stated there is no part of the œsophageal canal in which a foreign body may become lodged, which cannot be reached with the finger, or, at least, to which an instrument cannot be guided safely and intelligently.

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[31] Credé. Loc. cit. Langenbeck's Archiv., Vol. 29, page 609.

[32] Lancet, 1886, No. 3.

[33] Credé. Loc. cit, page 586.

[34] From Med. News of Phila., November 27, page 600.

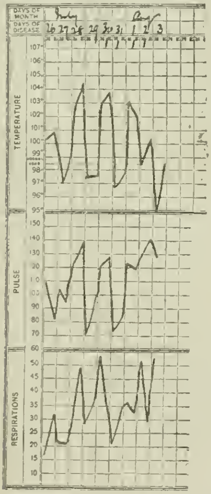
[35] See similar case by Dr. Sam White of Hudson, who removed spoon from intestines in 1806. Med. Reporter, 1807. 2 Hexade, iv, 367-373.

Hospital Practice and Clinical Memoranda.

A CASE OF MALIGNANT ENDOCARDITIS.[1]

BY F. C. SHATTUCK, M.D.,
Visiting Physician, Massachusetts General Hospital.

A man. twenty-six years of age, entered my service at the Massachusetts General Hospital, July 26, 1886. On entrance, he was so deaf that a complete history could not be obtained. It was ascertained that he had long been deaf, but had grown much worse in that respect since his present illness came on. Three months before entrance he began to lose flesh and strength, and to have "hot or cold spells," compelling him to give up work. He later improved somewhat, but was obliged to give up again two weeks ago, on account of increased weakness. For the past ten days he has had marked chills, two or more daily. For the past few days he has vomited every morning. Complains somewhat of soreness of throat. On entrance he had a marked chill, lasting an hour, and recurring twice, accompanied by pain in the præcordial region, which was relieved by a sinapism. He complained also of pain in both hips and thighs, and of great restlessness especially at night. Appetite poor; bowels constipated.



The patient was fairly developed, emaciated, pale; the tongue was clean. The fauces were slightly reddened. He was unable to walk, but could stand, and move his legs freely in bed. There was marked hyperæsthesia from the chest down; the cutaneous and deep reflexes were exaggerated; ankle clonus was present. The internal viscera gave negative results to examination. The mind was clear.

July 28th. Chills have recurred twice daily. Complains of pain in hips. The apex of the heart is in the fifth interspace, just outside the mammillary line. There seems to be tenderness in and above the region of the apex. The first sound at the apex is dull, and accompanied by a faint, systolic souffle, which can be followed toward the pulmonic area. The pulmonic second is accentuated.

July 29th. During examination, twitching came on in the right, and later in the left arm, with lateral and upward movements of the eye-balls, and closure of the lids. The arms were then held in the air, and soon the convulsive movements extended to the legs, and became general. The patient cried out, and seemed to be conscious. The convulsive movements lasted perhaps ten minutes, and were renewed on striking the muscles and the patellar tendons.

July 31st. The chills continued. The heart's action was regular, and the souffle was more distinct, loudest at the apex. During the visit there was a recurrence of the convulsive movements noted the 29th, and again after examination. The face did not change color. The general condition remained about the same, except that he was losing strength. There was a slight yellowish tinge in the skin, but no discoloration of the conjunctivæ; no skin eruption. During the chills the heart's action was very violent, and the patient complained of palpitation.

August 2d. The patient was cheerful, mentally clear, and in no pain. The heart's action was very feeble, but regular; the souffle was scarcely audible.

August 3d. The temperature sank to 95° last night, and remains subnormal. The pulse is regular, but weak. At 2.30, p. m., he told the nurse a chill was coming on, turned over in bed, and died.

Autopsy by Dr. Fitz.

Spinal cord not examined. Brain showed nothing abnormal. *Heart* — Pericardium contained some ℥vi clear, yellow fluid. At apex of right ventricle, in front, was a group of several thick, fibrous villi, each about a quarter of an inch long. Pericardium over left auricle thickened in spots. Heart increased in size perhaps one-fourth. Both sides, especially the right, distended with clotted blood, differentiated into red and white portions. Aortic and pulmonic valves sufficient by hydrostatic test. The two anterior aortic crescents fused, the septum between thickened and retracted. The curtains thickened. From their ventricular surface projected a fleshy nodule of reddish-yellow color, as large as a filbert. It was intimately connected with the valve-curtains, whose consistency was diminished. Both were perforated. The myocardium contained a round, continuous nodule, also as large as a filbert, composed of reddish-gray, puriform material. The other valves showed nothing abnormal. Both ventricles were moderately dilated, the muscular walls of the left ventricle thinned, the muscle gray and opaque. No infections or other emboli were found, and the other organs presented no noteworthy changes.

To sum up: A young man, for the past three months, has suffered from chills and increasing weakness. After careful examination, the conclusion is reached that the chills are pyæmic, and physical exploration affords but little information as to the source of the pyæmia. There is, however, slight cardiac enlargement, and a souffle at the apex develops and increases under observation. Convulsions appear and recur, more marked in the trunk and extremities than in the face, and the patient dies of exhaustion.

The probable diagnosis of malignant endocarditis was made the third or fourth day after entrance to the hospital, and confirmed by the autopsy. This diagnosis was reached by exclusion, the symptoms being thus explained better than in any other way.

The autopsy showed one thing which was indicated neither by symptoms nor signs during life — namely, an old endocarditis, affecting the aortic valves. The changes in the valves were marked enough to the eye, but, inasmuch as they gave rise to no obstruction at, or regurgitation through the orifice, they had no immediate consequences. If a history of rheumatism, with cardiac complication, had been obtained, as, perhaps, might have been the case had the extreme deafness not prevented communication with the patient in great measure, the diagnosis would have been still more clear; for it is well known that malignant endocarditis is more apt to attack a diseased than a healthy valve, though the latter is not exempt.[2] It is interesting to note that the systolic souffle heard during life had its maximum intensity in the region of the apex, and was, consequently, probably dynamic, and quite independent of the changes in the aortic valves. The spinal cord was, unfortunately, not examined, so that we remain in ignorance as to whether the convulsions were functional, or dependent on more or less gross lesions in that centre.

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[1] Read at the Section of Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, November 10, 1886.

As regards symptoms, malignant endocarditis may well be characterized as multiform. It may be primary, but, in the majority of cases, is secondary. It may be the origin of a general sepsis; simply a portion of a general sepsis starting from a wound or injury, the puerperal process, etc.; or it may develop during the course of a general disease, such as acute rheumatism or pneumonia. The first two types, which were clearly differentiated, were the typhoid and the pyæmic; but, as the number of reported cases has increased, the cardiac, the cerebro-spinal and cerebral, and the malarial types have been added, and are dwelt upon by Osler in his Gulstonian Lectures for 1885. In several instances the affection has been diagnosticated as acute yellow atrophy of the liver during life. In other words, the endocarditic changes may be foreshadowed by no direct symptoms, the affection running its course under the guise of one or another of the severe infectious diseases. If this fact is borne in mind, careful and comprehensive study will lead to the accurate diagnosis of some obscure and anomalous cases. With the greatest care, skill, and knowledge, however, the diagnosis can, in some cases, be first made after the patient has reached the post-mortem table. But the number of these cases will diminish as the knowledge of the affection becomes more general. The above case is a good illustration of the primary pyæmic type, and will, I hope, be of special interest to the Section in connection with the case reported and the discussion evoked last spring by Dr. Grace Wolcott.

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CASES OF PERFORATION OF THE APPENDIX CŒCI AND OF INTESTINAL OBSTRUCTION.[1]

BY E. W. CUSHING, M. D.

The first case was a boy eight years old, previously in good health, to whom I was called in September, on a Saturday, finding him with symptoms of acute peritonitis with evidence of fluid in the abdominal cavity.

The history showed that fourteen days previously, while in good health, the boy had been roughly used by some of his playmates who laid him in a trench, and played they were burying him, by putting a paving stone on his belly, one of the largest of them seating himself on the stone in this position.

The patient seemed hurt internally, and was in bed one day, but went to school on the third day, staying there a week, when after some scuffle he had to keep his bed for two or three days longer. However, he went to school again on Monday and Tuesday, on which day he stated that the teacher "licked him like all sixty;" on returning home one of his friends, fourteen years old, kicked him in the belly, so that he doubled up and came in screaming with pain. He went to bed, but his mother did not recognize the severity of the case until Friday, and first secured medical advice on Saturday.

Suspecting rupture or injury of the intestine, I explained the imminent danger and advised laparotomy as a not very hopeful expedient. The mother consenting, Dr. H. O. Marcy was sought in counsel. and he kindly came with a nurse from our hospital and all the needed instruments.

After the usual preparations, Dr. Marcy approving the operation and kindly assisting, I made an incision in the median line and removed about a pint of fœtid pus from among the intestines which were quite adherent and could only be separated with difficulty. It seemed impossible to really search for any rupture owing to the adhesions, and the cœcum and vermiform appendix were quite inaccessible. With the irrigator the thick pus was flushed out of the various pockets, two drainage-tubes inserted and the abdomen sewed up.

The little patient came out of the ether well, was quite comfortable and conscious, but failed and died the next day. It seemed most probable that the first injury had given rise to some circumscribed peritonitis and that the last kick had made this general, perhaps by rupturing the limiting adhesions. Perforation of the appendix was not considered at all probable, owing to the youth of the patient and the clear history of injury.

As the case seemed a clear one of assault, I notified the medical examiner, Dr. Draper, who laid the facts before the district attorney.

The latter declined to interfere on the ground that the fact that the boy continued to play with the others who had used him so roughly, showed that he considered it all as within the limits of "fun," and not as an assault. No malice was charged. Dr. Draper therefore declined to make an autopsy officially.

Dr. Marcy and I made it, however, and found no rupture of the intestine, but a perforation of the vermiform appendix. The latter lay in a sort of abscess cavity, surrounded by strong adhesions, but communicating with the rest of the abdominal cavity. The appendix being removed, was found to have a wide opening or calibre, and in it was a concretion as large as a pea. Over this was an ulceration of the mucous membrane communicating with the abdominal cavity by a fine opening, just large enough to admit a probe.

Whether the injury fourteen days before death had any share in causing the inflammation of the appendix with subsequent perforation, and whether this was at first circumscribed and became general after the kick, it is difficult to decide, but on the whole, and in view of the strength of the adhesions this seems not improbable. The case is instructive, as is also number three, in showing how necessary it is in all such operations to examine the appendix, and how a history of violence, which may be only a coincidence, should not lead to hasty conclusion.

Case II. A single woman, with out apparent cause or error of diet, was taken with a "bilious attack" with vomiting, some colic, etc., at night. I was called in the morning and found symptoms of an ordinary attack of indigestion such as is very common in summer.

There was, however, an abdominal tumor, reaching from two inches to the left of the median line and an inch below the umbilicus, across to the right iliac fossa. It was hard, rounded, and immovable. Ordered Hunyadi water, ice pills, and enema. At one o'clock she was comfortable, but soon after vomiting recommenced with much pain. The latter was relieved somewhat by the inunction of oleate of morphine, but the vomiting persisted and nothing came from the bowels after repeated enemata.

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[1] Read at the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, Nov. 10, 1886.

[2] Fusion of two of the aortic cusps, a frequent result of sclerotic changes, was marked in this case.

By about five o'clock the condition of the patient was becoming grave, for the fluid vomited had a marked intestinal odor, not fæcal, but like what is noticed on opening the abdomen soon after death.

I laid before the family the danger of the situation, explained that the evident obstruction might call for operative measures, and asked for a consultation with Dr. Cheever, who was in the vicinity, and who kindly came, arriving about seven o'clock.

By this time, the condition of the patient was desperate; she was in fact, in full collapse, nearly pulseless, cold, with hollow eyes, pinched nose, the typical Hippocratic countenance.

She had several times vomited large quantities of slightly yellowish, nearly clear, intestinal fluid which welled up without apparent effort; at one time nearly a quart was thus ejected.

On examination, Dr. Cheever thought the patient too weak for laparotomy, and it seemed to us both that the tumor, blocking the whole right iliac region, and being firm and immovable, was probably malignant, and therefore there would be nothing gained by an operation in such a desperate condition. Dr. Cheever therefore left, encouraging me to persist in my efforts to the end, for sometimes such cases rallied.

First, I gave five or six hypodermics of brandy, which, however, did not seem to do much good; by this time she was wholly pulseless and scarcely conscious. Meanwhile, having had some stock soup heated, an enema of this with brandy, about four ounces of the mixture, was given hourly. By the mouth I gave brandy and gum arabic water, in small teaspoonfuls. This remained on the stomach; the enemata also were retained.

About eleven o'clock I heard a sound as of flatus passing through the intestines, which greatly encouraged me, and I gave an enema of about a pint of the soup.

Presently this was followed by a discharge of fæcal matter, then another, the vomiting meanwhile had ceased, and gradually hour by hour the pulse and color returned and the patient rallied.

The next day a number of very large evacuations of old fæcal accumulations took place, and to my surprise the connection between the round abdominal tumor and the right iliac fossa had disappeared.

The tumor remained round, hard, freely movable, about as large as a cocoanut.

A sister of this patient died some years previously with what was said to have been a malignant growth, but the report of the autopsy shows it to have been a fibroid of the uterus blocking up the pelvis and causing directly intestinal obstruction.

In my patient, the obstruction was indirect through accumulated fæces.

It is interesting to note that although water and soup with and without castor oil in enema appeared to have no effect in softening the impacted fæces, yet the warm greasy soup seemed to soak into and soften the mass, at the same time nourishing the patient at a most critical period. However, I think that it would not be safe to expect such a fortunate outcome in a similar case where the nature and previous condition of the tumor (which appears to be ovarian) were known beforehand, but that a prompt laparotomy would be far less dangerous than such a terrific attack.

The continuous vomiting by a sort of reversed intestinal peristalsis is interesting in connection with the next case.

Case III. I was present to assist Dr. Marcy in a case where there were symptoms of acute intestinal obstruction with vomiting and slight fever in a strong, healthy, muscular man. Dr. Lane, of Cambridge, had exhausted all medical measures and summoned Dr. Marcy on the fifth day of the illness. The latter recommended a laparotomy as the only chance. This was done on the next day, and on opening the abdomen and turning the inflated intestines into sublimated towels it was found that there was a twist of the small intestine by which some three feet of bowel was caught in the crescentic fold of the mesentery. This was remedied, and further search revealed some adhesions and flakes of lymph near the cœcum in which the appendix appeared to be bound down.

The man had had symptoms of perityphlitis some eight months and again some two years previously.

There was in the present case no pus to be found, no sign whatever of a general peritonitis, but as on the rectification of the twist the patient passed flatus several times to the evident relief of the distension of the bowel, it seemed injudicious to attempt to stir up the adhesions around the cœcum, at least through the median opening.

The wound was therefore closed with deep sutures, the ether discontinued, and Dr. Marcy was just finishing up a continuous catgut superficial suture when the patient began to vomit, or rather to regurgitate intestinal contents; he had taken nothing into the stomach for many hours, and very little for several days. Dr. Lane, who was in charge of the ether, did what was indicated, but in a moment the man began to choke.

The regurgitation still continued without any intermission. Dr. Marcy rapidly rolled the patient on his side and face, wiped out his mouth, pulled his tongue forward, but still the fluid came from mouth and nose, over a quart in all. The moment it stopped at all we commenced artificial respiration, which was continued for over two hours by the aid of strong and willing friends: Dr. Marcy made sure that nothing was obstructing the larynx, and even turned the patient nearly upside down to let any fluid run out of the lungs. We never ceased our efforts for a moment. The heart was beating perceptibly all the time, and the air certainly passed freely in and out of the lungs, but there was no response of the respiratory centres, and we had to finally give him up as dead, apparently strangled by inspiring the regurgitated fluids.

At the autopsy no examination of lungs or head was permitted, but we found in the intestines the evidences of acute congestion of the parts which had been constricted, and found the appendix doubled and twisted on itself and adherent at one part, which on separation, opened the lumen of the appendix in two places.

There appeared to be an acute inflammation of the appendix with double perforation of the adherent part, but the whole was shut off from the peritoneal cavity.

Nevertheless, by this irritation it seems that the peristalsis of the bowels was so disturbed that the small intestines became twisted, and when untwisted appear to have discharged their fluid, not fæcal contents, upwards instead of downwards with the fatal result above described.

An accident of this kind in an operation is very rare, and is here reported because of the valuable lesson taught thereby. This case, as well as the first, emphasizes the importance of finding and examining the appendix in all cases of laparotomy for obscure abdominal symptoms.

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Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

November 10th, 1886.

Meeting opened at 8 o'clock, Dr. F. I. Knight, in the Chair.

The first business of the evening was the election of a chairman for the ensuing year. The chairman is usually chosen at the first meeting of the year, but the preceding meeting was devoted to the subject of Filtration of Water, and but few members of the Section were present, therefore the election was deferred to this meeting. The secretary stated that the office of chairman had been usually filled by the same incumbent for the period of two years, and that Dr. Knight has served one year and has not expressed himself as averse to a further period of service. Dr. R. H. Fitz thereupon nominated Dr. F. I. Knight as chairman for the coming year. The motion was seconded by several members, and being put by the secretary, was unanimously carried. Dr. Knight responded in a few well-chosen words, thanking the members for the compliment thus done him, and accepted the position.

The first paper of the evening was by Dr. P. C. Knapp, and was entitled

A CASE OF PROFESSIONAL NEUROSIS OF CO-ORDINATION, OF UNUSUAL ORIGIN,

of which the following is an abstract.

The professional neuroses, of which writer's cramp is the commonest form, may arise from any occupation requiring a muscle or a group of muscles to be kept in a more or less firm contraction, together with fine movements of co-ordination. The pathology is still obscure, but some cases closely resemble sub-acute neuritis. The symptoms were arranged by Benedict into three groups: the spastic, the tremulous, and the paralytic forms. Lewis adds to these two other classes of cases, those attended with pain or perturbed sensation, and those attended with vaso-motor or trophic disturbances. The case in question was considered to be probably a sub-acute neuritis, conforming to Lewis's class of cases attended with pain. The patient was a girl of twenty-three, a carpet-pattern setter, who, after pretty constant work, had had for three or four weeks severe pains in the fore-arms, worst in the left arm. The arms felt lifeless, and the trouble was aggravated by attempts at work or even on performing the finer domestic duties, such as sewing. There was no cramp or disturbance of co-ordination. There was a slight diminution of sensation on the ulnar side of the hands, and some tenderness over the nerve-trunks, especially over the left ulnar nerve near the elbow. As the case was considered a professional neurosis, the carpet works were visited, and the process of pattern-setting examined. Each girl sits in front of a table along which run the threads of the warp of the carpet, which are dyed of various colors to make the pattern. With one hand they have to arrange these threads in the proper order, so that they may come into position to make the pattern true; with the other they pick up the individual threads whose tension is wrong, and tighten or loosen as the case requires. Both manipulations require a certain amount of muscular tension and fine co-ordination, but no other case of the trouble had been heard of at the works, and no similar case had been previously reported, to the writer's knowledge.

Dr. C. F. Folsom was called upon by the chairman, and responded by saying that the exhaustive study of the professional neuroses made by Dr. Knapp left really very little to be said. Dr. Folsom has seen similar cases from other causes, generally associated with some of the severer forms of nervous disease, frequently among those patients suffering from alcoholism, and has observed that the cramp is not infrequently relieved by treatment or by rest, so that the signs of this affection quite disappear.

Dr. W. N. Bullard stated that he had seen an interesting case on the same day, which bears upon the present subject. The patient is suffering from a neuritis of the median nerve with paralysis in the parts supplied by the branches of this nerve, and tenderness along a part of its course down the arm. In this case there was no cramp.

Dr. Folsom asked what is the pathology of this affection? Is it cramp, or is it paresis?

Dr. Knapp said that it is difficult to determine in most cases what the original lesion may have been. In this case it seems to have been due to an irritation of the nerve. The pathology of all forms of professional neurosis is so obscure that it is often impossible to determine the character of the lesion. The four varieties of this form of neurosis, the paralytic, the spastic, the tremulous and the painful are often associated and united in the same case, so that an accurate analysis is extremely difficult.

Dr. F. C. Shattuck then read a paper upon

A CASE OF MALIGNANT ENDOCARDITIS.[1]

Dr. R. H. Fitz opened the discussion. He stated that these cases are always of interest with reference to their possible method of origin. In certain instances they appear to represent a septic process which arises in the heart without known external cause, and may excite other more remote septic lesions. In other cases the disease has been considered as of secondary character, and as depending upon some primary lesion of infective nature. The valvular lesion has been claimed to be always due to the invasion of the endocardium, either from the surface or from the blood-vessels within the valves, by micro-organisms. Further observation has shown that though such organisms are frequently and perhaps usually present, in acute cases, yet they are not always to be found. In addition, chronic ulcers of the valves are to be recognized with which no evidences of infection are associated, and in which no organisms have been seen.

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[1] See page 574 of the Journal.

Although malignant and ulcerative are often used as equivalent, the former is preferable as a diagnostic term, since both ulcers and vegetations may be present in acute and chronic cases of infectious and non-infectious origin. The relation which the immediate cause of the endocarditis bears to the cause of the infective disease in which it occurs as a secondary affection is to be the object of investigation in the early future. Virchow long ago called attention to the rheumatoid group of lesions in infectious diseases, which might be designated as pyæmia, septicæmia, puerperal fever, etc., and considered the puerperal endocarditis as of parasitic origin. Recent experiments not only confirm this view, but make it probable that a variety of organisms may be concerned in producing the endocarditis, and suggest that the local changes and the remote disturbances may vary in accordance with the special organisms found.

DR. BLODGETT spoke of the difficulty in establishing the diagnosis of malignant endocarditis in accordance with any particular rule or system, and considered that each case presents an entirely new study of symptoms, and must be considered quite independently of previous cases. In a patient which he was so fortunate as to have seen in consultation with Dr. Grace Wolcott some months ago, and of which a report was made to this society, the diagnosis of malignant endocarditis was established before death, as the only condition which could reasonably account for the symptoms in the case. The diagnosis was arrived at by exclusion, as Dr. Shattuck states, was the case in his patient. Here, however, there was a clearer history of previous disease of the heart than was ascertainable in Dr. Shattuck's case, and the patient, except in the last hours, could be communicated with, an intelligent account of the subjective conditions could be obtained.

In this case there were the symptoms of septic metastasis to other parts and organs of the body, notably the larger glandular structures, but unfortunately, no sufficient examination of these suspected locations could be made, and the heart itself was the only portion of the affected tissues which was obtained.

DR. HENRY I. BOWDITCH asked if Dr. Shattuck made an examination of the tissues of the endocardium in relation to micro-organism?

DR. SHATTUCK said that no such examination was made, and that in his report of the case he had purposely omitted any allusion to the subject of micro-organisms, as he had nothing to offer in that direction.

DR. FITZ stated that he was responsible for the introduction of the subject of micro-organisms in connection with this discussion. That already found in cases of malignant endocarditis is identical with one found in pus, the golden staphylococcus, and which seems to attend the suppurative process in most cases. It had been cultivated and its identity thus established. Rabbits inoculated with these cultures died in the course of a few days, and the heart presented the appearances characteristic of malignant endocarditis.

DR. SHATTUCK asked Dr. Fitz if he considered that these cases are not a primary form of disease, but dependent upon the existence of previous infective disease of some other portion of the body?

DR. FITZ replied that the majority of cases are not primary, although cases of primary malignant endocarditis apparently occur. In the secondary variety, the cardiac changes appear to be a local expression of the septic condition, and a source of infection should be suspected in all cases.

DR. E. W. CUSHING spoke upon

FATAL PERFORATION OF THE APPENDIX CŒCI.[2]

DR. H. I. BOWDITCH spoke of the great value of free and frank discussion of scientific communications by the society, and commended the courage with which Dr. Cushing had presented his unfavorable cases. It is not difficult to find the reports of successful operations, but there is a great temptation to refrain from publishing the unsuccessful cases. In the case of the boy first reported by Dr. Cushing, the previous maltreatment of the youth by his playfellows would probably be considered by most surgeons as a full and sufficient cause for the subsequent course of the case. It would certainly satisfy all the requirements of the lesions found at the operation and after death, and Dr. Bowditch would think it unnecessary to look further for an exciting cause. If, however, at the time of the operation by laparotomy, the search had been carried further, and the appendix with its contents had been removed, would not the chance of recovery have been materially improved? At the time the abdomen was opened the dangers of the case would not have been seriously increased by the additional exposure of the peritoneum necessary to the prolonged examination for a cause of the symptoms, and it would seem that this should always be done. The abdomen should be thoroughly searched when it is necessary to open it at all, and thus the operation be made to yield the utmost of benefit to the patient. It is advisable to use all the means in our possession, and not to close the abdomen until a thorough search has been made in every part for the cause of the trouble.

DR. CUSHING replied that he could not have done more than he did at the time. The peritoneal adhesions were very tough and resistent, the bowels were matted together in an inextricable manner, and there was nothing to call attention to the appendix. At the same time, Dr. Cushing would do a more extensive operation in another similar case. Had the operation been located over the appendix, the concretion would have been undoubtedly found and removed. At the same time the case is not reported as a glorious triumph of surgery, but as an illustration of the unexpected difficulties which may be encountered in any surgical procedure of so great gravity as the present. Dr. Cushing asked Dr. Fitz if concretions are a frequent occurrence in the appendix at the age of this boy.

DR. FITZ replied that about ten per cent. of cases of inflammed appendix affected patients under ten years of age, and concretions are found in about one-half of all cases. Dr. Fitz added that in the case reported, only a part of the effect of the peritonitis was removed by the operation, and a large amount of the products of inflammation was not disturbed. The course of the case might perhaps have been more favorably modified had the means of surgical relief been more thoroughly carried out. In a similar case known to the speaker, the amount of inflammatory disturbance was so great that another distinct incision of the abdominal parietes was made, and drainage established, and the patient recovered.

DR. CUSHING said that he wished to hear the views of the members upon the unexpected and enormous regurgitation of liquid from the stomach in the third case reported. This is a new contingency in his experience in abdominal section, and certainly ended the life of one patient in an otherwise favorable condition for relief from operation, by immediate suffocation.

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[2] See page 575 of this Journal.

Dr. Fitz asked the reason for the belief that the patient died from suffocation?

Dr. Cushing replied that the patient began to vomit during the operation, but soon all effort at active vomiting ceased and the fluid simply flowed in enormous amount from the mouth, resisting all attempts at its control, and the patient expired.

Dr. Fitz remarked that there seemed no sufficient ground for the statement that the patient died from suffocation, even under the condition described.

Dr. Cushing replied that the man died, anyway, with sudden cessation of respiration, while the heart continued to beat for nearly half an hour.

Dr. Fitz asked if anything were found in the lungs?

Dr. Cushing answered that no autopsy could be obtained.

Dr. Goodwin asked if there were lividity of the face?

Dr. Cushing stated that the man was black. Artificial respiration was commenced and kept up for an hour, but was productive of no improvement in the man's condition.

At this point, Dr. Thomas H. Gage, of Worcester, the President of the Massachusetts Medical Society, was introduced by the chairman in a graceful manner, and in response to a cordial invitation on behalf of the Section he addressed the meeting, returning his thanks for the hearty manner in which he had been received.

The chairman stated that the Secretary desired to present a matter of incidental business to the section. During the past year the secretary has found it necessary to provide certain small sums for the necessary expenses of the section, and the report here presented is an account of those expenditures. The section has no treasury, and there is no provision for meeting these small expenses. There is a committee of finances, to which the matter can be very properly referred, and they will no doubt adopt some method for its liquidation.

By vote the report of the secretary was referred to that committee, with a request that they present a plan for its satisfaction at the next meeting. The section, on motion of Dr. E. W. Cushing, voted to bring before the Suffolk District Medical Society, the question of paying the necessary and proper expenses of the various sections, and the Chairman appointed Dr. Cushing to bring up the matter at the next stated meeting of the Suffolk District Medical Society.

Dr. H. I. Bowditch presented a report of a preliminary character from the committee to whom was referred the subject of the physical culture of children, at the last meeting, in which the committee asked for further time. Dr. Bowditch urged that the Massachusetts Medical Society should take the position that the State should educate the bodies as well as the intellects of the pupils of the public schools. The State should undertake this great work, which is as yet entirely neglected. By vote the report of the committee was laid on the table, and the committee was granted further time.

A communication was read from the Norfolk District Medical Society, announcing that that society had appointed a committee to co-operate with the committee appointed by this society, for the purpose of urging the proper physical training of the children in the public schools.

Adjourned at 9.50 o'clock.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION FOR SURGERY.

G. H. MONKS, M.D., SECRETARY.

November 3d, 1886. Dr. George W. Gay in the Chair.

On motion, Dr. J. C. Warren was by acclamation elected Chairman of the Section for the ensuing year.

Dr. M. H. Richardson then read a paper on

A CASE OF GASTROTOMY FOR THE REMOVAL OF A PLATE OF FALSE TEETH LODGED IN THE LOWER END OF THE ŒSOPHAGUS.[1]

Dr. Cheever asked, in reference to the difficulty in introducing the probang into the œsophagus while the patient was lying down, to what the reader considered this due.

Dr. Richardson did not attempt to account for the difficulty, and said that he wished to pass the probang before operating simply to demonstrate the presence of the teeth in the œsophagus, and that, finding difficulty in so doing, he at once abandoned the attempt.

Dr. Cheever said that his reason for asking the question was that he had met with a similar difficulty in five cases in which he had performed œsophagotomy. The probang had in every case slipped into the glotis and had been guided into the œsophagus with difficulty. In connection with the subject of rectal feeding, he would like to know if in this case, the hunger was in any way abated by rectal injections.

Dr. Richardson replied that the patient never complained of hunger, but was often very thirsty.

Dr. Gay stated that in a patient of his, who, for four days after swallowing a foreign body, received no nourishment except from rectal enemata, hunger was present throughout.

Dr. Cheever remarked, as to the lowest point one can reach in the œsophagus from the wound in œsophagotomy, that he had been able to place his finger tip at a point behind the manubrium, and could there feel the pulsations of the aortic arch; and from behind the arch he had extracted a foreign body. He asked what objections there were in Dr. Richardson's case to making the line of incision closer to the margin of the ribs.

Dr. Richardson replied that he knew of no reason why such an incision should not be made, but that his incision seemed to him, on the whole, the safest and most satisfactory.

In reply to another question from Dr. Cheever, as to the difficulty in drawing out the stomach through the abdominal wound, Dr. Richardson said that he found no difficulty whatever in drawing it out freely enough to allow all subsequent manipulations to take place outside the abdominal wound.

Dr. Barnes asked how long one would, in such cases, be justified in waiting before operating.

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[1] See page 567 of the Journal.

Dr. Richardson stated that he believed in operating as soon as possible after all attempts to dislodge the foreign body by means of the probang had failed. He also emphasized the importance of doing the operation at one sitting.

Dr. Cheever stated that, in his experience, a foreign body high up in the œsophagus could hardly be tolerated for a longer time than about three days, for by that time exhaustion or abscess would be pretty sure to occur, but that in case the body is lower down the tube, the symptoms do not appear to be so urgent, and operation may therefore be longer postponed.

Dr. Mixter spoke of the value of the stitch used in this case for the purpose of controlling hæmorrhage from the bloodvessels of the stomach.

Dr. Greenough asked if caustics applied to the skin could cause adhesions between the stomach and abdominal wall.

Dr. Richardson replied that he did not think it possible.

Dr. Gay asked how much of the operator's forearm was introduced into the stomach, and whether there was any difficulty in inserting the fingers into the lower end of the œsophagus.

Dr. Richardson said that at the moment of extracting the teeth about one half of his forearm was within the abdomen, and that two fingers entered the œsophagus with the greatest ease.

Dr. Gay mentioned a case of his own where a child swallowed a silver quarter-dollar, which lodged in the lower part of the œsophagus, where it remained for five months, and was then coughed up. The child is to-day perfectly well, seven years after the accident.

Dr. Gay agreed with Dr. Cheever as to the extreme urgency of the symptoms in cases where a foreign body has lodged high up in the œsophageal tube.

Recent Literature.

Sixth Biennial Report of the State Board of Health of Maryland. Baltimore, 1886.

This document contains the report of the efficient Secretary of the Board, Dr. C. W. Chancellor, and also the proceedings and addresses at a Sanitary Council held in 1884.

Sanitary legislation does not appear to have made material progress in Maryland during the two years embraced in the report. "An act to protect the health of those employed in factories and workshops" has become inoperative in consequence of failure to provide for inspection of such places. In consequence of this neglect the State Board offered the following resolution:

"That the aid of the Board be tendered to His Excellency Governor McLane in rendering effective the provisions of the Act" named above. In view of Dr. Chancellor's thorough and fearless service in earlier years in the inspection of the public institutions of Maryland, such an inspection would undoubtedly have proved to be very valuable. The offer of the Board was not accepted. Another important scheme for the drainage of 400,000 acres of the marsh lands of Maryland appears to have met with a similar fate.

Excellent suggestions are stated in the report with reference to the spread of contagious diseases in public schools, in the form of definite rules, containing, in addition to the ordinary regulations, provision for the exclusion of children living in infected houses where common halls or stairways are used by more than one family; also for the exclusion of children, known to have visited or to have attended funerals at infected houses; also permitting a teacher to exclude children ill with certain diseases not usually classed as dangerous. (Such action may properly be taken with reference to contagious skin diseases).

The proceedings of the Sanitary Council consist of a series of papers and discussions upon various subjects pertaining to public health. Dr. Rohe contributes a concise, clearly-stated paper upon "Dangers in Food." Other papers follow, upon Cholera, Diphtheria, Typhoid Fever, Disposal of the Dead, etc.

The report is especially interesting in consequence of the discussion upon Sewage Disposal, by Colonel Waring and Dr. Chancellor, the former advocating "Irrigation as a means of purifying Sewage," his illustrations being mainly taken from the method practised at Berlin and at Paris. He sums up the argument as follows: "I do not advance the facts and opinions set forth as affecting the argument for nor against the Liernur system as a means of sanitary drainage, but only to uphold, as against the assaults of Liernur's adherents, the absolute safety, efficiency and economy of the well and long-tried system of sewage irrigation."

Dr. Chancellor vigorously defends the Liernur system, and appears to have overlooked the principle that rigid plans of sewerage and sewage disposals cannot be laid down for all communities. That which may be practicable in Amsterdam is not necessarily the *summum bonum* for Baltimore.

A Text-Book of Human Physiology, including Histology and Microscopical Anatomy with Special Reference to the Requirements of Practical Medicine. By Dr. L. Landois. Second American, translated from the Fifth German Addition. With Additions by William Stirling, M.D., Sc.D., Brackenburg Professor of Physiology and Histology in Owen's (*sic !*) College, etc., etc. 8vo. pp. xi–905 and 583 Illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

This handsome octavo is the much improved edition of the "Landois-Stirling" in two awkward volumes which appeared at intervals a year or more ago. An entire change of type has resulted in putting the matter of about 1,700 pages of the former edition into about 900 in the one before us. At the same time a very thorough revision has occurred and the number of illustrations has grown from 494 to the number mentioned above. In its new form this is a book which will deserve many friends and interest every reader. Professor Stirling (who has in the interval taken up Gamgee's work at Manchester) shows in his revision a most commendable desire to have his translation keep as nearly abreast of recent research as is practicable, and his success in this direction is marked.

The aim of the book is to present human physiology in its practical aspects as fully as possible, and at the same time to give due consideration to experimental methods and to the pathological variations which are not too remote. This treatment of physiology has much to recommend it, and this particular volume will be found excellent as a book of reference for practitioners who desire to refresh and rejuvenate their knowledge without giving too great detail or references to the literature. The pages bristle with the names of those whose researches have settled (or unsettled) the questions discussed, but no references are made. As a book for the student it is open to the objection of being too full of statements which are not sufficiently balanced and which may mislead or confuse a beginner unless he carefully follow a very good course of lectures at the same time. In general, too, there is much too little criticism of the results obtained by the different investigators and the sources of error of the apparatus described and figured are not pointed out as they should be. Having made this general objection to the scheme of the book, we have but little to complain of as to the way in which it is carried out. In every chapter which we have examined we have found abundant evidence that the latest researches have been considered and with much completeness; examples may be found in the sections about peptonuria, the part played by the white corpuscles in nutrition, and the function of the kidney. The present state of our knowledge of urea formation as associated with the liver (although it is mentioned and the truth suggested) would seem to deserve fuller treatment, and Seegen's very interesting work on the relation of the liver to sugar is hardly more than hinted at. The chemical portion of the book has been much improved, but permits of still further completeness. There is also a revision of the physiology of deglutition which puts that section on to its proper basis, but due reference to Walton's work would make the note on the epiglottis more satisfactory. We should also like to see Williams's heart apparatus figured among the instruments used in studying that organ, and perhaps the importance of the use of the galvanometer calls for more detailed mention. If we add that the respiratory quotient on page 212 still does not fit the fraction and that the index, full as it is, ought to have a few more cross references, our grumble is at an end.

It is a matter of regret that we have not the space to point out at proper length the merits of this book, which far outweigh its defects. The translator's task has been well performed, and the text runs generally with great smoothness. The additions are judicious and the increase of illustrations is an improvement upon the original. Altogether, Professor Stirling is to be congratulated on the skill with which his work has been done, and we trust that the number of editions to come will correspond to its merits.

— The Bavarian Government has given $50,000 to the widow of the late Dr. von Gudden, who, it will be remembered, was killed by their late insane monarch.

— A young lady of New York is reported to have been plunged into a serious state of nervous prostration through the indiscretion of a "cheirosophist" who announced the fact of an abrupt break in her "line of life" and assured her that she would certainly die within three months. Palmistry, like some other fads, seems to have a double edge which it doesn't do to fool with.

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MEDICAL NOTES.

— Dr. Joseph Schmidt, of Berlin, Germany, writes in the *Therapeutic Gazette* (November 15), of a case of lipoma of the size of a pigeon's egg and of eight years' duration, situated in the carotid region of a medical student of twenty-six years. Dr. Schmidt applied ichthyol with little expectation of its success in promoting absorption. A fifty per cent. solution of the ichthyo-sulphate of ammonium was rubbed into the part (the skin being previously washed with soap and water), three times daily for ten days. At the end of which time the lipoma had become converted into an abscess, which was evacuated and the sides and base of the capsule of the former lipoma were removed through the opening. In twelve days more the wound was entirely healed, and not the slightest trace of the swelling could be found.

NEW YORK.

— At the recent annual meeting of the Board of Managers of the State Charities Aid Association, Dr. Charles Hitchcock was elected Secretary.

— The first meeting of the Section on Public Health, Hygiene, and Legal Medicine of the New York Academy of Medicine, of which Dr. Alexander Hadden is Chairman, and Dr. Henry E. Crampton, Secretary, was held December 3d, when Dr. Blaine, of the Willard Insane Asylum, at Ovid, N. Y., read a paper on "Bovine Tuberculosis: its Communication by Inhalation, Ingestion, and Hereditary Transmission, and its Dangers to Public Health."

— Of the bust of Washington Irving, which Dr. Richard B. Wiener has presented to Central Park, Dr. John C. Peters, who was for a number of years Mr. Irving's physician, says that, as a likeness, it is better than anything extant, except the photograph from which it was made. He thinks, however, that many would have preferred that it should have represented him in the prime of life, as he was sixty-eight or seventy years of age at the time this photograph was taken.

— In a published appeal of the Annual Saturday and Sunday Hospital Collection, it is stated that, although the New York collection was unusually large last year, $5 was contributed in London for every $1 in New York.

— At the annual meeting of the New York Medico-Legal Society, held December 8th, at the Hotel Buckingham, Dr. Charles K. Mills read a paper on "Benjamin Rush"; and Dr. L. W. Baker, of Baldwinsville, Mass., read a paper on "Epilepsy and Forensic Medicine." The meeting was followed by the annual banquet, at which speeches were made by Dr. Charles K. Mills, of the Neurological Association; Johnson, of the New York County Medical; Dr. Gil Wylie, of Bellevue Alumni, and other prominent persons. Hon. Clark Bell was elected President, and Albert Bach, Esq., Secretary of the Society.

— Dr. Henry Slack died at his residence at Fishkill-on-the-Hudson, on the 10th of December, of renal and cardiac disease. He was born in Albany in 1831, and was graduated from Yale College in 1848, and the Albany Medical College in 1851. He subsequently pursued a course of medical studies in Paris, and in 1856, began practice in New York City. During the late war he was a surgeon in the army, and in 1865, removed to Fishkill-on-the-Hudson, where he remained in active practice until a few months since, when failing health compelled him to retire. He was chiefly instrumental in founding the Highlands Hospital at Matteawan, a busy manufacturing village near his home, where his surgical experience gained in the army proved of great service. He was most highly esteemed throughout the community in which he lived, and leaves a widow and three children.

— Prof. Albert R. Leeds, of the Stevens Institute of Technology, at Hoboken, read a paper, November 29th, before the New York Academy of Sciences, on "Purification of Water-Supplies." He has recently visited Great Britain for the purpose of examining the supply of the various cities, and he gave a description of some of the more notable systems in use, those of Glasgow, Leeds, and London being mentioned as among the best. He spoke of the different methods by which purification of water could be accomplished, the oldest, and one of the best of these methods, both as to safety and cheapness, being that by boiling. The process of boiling, however, while it destroyed organisms, had the disadvantage of leaving other impurities, and, in addition, rendered the water unpalatable. In order to make it agreeable to the taste, it was necessary to filter it, and cool it with ice. Having referred to purification by distillation, he described at length the method of oxygenizing large water-supplies by forcing oxygen through the mains, a process of essentially American origin. Professor Leeds gave several illustrations of the successful application of this method to various reservoirs, the water of which had become offensive on account of the decayed vegetable matter or other impurities.

— Dr. John P. Gray, the distinguished Superintendent of the State Lunatic Asylum at Utica, died November 29th, of Bright's disease. Dr. Gray never fully recovered from the shock of his attempted assasination, in 1882, by an insane man named Reimshaw, just after his return from Washington, where he had been acting as chief medical adviser of the Government in the trial of Guiteau for the murder of President Garfield. He received a severe pistol-shot wound of the face, and this was a serious shock to his nervous system, as well as giving rise to persistent and intense neuralgia. A year ago, his friends became alarmed about his condition, and he was induced to spend the winter in Thomasville, Ga. He returned in the spring considerably benefited, but, his health soon giving way again, he went to Europe, where he remained until October. Dr. Gray was born in Centre County, Penn., in 1825, and graduated from Dickinson College, after which he studied medicine, and received the degree of M.D. from the Medical Department of the University of Pennsylvania in 1848. After serving as interne of the Pennsylvania Hospital, he received the appointment of third assistant physician of the New York State Lunatic Asylum at Utica. By 1853, he had risen to the position of first assistant physician and acting superintendent, when he was called to accept the appointment of medical superintendent of the Michigan State Lunatic Asylum. In the following year, however, he accepted the position of superintendent of the asylum at Utica, which he retained up to the time of his death. He became celebrated as an expert in insanity, and his opinion was sought in many noted murder and will cases. He was the editor of the *American Journal of Insanity*, and Professor of Psychological Medicine in Bellevue Hospital Medical College, as well as the Albany Medical College. In 1876, he was President of the Section on Mental Diseases of the International Medical Congress, at Philadelphia; and in 1884, he was elected the second President of the New York State Medical Association, delivering the annual address before the Association at its session in 1885. A widow and three children, one of whom, John P. Gray, Jr., is a physician, survive him. His funeral took place December 2d, at Utica, and was attended by many distinguished members of the profession.

Correspondence.

ARE ALL VENEREAL PATIENTS LIARS?

Cambridge, N. Y., December 8th, 1886.

Mr. Editor,— To the editorial question propounded in the Journal, December 2d, "Are all Venereal Patients Liars," I was ready promptly to answer, All *married* ones are. Last evening, however, a married man residing here came into my office saying, "Doctor, I've got the clap, I got it in the strangest way (I think) you ever heard of." I replied I had heard of many singular ways of contracting this disease. He said, "I presume you have heard of geting it from a privy-seat? By sleeping in a strange bed at hotels and on steamboats?" He also mentioned several other of the *usual* (?) ways of getting it. On informing him I had heard of all these ways, he replied, "I did not get mine in any of these ways; mine was caught by sleeping with a woman of the town in Albany about ten days ago." I told him I had sometimes heard of single men contracting it in that way, but it certainly was, as he said, about the strangest way for a married man I ever heard of.

Very respectfully yours,
T. C. Wallace, M.D.

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MILKY TUMORS OF THE AXILLA.

Roxbury (Boston), December 10, 1886.

Mr. Editor,— I find that Dr. Champney, of the Royal Medical and Chirurgical Society (as quoted by Dr. A. H. Johnson in the Journal of December 9, page 548), is mistaken in supposing that the cases of "axillary lump" reported by him are "described for the first time in his paper." Velpeau, "Diseases of the Breast," Sydenham Society's Translation, London, 1856, pages 233–235, cites five cases by Scarpa, Siebold, Moor, Lee, and Stanley (with references), which seem to have been quite similar to those described by Drs. Champney, Johnson, and Sinclair. Siebold's case, in particular, appears to have been the exact counterpart of Johnson's. There were two cysts, one in each axilla, coming on during pregnancy. These tumors were covered with wrinkled skin, like the flesh of a chicken, and, on being squeezed gave exit to genuine milk. After confinement, the exudation ceased by degrees, and the swellings soon after disappeared.

It would seem difficult to determine the exact nature of these tumors, pathologically, without a minute examination of the solid structures in which the fluid is formed.

Yours respectfully,
Edward T. Williams, M.D.

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SEVERED DIGITS.

South Paris, Maine, December 13, 1886.

Mr. Editor,— The reunion of severed digits is becoming a matter of considerable interest. I have a case it might be well to place among the others already reported. Some nine years ago, I was called to ride about one-half mile to see a little boy of seven years. Twenty to twenty-five minutes before my arrival he was in the wood-shed, and very generously holding small sticks upon the chopping-block for a sister a year or so younger, to cut with a rather heavy ax. The ax came down too near the hand, and severed the forefinger of the left hand, just *above* the second joint. The cut was made square and complete, the severed end falling among the chips, where I found it about twenty-five minutes later. Warmed it fully in warm water; adjusted it with great care; took two stitches, strapped and splinted carefully. Two years afterwards, it puzzled me to tell which forefinger had been cut. The merest trace of a scar was found. The action of the joint was perfect, the finger was well nourished, the muscles apparently as strong as those of the other forefinger, and the little fellow would not acknowledge there was any numbness.

Yours very truly,
O. N. Bradbury, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 4, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Typhoid Fever.
New York	1,439,039	780	344	22.02	12.29	5.38	10.75	1.66
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	296	124	21.42	10.88	3.74	11.56	.68
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	155	66	20.15	13.00	1.30	10.40	2.60
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	142	48	8.40	16.10	—	4.20	1.40
Cincinnati	325,000	137	—	30.66	10 95	15.33	4.38	5.11
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	79	22	10.16	16.51	—	—	7.62
Pittsburgh	190,000	82	35	24.60	7.38	7.38	8.61	1.23
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	24	5	41.60	20.80	4.16	16.64	—
Charleston	60,145	32	7	15.65	25.00	—	—	3.13
Worcester	68,383	16	8	6.25	6.25	—	6.25	—
Lowell	64,051	18	4	16.66	16 66	—	16.66	—
Cambridge	59,660	21	5	4.76	4.76	—	—	4.76
Fall River	56,863	25	8	8.00	16.00	—	4.00	—
Lynn	45,861	14	1	7.14	28.56	—	7.14	—
Lawrence	38,825	16	4	—	6.25	—	—	—
Springfield	37,577	9	0	11.11	22.22	—	11.11	—
New Bedford	33,393	14	5	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	3	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	7	33.33	16.66	—	3.33	—
Taunton	23,674	—	—	—	—		—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	0	—	25.00	—	—	—
Brockton	20,783	5	0	20.00	40.00	—	—	—
Newton	19,759	1	1	—	—	—	—	—
Malden	16,407	3	1	—	—	—	—	—
Fitchburg	15,375	4	3	25.00	25.00	—	25.00	—
Waltham	14,609	2	0	—	—	—	—	—
Newburyport	13,716	4	0	—	—	—	—	—
Northampton	12,896	4	2	25.00	—	—	25.00	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,906: under five years of age 703: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 380, lung diseases 343, consumption 243, diphtheria and croup 169, measles 83, typhoid fever 39, diarrhœal diseases 35, malarial fever 22, scarlet fever 12, erysipelas 4, cerebro-spinal meningitis five, whooping-cough eight, puerperal fever three. From diarrhœal diseases, New York 15, Boston eight, Brooklyn four, Nashville three, Pittsburgh two, District of Columbia, Charleston and Fall River one each. From malarial fevers, New York and Brooklyn seven each, Baltimore four, District of Columbia, Nashville, Charleston and New Bedford, one each. From scarlet fever, New York five, Cincinnati three, Pittsburgh two, Brooklyn and Nashville one each. From whooping-cough, Brooklyn three, New York and Nashville two each, Boston one. From cerebro-spinal meningitis, New York four, Cincinnati one. From erysipelas, Cincinnati two, Brooklyn and Pittsburgh one each. From puerperal fever, Cincinnati two, Pittsburgh one.

In the 19 cities and greater towns of Massachusetts, with a population of 971,806 (population of the State 1,941,465), the total death-rate for the week was 18.14 against 19.03 and 16.64 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending November 13th the death-rate was 19.1. Deaths reported 3,329: infants under one year of age 866: acute diseases of the respiratory organs (London) 346, measles 103, scarlet fever 39, fever 54, diarrhœa 62, whooping-cough 49, diphtheria 39.

The death-rates ranged from 13.8 in Portsmouth to 27.1 in Leeds; Birmingham 15.9; Blackburn 26.4; Hull 18 3; Leicester 19.4; Liverpool 20.5; London 17.4; Manchester 24.4; Nottingham 16.8; Sheffield 20.8; Sunderland 19.2.

In Edinburgh 19.5; Glasgow 23.8; Dublin 24.5.

For the week ending November 20th, in the Swiss towns, there were 26 deaths from consumption, lung diseases 17, diarrhœal diseases 10, whooping-cough four, typhoid fever three, diphtheria and croup two.

The death-rates were: at Zurich 5.7; Geneva 19.2; Basle 17.0; Berne 19.3.

The meteorological record for the week ending December 4, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Dec. 4, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...28	30.139	34.6	42.0	24.0	70.0	56.0	64.0	63.0	W.	W.	S.W.	4	14	3	C.	C.	C.	—	—
Monday,..29	29.930	46.0	53.0	33 0	82.0	59.0	84.0	75.0	S.	S.	S.W.	10	17	4	F.	F.	C.	—	—
Tuesday,..30	29 752	45.3	48.0	42.0	89.0	85.0	100.0	91.0	W.	N.E.	E.	2	8	10	F.	O.	G.	—	—
Wednes... 1	29.610	38.9	49.0	34.0	99.0	60.0	74.0	78.0	S.	W.	W.	16	16	6	F.	F.	O.	—	—
Thursday, 2	29.563	24.8	35.0	20.0	86.0	53.0	52.0	64.0	S.W.	W.	W.	18	24	27	N.	C.	C.	—	—
Friday, ... 3	29.969	16.5	21.0	12.0	54.0	36.0	76.0	55.0	W.	N.W.	N.W.	18	26	16	C.	C.	C.	—	—
Saturday,. 4	30.459	17.1	25.0	13.0	65.0	29.0	55.0	50.0	N.W.	W.	N.W.	12	14	13	C.	F	F	6.	.25
Mean, the Week.	29.917	31.9	39.0	29.3				68.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 4, 1886, TO DECEMBER 10, 1886.

Woodhull, A. A., major and surgeon. Ordered for duty at post of Fort Leavenworth, Kan. S. O. 138, Department of Missouri, December 3, 1886.

Ainsworth, F. C., captain and assistant surgeon. Will repair to this city and report in person to the Secretary of War, and on completion of the duty which may be required of him will return to his station (New York city). S. O. 280, A. G. O., December 3, 1886.

Ainsworth, Fred. C., captain and assistant surgeon Relieved from duty as Recorder of the Army Medical Examining Board (New York city), and ordered to report in person to the Surgeon General of the army for duty in his office. S. O. 282, A. G. O., December 6, 1886,

Brown, P. R., captain and assistant surgeon. Leave of absence for seven days, granted by post orders, is extended twenty-three days. S. O. 124, Department of Arizona, November 24, 1886.

Turrill, H. S., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Spokane, Wash. Ter. S. O. 209, Department of Columbia, November 29, 1886.

Carter, Edward C., captain and assistant surgeon. Leave of absence extended six months. S. O. 281, A. G. O., December 4, 1886.

Clendenin, Paul, first lieutenant and assistant surgeon. Assigned to duty at Fort Davis, Tex. S. O. 166, Department of Texas, November 29, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 11, 1886.

Percy, H. T., passed assistant surgeon. Ordered to Naval Academy, Annapolis, Md.

Norfleet, Ernest, passed assistant surgeon. Granted three months' sick leave.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Minnesota State Medical Society 1886. St. Paul: H. M. Smyth Printing Co. 1886.

Inter-State Notification: its Principles as Demonstrated in the History of Yellow Fever at Biloxi, Harrison County, Miss , 1886.

Report on Experiments in Trap Siphonage at the Museum of Hygiene, United States Navy Department, Washington, D. C. By Glenn Brown. Washington: Judd & Deteveilez. 1886.

The Differential Diagnosis of Scrotal Tumors. By D. A. K. Steele, M.D., Professor of Orthopædic Surgery in the College of Physicians and Surgeons of Chicago. Chicago: (Reprint.)

Report on the Purity of Ice from Onondaga Lake, the Erie Canal at Syracuse, and from Cazenovia Lake, to the State Board of Health of New York. By James T. Gardner, Esq., Consulting Engineer.

Ueber die manuelle Entwicklung des nachfolgenden Kopfes bei räumlichem Missverhältniss. (Nach einem in der Gesellschaft für Geburtshülfe und Gynäkologie zu Berlin gehaltenen Vortrag.) Von A. Martin. (Separat-Abdr. aus Berliner klin. Wochenschr., 1886, No. 40).

Moral Insanity: a Plea for a more exact Cerebral Pathology. By James Hendrie Lloyd, A.M., M.D., Instructor in Electro-Therapeutics in the University of Pennsylvania. A Thesis for Admission into the American Neurological Association, read at its Annual meeting at Long Branch, N. J., July 21-23, 1886. (Reprint.)

Two Papers. By W. H. Daly, M.D., Pittsburgh, Pa. Senior Physician to the Western Pennsylvania Hospital; Senior Physician for Diseases of the Nose, Throat and Chest to the Pittsburgh Free Dispensary; Ex-President of the Allegheny County Medical Society: General Surgeon to the Pittsburgh and Lake Erie Railroad Company; President of the Section of Laryngology of the Ninth International Medical Congress, Washington, D.C., 1887; Member of the British Medical Association, etc. I. Laryngology and its Cognate Branches in America. Read in the Section of Laryngology at the Eighth International Congress, at Copenhagen, Denmark, August, 1884. II. The Simplest and Most Efficient Treatment of Diphtheria. Read before the American Laryngological Association, at its Eighth Annual Congress, Philadelphia, 1886.

Lecture.

SCIENTIFIC MEN AND THEIR DUTIES.[1]

BY JOHN S. BILLINGS, M.D., LL.D., (HARV.), *Surgeon U. S. A.*

I do not believe that Government should undertake scientific work merely or mainly because it is scientific, or because some useful results may possibly be obtained from it. It should do. or cause to be done, such scientific work as is needful for its own information and guidance when such work cannot be done, or cannot be done so cheaply or conveniently by private enterprise. Some kinds of work it can best have done by private contracts, and not by officials; others, by its own officers. To this last class belong those branches of scientific investigation, or the means of promoting them, which require long-continued labor and expenditure on a uniform plan — such as the work of the Government Observatory, of the Government surveys, of the collection of the statistics which are so much needed for legislative guidance, and in which we are at present so deficient, the formation of museums and libraries, and so forth.

Considering the plans and operations of these Government institutions from the point of view of the scientific public, it is highly desirable that they should contribute to the advancement of abstract science, as well as to the special practical ends for which they have been instituted; but from the point of view of the legislator, who has the responsibility of granting the funds for their support, the practical results should receive the chief consideration, and therefore they should be the chief consideration on the part of those who are to administer these trusts. It must be borne in mind that while the average legislator is, in many cases, not qualified to judge *a priori* as to what practical results may be expected from a given plan for scientific work, he is, nevertheless, the court which is to decide the question according to the best evidence which he can get, or, rather, which is brought before him, and it is no unimportant part of the duty of those who are experts in these matters to furnish such evidence.

But in saying that practical results should be the chief consideration of the Government and of its legislative and adminstrative agents, it is not meant that these should be the only considerations. In the carrying out of any extensive piece of work which involves the collection of data, experimental inquiry, or the application of scientific results under new conditions, there is more or less opportunity to increase knowledge at the same time and with comparatively little increased cost. Such opportunity should be taken advantage of, and is also a proper subsidiary reason for adopting one plan of work in preference to another, or for selecting for appointment persons qualified not only to do the particular work which is the main object, but also for other allied work of a more purely scientific character.

On the same principle it seems to me proper and expedient that when permanent Government employees have at times not enough to do in their own departments, and can be usefully employed in scientific work, it is quite legitimate and proper to thus make use of them. For example, it is desirable that this country should have such an organization of its Army and Navy as will permit of rapid expansion when the necessity arises, and this requires that more officers shall be educated and kept in the service than are needed for military and naval duty in time of peace. It has been the policy of the Government to employ some of these officers in work connected with other departments, and especially in work which requires such special training, scientific or administrative, or both, as such officers possess. To this objections are raised, which may be summed up as follows:

First, that such officers ought not to be given posisions which would otherwise be filled by civilian scientists, because these places are more needed by the civilians as a means of earning subsistence, and because it tends to increase the competition for places and to lower salaries. Put in other words, the argument is that it is injurious to the interests of scientific men, taken as a body, that the Government should employ in investigations of work requiring special knowledge and skill men who have been educated and trained at its expense, and who are permanently employed and paid by it. This is analogous to the trades union and the anti-convict labor platform.

The second objection is that Army and Navy officers do not, as a rule, possess the scientific and technical knowledge to properly perform duties lying outside of the sphere of the work for which they have been educated, and that they employ as subordinates really skilled scientific men, who make the plans and do most of the work, but do not receive proper credit for it. The reply to this is that it is a question of fact in each particular case, and that if the officer is able to select and employ good men to prepare the plans and to do the work, this in itself is a very good reason for giving him the duty of such selection and employment.

A third objection is that when an officer of the Army or Navy is detailed for scientific or other special work, the interests of this work and of the public are too often made subordinate to the interests of the naval or military service, more especially in the matter of change of station. For example, civil engineers object to the policy of placing river and harbor improvements in the hands of Army engineers, because one of the objects kept in view by the War Department in making details for this purpose is to vary the duty of the individual officer from time to time so as to give him a wider experience. Hence it may happen that an officer placed on duty in connection with the improvement of certain harbors on the Great Lakes shall, after three or four years, and just as he has gained sufficient experience of the peculiarities of lake work to make his supervision there peculiarly valuable, be transferred to work on the improvement of the Lower Mississippi with which he may be quite unfamiliar.

In like manner Professor Clarke objects to having a laboratory connected with the medical department of the Navy on the ground that the officer in charge is changed every three years; consequently science suffers in order that naval routine may be preserved.

There is force in this class of objections, but the moral I should draw from them is, not that Army and Navy officers should not be allowed to do work outside their own departments or in science, but that when they are put upon such duty, the ordinary routine of change of station every three or four years should not be enforced upon them without careful consideration of the circumstances of the case, and satisfactory evidence that the work on which they are engaged will not suffer by the change. And, as a matter of fact, I believe this has been the policy pursued, and instances could be given where an officer has been kept twenty years at one station for this very reason.

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[1] President's address before the Philosophical Society of Washington, D. C., December 4th, 1886. (Concluded from page 565.)

I pass over a number of objections that I have heard made to the employment of Army and Navy officers as administrators, on the ground that they are too "bumptious," or "domineering," or "supercilious," or "finicky," because every one knows what these mean and their force. An Army officer is not necessarily a polished gentleman; neither is a civilian; and a good organizer and administrator, whether officer or civilian, will, at times, and especially to some people, appear arbitrary and dictatorial.

There is another objection to special details of Army or Navy officers for scientific duties which comes not so much from outside persons as from the War Department and the officers themselves, and it is this: Among such officers there are always a certain number who not only prefer special details to routine duty, but who actively seek for such details, who are perpetual candidates for them.

The proportion of men whose ideas as to their own scientific acquirements, merits, and claims to attention are excessive as compared with the ideas of their acquaintances on the same points is not greater in the Army than elsewhere, but when an Army officer is afflicted in this way the attack is sometimes very severe, and the so-called influence which he brings to bear may cause a good deal of annoyance to the Department, even if it be not sufficient to obtain his ends. I have heard officers of high rank, in a fit of impatience under such circumstances, express a most hearty and emphatic wish that no special details were possible, so that lobbying for them should be useless. This, however, seems to me to be too heroic a remedy for the disease, which, after all, only produces comparatively trifling irritation and discomfort.

The same evil exists, to a much greater extent, in the civil branches of the Government. Few persons can fully appreciate the loss of time, the worry, and the annoyance to which the responsible heads of some of our bureaus for scientific work are subjected through the desire of people for official position and for maintenance by the Government. They have to stand always at the bat and protect their wickets from the balls which are bowled at them in every direction, even from behind by some of their own subordinates.

It is true that a great majority of the balls go wide and cause little trouble, and a majority of the bowlers soon get tired and leave the field, but there are generally a few persistent ones who gradually acquire no small degree of skill in discovering the weak or unguarded points, and succeed in making things lively for a time.. Considered from the point of view of the public interests, such men are useful, for although they cause some loss of valuable time, and occasionally do a little damage by promoting hostile legislation, yet their criticisms are often worth taking into account; they tend to prevent the machine from getting into a rut, and they promote activity and attention to business on the part of administrative chiefs. It is a saying among dog fanciers that a few fleas on a dog are good for him rather than otherwise, as they compel him to take some exercise under any circumstances.

At all events I think it very doubtful whether the jealousies and desire for position for one's self or one's friends which exist under present circumstances would be materially diminished under any other form of organization, even under a department of science.

Some conflict of interests now exists it is true; some work is duplicated; but neither the conflict nor the duplication are necessarily wholly evil in themselves, nor in so far as they are evil are they necessary parts of the present system. This system is of the nature of a growth; it is organic, and not a mere pudding-stone aggregation of heterogeneous materials, and the wise course is to correct improper bendings and twistings gradually, prune judiciously, and go slow in trying to secure radical changes lest death or permanent deformity result.

It will be seen that in what I have said I have not attempted to eulogize science or scientists in the abstract. I should be very sorry, however, to have given any one the impression that I think they should not be eulogized. Having read a number of eloquent tributes to their importance by way of inducing a proper frame of mind in which to prepare this address, it is possible that I overdid it a little, and was in a sort of reaction stage when I began to write. But the more I have thought on the subject, and the more carefully I have sought to analyze the motives and character of those of my acquaintances who are either engaged in scientific work or who wish to be considered as so doing, and to compare them with those who have no pretensions to science, and who make none, the more I have been convinced that upon the whole the eulogium is the proper thing to give, and that it is not wise to be critical as to the true inwardness of all that we see or hear.

At least nine-tenths of the praises which have been heaped upon scientific men as a body are thoroughly well deserved. Among them are to found a very large proportion of true gentlemen, larger, I think, than is to be found in any other class of men characterized by modesty, unselfishness, scrupulous honesty, and truthfulness, and by the full performance of their family and social duties.

Even their foibles may be likable. A little vanity or thirst for publicity, zeal in claiming priority of discovery, or undue wrath over the other scientist's theory, does not and should not detract from the esteem in which we hold them. A very good way of viewing characteristics which we do not like is to bear in mind that different parts of the brain have different functions; that all of them cannot act at once, and that their tendencies are sometimes contradictory.

There are times when a scientific man does not think scientifically, when he does not want to so think, and possibly when it is best that he should not so think. There is wisdom in Sam. Lawson's remark that "Folks that are always telling you what they don't believe are sort o' stringy and dry. There ain't no 'sorption got out o' not believing nothing." At one time the emotional, at another the intellectual, side of the scientific man has the ascendency, and one must appeal from one state to the other. Were scientific thinking rigorously carried out to practical results in every-day life, there would be some very remarkable social changes, and perhaps some very disagreeable ones.

That scientific pursuits give great pleasure without reference to their utility, or to the fame or profit to be derived from them; that they tend to make a man good company to himself and to bring him into pleasant association is certain; and that a man's own pleasure and happiness are things to be sought for in his work and companionship is also certain. If in this address I have ventured to hint that this may not be the only, nor even the most important, object in life, that one may be a scientific man, or even a man of science, and yet not be worthy of special reverence, because he may be at the same time an intensely selfish man, and even a vicious man, I hope that it is clearly understood that it is with no intention of depreciating the glory of science or the honor which is due to the large number of scientific gentlemen whom I see around me. A scientific gentleman — all praise to him who merits this title—it is the blue ribbon of our day.

We live in a fortunate time and place—in the early manhood of a mighty nation, and in its capital city, which every year makes more beautiful and richer in the treasures of science, literature, and art which all the keels of the sea and the iron roads of the land are bringing to it. Life implies death; growth presages decay; but we have good reason for hoping that for our country and our people the evil days are yet far off. Yet we may not rest and eat lotus; we may not devote our lives to our own pleasure, even though it be pleasure derived from scientific investigation. No man lives for himself alone; the scientific man should do so least of all. There never was a time when the world had more need of him, and there never was a time when more care was needful, lest his torch should prove a firebrand and destroy more than it illuminates.

The old creeds are quivering; shifting; changing like the colored flames on the surface of the Bessimer crucible. They are being analyzed, and accounted for, and toned down, and explained until many are doubting whether there is any solid substratum beneath, but the instincts which gave those creeds their influence is unchanged.

The religion and philosophies of the Orient seem to have little in common with modern science. The sage of the East did not try to climb the ladder of knowledge step by step. He sought a wisdom which he supposed far superior to all knowledge of earthly phenomena obtainable through the senses. The man of science of the West seeks knowledge by gradual accumulation, striving, by comparison and experiment, to eliminate the errors of individual observations, and doubting the possibility of attaining wisdom in any other way. The knowledge which he has, or seeks, is knowledge which may be acquired partly by individual effort, and partly by coöperation, which requires material resources for its development, the search for which may be organized and pursued through the help of others, which is analogous in some respects to property which may be used for power or pleasure. The theologian and the poet claim that there is a wisdom which is not acquired, but attained to, which cannot be communicated or received at pleasure, which comes in a way vaguely expressed by the words intuition or inspiration, which acts through and upon the emotional, rather than the intellectual faculties, and which, thus acting, is sometimes of irresistible power in exciting and directing the actions of individuals and of communities.

The answer of the modern biologist to the old Hebrew question, *viz.*, "Why are children born with their hands clenched, while men die with their hands wide open?" would not in the least resemble that given by the Rabbis, yet this last it is well that the scientist should also remember: "Because, on entering the world, men would grasp everything, but on leaving, it all slips away." There exist in men certain mental phenomena, the study of which is included in what is known as ethics, and which are usually assumed to depend upon what is called moral law. Whether there is such a law, and whether, if it exists, it can be logically deduced from observed facts in nature, or is only known as a special revelation, are questions upon which scientific men, in their present stage of development, are not agreed. There is not yet any satisfactory scientific basis for what is recognized as sound ethics and morality throughout the civilized world; these rest upon another foundation.

This procession, bearing its lights of all kinds — smoky torches, clear-burning lamps, farthing rushlights, and sputtering brimstone matches — passes through the few centuries of which we have a record, illuminating an area which varies, but which has been growing steadily larger. The individual members of the procession come from, and pass into, shadow and darkness, but the light of the stream remains. Yet it does not seem so much darkness, an infinite night, whence we come and whither we go, as a fog, which, at a little distance, obscures or hides all things, but which, nevertheless, gives the impression that there is light beyond and above it. In this fog we are living and groping, stumbling down blind alleys, only to find that there is no thoroughfare, getting lost, and circling about on our own tracks as on a jumbie prairie; but slowly and irregularly we do seem to be getting on, and to be establishing some points in the survey of the continent of our own ignorance.

In some directions, the man of science claims to lead the way; in others, the artist, the poet, the devotee. Far reaching as the speculations of the man of science may be, ranging from the constitution and nature of a universal protyle, through the building of a universe, to its resolution again into primal matter or modes of motion, he can frame no hypothesis which shall explain consciousness, nor has he any data for a formula which shall tell what becomes of the individual when he disappears in the all-surrounding mist. Does he go on seeking and learning in other ways or other worlds? The great mass of mankind think that they have some information bearing on these questions; but, if so, it is a part of the wisdom of the Orient, and not of the physical or natural science of the Occident. Whether, after death, there shall come increase of knowledge, with increase of desires, and of means of satisfying them, or whether there shall be freedom from all desire, and an end of coming and going, we do not know; nor is there any reason to suppose that it is a part of the plan of the universe that we should know. We do know that the great majority of men think that there are such things as right and duty — God and a future life — and that to each man there comes the opportunity of doing something which he and others recognize to be his duty. The scientific explanation of a part of the process by which this has been brought about, as by natural selection, heredity, education, progressive changes in this or that particular mass of brain-matter, has not much bearing on the practical question of "What to do about it?" But it does, nevertheless, indicate that it is not a characteristic to be denounced, or opposed, or neglected, since, even in the "struggle-for-existence" theory, it has been, and still is, of immense importance in human social development.

"Four men," says the Talmud, "entered Paradise. One beheld and died. One beheld and lost his senses. One destroyed the young plants. One only entered in peace and came out in peace." Many are the mystic and cabalistic interpretations which have been given of this saying; and if for "Paradise" we read "the world of knowledge," each of you can, no doubt, best interpret the parable for himself. Speaking to a body of scientific men, each of whom has, I hope, also certain unscientific beliefs, desires, hopes, and longings, I will only say: "Be strong and of a good courage." As scientific men, let us try to increase and diffuse knowledge; as men and citizens, let us try to be useful; and, in each capacity, let us do the work that comes to us honestly and thoroughly, and fear not the unknown future.

When we examine that wonderful series of wave-marks which we call the spectrum, we find, as we go downwards, that the vibrations become slower, the dark bands wider, until at last we reach a point where there seems to be no more movement; the blackness is continuous, the ray seems dead. Yet within this year, Langley has found that a very long way lower down, the pulsations again appear, and form, as it were, another spectrum; they never really ceased, but only changed in rhythm, requiring new apparatus or new senses to appreciate them. And it may well be that our human life is only the lower spectrum, and that beyond and above the broad, black band which we call death, there are other modes of impulses — another spectrum — which registers the ceaseless beats of waves from the great central fountain of force, the heart of the universe, in modes of existence of which we can but dimly dream.

Original Articles.

FRACTURES OF THE LOWER END OF THE HUMERUS.[1]

BY J. S. BIGELOW, M.D., DUBUQUE, IOWA.

THE shaft of the humerus may be the seat of fracture in its upper, middle, or lower third, and there may be a variety of fractures of what is more properly termed the *lower end* of the humerus, and to these, owing to their frequency, and the imperfect results which often follow our best efforts at treatment, I wish to call particular attention. The lower portion of this bone, in children up to the tenth year, is broken more than twice as often as the other portions together, so that what I may say refers more particularly to children. The boundary line between the shaft and lower end is not well defined, being a surgical rather than an anatomical division. There are several different fractures of the lower end of this bone. It may be fractured more or less transversely just above the condyles, the line usually running from before backward and upward. One or more lines may extend downward into the joint; the outer portion, the epi-condyle or external condyle, as it is called, may alone be broken off; or the inner condyle may be separated, or the trochlear surface, that part which articulates with the ulna, may be broken, the other parts of the joint remaining in contact. Finally, there may be disjunction of the epiphysis or of its articular portion only. Where the articular portion only, is broken off, Prof. R. W. Smith terms it an infra-condyloid fracture. He claims that the line of junction between the epiphysis and shaft is below the condyles; that when separation of the epiphysis occurs, the condyles always remain above the line of separation and in connection with the shaft; hence the term infra-condyloid fracture. It is needless to say Professor Smith's description does not agree with the description of the ossification of the lower end of the humerus, as given by standard authors on anatomy, and accepted by surgeons generally. If we accept Professor Smith's description, we should say that, up to the eighteenth year, we may meet with two fractures of the lower end of the humerus; one lying above, and one lying below, the condyles. This variety of fractures may be enumerated theoretically, although they are not in practice so readily distinguishable; for frequently the lines of separation are very irregular, two or more varieties coexisting, or a dislocation may add to the difficulties of diagnosis. In any case in childhood where we find a transverse fracture of the lower end of the humerus, the question of separation of the epiphysis is apt to arise, and unless we are somewhat familiar with the anatomical structure and development of the parts, we are liable to error.

Development: The epiphysis consists of four parts. The radial portion of the articular surface commences to ossify at the end of the second year; and from this point extends in, so as to form the chief part of the articular end of the bone. The centre for the inner part of the articular surface appears at the age of twelve. Ossification commences in the internal condyle at about the fiftieth year, and in the external one about the age of thirteen or fourteen. At about the sixteenth or seventeenth year, the external condyle and the two portions of the articulating surface are joined together, and unite with the shaft: About a year later, that is at seventeen or eighteen, the inner condyle unites. Before these parts are united, we may have not only separation of the epiphysis, but either of the centres may become separated from the others, producing fracture of the internal or external condyle, or separation of the trochlea. A point of interest in connection with these fractures is the peculiar anatomical contour of the elbow-joint. The trochlear surface with which the ulna articulates, projects downwards at its inner margin considerably lower than any other portion of the bone. The result is, that when violence of any kind is brought to bear against the forearm, the lower end of the humerus is twisted off. Fractures of the lower end of this bone extend into the joint. Even when they do not, their close proximity to the joint often gives rise to extensive inflammation of the synovial membrane, producing effusion into its cavity, materially increasing the difficulties in recognizing the injury and embarrassing the treatment.

Causes. The causes of these fractures are, generally, falls on the hand or elbow. Frequently this bone is broken by muscular action alone. The deformity is variously modified by the manner of receiving the injury.

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[1] Read before the Cedar Valley Medical Society of Iowa.

Symptoms. The symptoms may be obscure: extensive swelling generally sets in early, hence the sooner we see the case and determine correctly the difficulty the better. The upper fragment is generally in front of the lower, due partly to muscular action, partly to the direction of the line of fracture, and partly to the fracturing force, driving the elbow backward. The lower fragment tilts forward. The antero-posterior diameter just above the elbow is increased. Pain is nearly always present. Mobility is generally increased; where the parts are pretty freely separated into the joint, the motion is very free, imparting a loose, rattling sensation when the forearm is rotated. When there is lateral motion a fracture is certain, for there is absolutely no lateral motion in a sound elbow-joint. Luxation does not free the joint in any way. When the arm hangs by the side completely extended, palm forward, the elbow forms a very obtuse angle laterally, the forearm being directed downward and considerably outward. This is due to the trochlear portion of the lower articular surface of the humerus, slanting outward and being longer than the caputellum with which the radius articulates.

If the forearm be fully flexed without any rotation of the humerus, the hand comes up to the outer side of the shoulder joint so far, that with the utmost pronation and flexion of the wrist, the middle finger cannot be brought opposite the mouth. These facts are of importance in the recognition and treatment of fractures in this region. Disjunction of the epiphysis can happen only in childhood or youth. A portion of the bone may be torn off with the epiphysis, or on the other hand the fracture may concern a portion only of the epiphysis, and thus be entirely within the joint. When the fracture is thus low down, there is no perceptible deformity, though there is distinct crepitus. The course and ultimate results of fractures of the lower end of the humerus are apt to be unsatisfactory. A certain amount of stiffening of the elbow-joint is almost always induced, which, as a rule, disappears if the fragments have been replaced in their normal position. The bloodvessels seldom suffer, except in some compound fractures where they may be torn across. Sometimes the circulation may be interfered with by badly applied splints. Wright records a case where an anterior angular splint occluded the main artery for twenty days, and says no permanent harm resulted. Occasionally, serious harm is done to nerves. The musculo-spiral, ulnar, and median nerve, each is at times injured. The ulnar nerve lies very close to the internal condyle, and would seem to be in constant danger. When the posterior interosseous branch of the musculo-spiral or the main trunk itself is injured, a peculiar form of wrist-drop is produced, due to partial or complete paralysis of the supinator and extensor muscles. As a rule, these paralyses improve after a time, still there may be instances where the loss of power is permanent.

The diagnosis in some of these cases of fracture presents no difficulties, in other cases it may be exceedingly obscure. In any doubtful case an anæsthetic should be given, and passive motion resorted to. As a rule, these fractures resemble a backward dislocation of the ulna. In case of fracture, the surgeon can place his thumbs in front of the projection and push the olecranon forward to its place, and easily keep it there until he relaxes his hold. Dislocations are difficult to reduce; but when reduced generally remain in place when the effort is relaxed. The condyles should be located, as they can be, even when swelling is present; and pressure made upon them. If pain is increased, a fracture running into the joint may be suspected; if crepitus is produced a fracture may be regarded as certain. There should be no lateral motion of the forearm, any such motion found establishes a fracture with certainty. Increase in the width of the elbow may be regarded as probably due to fracture involving the joint. These are some of the prominent points on which we must make our diagnosis; but in practice there are shades of difference in the appearances presented, which it would be useless to attempt to describe. We may sum up by saying that fractures and other injuries at the elbow-joint demand more care, tact and judgment for their detection and treatment, than those of any other part of the body.

Prognosis. The elbow is apt to be stiffened after injuries in its neighborhood, so that it is always well to warn friends of what the result may be. All surgeons caution us to warn our patients of what the result may be. This universal warning in regard to fractures at the elbow-joint necessarily implies imperfect results in our treatment of them. The purpose of this paper is, if possible, to offer a method of treatment which will give better results than by the old method of dressing the arm in the flexed position. If the line of fracture is clearly above the epiphysis, the prospects for complete recovery are much more promising; still a very slight tilting of the lower fragment forward, which is so liable to occur, will give rise to some permanent limitation of motion, which cannot be remedied by any treatment, as can be done in mere stiffening of the joint produced by effusion of inflammatory material.

Treatment. The difficulties in the treatment of these fractures are: to keep the fragments in contact and at rest; to prevent the formation of an angle slanting forward; to maintain the oblique line of articulation at the elbow, by avoiding upward pressure on the inner portion of the joint surface of the lower fragment; and to avoid stiffening of the elbow-joint. In order to avoid stiffening, no matter what method of treatment is employed, passive motion must be resorted to. Holmes, Vol. I, says passive motion should be commenced in about three weeks, and quotes Sir Astley Cooper as advocating passive motion to be instituted at the expiration of three weeks after the injury in children, and at a month in adults, and says further that this practice has been followed by most English surgeons. Malgaigne[1] moved the joint on the twentieth day. Erichsen says passive motion should be had recourse to at the end of three weeks in children and in four or five weeks in adults. Dr. Hamilton[1] strongly advised that passive motion be begun within seven days and perhaps earlier, and perseveringly employed from day to day until the cure was accomplished. Dr. Allis, of Philadelphia, condemns early passive motion. He maintains immobility in the extended position until consolidation has taken place, never using passive motion under any circumstances earlier than the fourth week. He says in the milder and middle grades he never has any trouble with functional returns, while in the severer grades there is great injustice done the medical profession, as well as to the patient, by intimating that any course whatever would have insured a prompt return to usefulness.

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[1] Holmes, Vol. 1, p. 868.

The difficulty of keeping the fragments in contact and at rest is due to the shortness of the lower fragment, which gives no purchase to any kind of dressing. No matter what kind of an angular splint we apply, the hand and forearm are converted into a powerful bent lever, upon which a very slight amount of force acts most powerfully in loosening the bandages and disturbing the parts above the elbow. We dare not bind on the splints too tightly, as by so doing we endanger the vascular supply to the parts. After a few days, when swelling begins to subside, the constant tendency is for the bandages to become loosened, so that the controlling power of the apparatus is lost.

The difficulty of maintaining the *normal lateral angle* of the forearm upon the arm seems to be frequently overlooked. Any dressings or appliances which push the trochlear surface upward, at the same time push the upper inner angle of the lower fragment past the corresponding portion of the upper fragment, either in front or behind it, and thus destroy the normal lateral angle of the arm.

The general methods of treatment are three: First, and most commonly by apparatus for maintaining the arm in flexion; second, by apparatus for keeping the arm extended; third, without any apparatus, the principle of treatment being to suspend the limb in a sling in the flexed position, changing the angle from time to time in order to prevent anchylosis, the point in this method being that it is better to have a false joint than to have union with anchylosis. Some surgeons of large experience do not consider a false joint near the elbow as a misfortune, but, on the other hand, advocate that method of treatment, having in view the production of such a result. You are no doubt all familiar with the general method of treating these fractures, namely, that of flexing the forearm to about a right angle, and using the old rectangular splint. This method, with some slight modifications of the splint, has been recommended by nearly all surgeons, but these slight modifications of the splint do not change the principle underlying this method, so I think I need not dwell on its description.

The method of using a long straight splint, keeping the arm extended same as in fracture of the olecranon, has not come into general use. Dr. Allis, of Philadelphia, Pa., first described it, and it is therefore termed Allis's method. Dr. McCluer, of Dubuque, deploring his imperfect results in the treatment of these fractures by the old method, began treating them in the extended position as long ago as 1870. The results proving highly satisfactory, he has continued to use and recommend this method. Among the other physicians of Dubuque who have used and are using this method may be mentioned Drs. M. H. Waples and William Watson, the latter of whom is very enthusiastic in its favor, having used it for a number of years past. Dr. Ingalls, in an article in the *Medical News* for January 7, 1882, states that he uses this method for treating all fractures about the elbow-joint that are treated in the Boston City Hospital.

I think this method of treatment fulfils some indications not met by the rectangular splint. First, the normal lateral angle of the arm can be absolutely and perfectly maintained. Second, the arm being dressed extended, has less of a leverage in loosening the bandages and disturbing the parts than when flexed, the forearm and hand then acting as a powerful bent lever, the slightest motion of which must produce more or less disturbance either at the elbow-joint or at the seat of fracture. Third, when dressed in the extended position, the surgeon has better control over the lower fragment. When dressed in the flexed position, the constant tendency of this fragment is to tilt forward and produce a deformity common to these fractures, namely, an angle slanting forward just above the joint. This tendency is avoided by dressing the arm straight. The powerful muscles above the elbow, namely, the biceps and brachialis anticus in front, and the triceps behind, do not produce tilting of the lower fragment one way or the other. They are not attached to this fragment at any point. Their attachments are to the radius and ulna exclusively. These powerful muscles might indirectly produce this deformity by their action, in shortening the humerus, and thus causing an overlapping of the fractured ends, but since we find tilting forward of the fragments in many cases where the fracture is transverse, and the fragments do not overlap, there must be some other agent more constant and more direct in its action in producing this deformity than the muscles above mentioned.

The superficial flexors of the forearm and the pronator radii teres take their origin from the internal condyle and supra condyloid ridge; the superficial extensors and the supinator longus arise from the external condyle and supra condyloid ridge. The pronator radii teres is inserted into a rough ridge at the middle of the outer surface of the radius. The flexor carpi ulnaris is inserted into the pisiform bone — annular ligament and metacarpal bone of little finger. The flexor carpi radialis is inserted into the base of the metacarpal bone of the index finger. The supinator longus into styloid process of radius. The extensor carpi radialis longior and brevior, the extensor communis digitorum, extensor minimi digiti and extensor carpi ulnaris all arise from the external condyle and supra condyloid ridge, and are inserted in a similar manner to the annular ligament and carpal and metacarpal bones.

To illustrate their action in producing displacement of the lower fragment in fractures of the lower end of the humerus we will suppose them all to be attached or inserted into the annular ligament of the wrist joint. When the forearm is brought to a right angle with the arm, the position in which we are taught to dress it after a fracture of the lower end of the humerus, the effect of contraction of the muscles just described is to tilt the upper end of the lower fragment forward. The action of these muscles is reversed. Their point of origin, at the condyles, the fixed point, now becomes their point of insertion, the movable point, and their normal point of insertion, which we have for convenience made to the annular ligament of the wrist, which part they naturally move by their contraction, now becomes the fixed point, the point of origin. Their attachment to the condyles and supra condyloid ridges is above the centre of motion at the elbow-joint. The result is, that when we flex the forearm, and apply the angular splint recommended by nearly all surgeons, the tonic contraction of these muscles produces a deformity which, however slight, will prevent full flexion of the arm.

When the arm is dressed in the flexed position, I see no reason why the superficial extensors may not assist in producing the deformities just mentioned. Their point of attachment to the external condyle and supra condyloid ridge is above the centre of motion at the elbow-joint, similar to that of the flexors. As soon as the shortest direct line between their point of origin and insertion came in front of the centre of motion at the elbow-joint, their action as extensors would cease. They would then virtually be flexors, and assist in producing the same deformity as that produced by the flexors.

Professor Packard, of Philadelphia, says the method of putting the arm in extension, with the normal lateral angle maintained, and keeping the limb in this posture by means of some immovable apparatus, is a very sound one in theory, and no doubt has given good results. But he thinks the same results may be attained in the flexed position, and with more comfort to the patient. I think I state without fear of contradiction that it is very difficult, or next to impossible, to know whether we have the arm at the proper angle when in the flexed position, and as to the comfort of the patient, I think no method can surpass the extended position. The experience of the surgeons who have used this is that when dressed the patient is perfectly comfortable. A patient with the arm extended and the lateral angle perfectly maintained by one or two straight splints, goes about with the arm hanging by the side, or supported with the other hand, complaining of no pain whatever.

The results of this method of treatment by the surgeons whom I have mentioned have been perfect in every instance. My own observations are limited to four cases, three children and one adult, with perfect results in each case. In consideration of these encouraging results, I think I will be sustained by all who have used this method, in making the broad statement that where the same care, tact, and judgment are used in dressing these fractures in the extended position as are used in dressing them in the flexed position, the results in the former will be better. I would therefore recommend this method of treatment to those who have had imperfect results in the treatment of these fractures by the old method.

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TWO CASES OF LABOR COMPLICATED WITH FIBROID TUMORS, WITH REMARKS.[1]

BY W. E. BOARDMAN, M.D.

Case I. Nora C., octopara, was admitted to the Boston Lying-in Hospital during my service, August 1st, 1882, at the request of her attending physician, with the view of having labor induced artificially, on account of the presence of a fibroid tumor which, it was feared, would become a serious complication to the process of labor if pregnancy was allowed to continue until the full term. She was then in the seventh month of pregnancy.

Upon examination after admission, there was found a sessile, interstitial, or rather submucous tumor the size of a fœtal head, in the anterior wall and projecting within the cavity throughout its whole extent, apparently, or at least as far as the examination permitted its exploration, and soft to the touch. The fœtus appeared to be small, though living. The os was patulous, and readily admitted two fingers, so that the tumor could be reached.

Upon consultation it was decided, in the interest of the child, to postpone interference as long as possible, consistent with due regard for the safety of the mother. On the following day, however, at 11 A.M., labor began, the breech presenting, and was completed at 5 A.M. on the next day, without any abnormal incident. The child was stillborn. The following brief extracts from the records are given to illustrate the subsequent history of the case:

August 4th, the day after delivery, A.M. pulse 100, temperature 101.7°, and P.M. pulse 104, temperature 103.5.° Following the custom then prevailing in the hospital, vaginal carbolized douches were given, and also ergot and quinine were administered. The patient continued to be nervous and weak, slept and ate poorly. The pulse and temperature varied but little from day to day until August 7th, when the record states the A.M. pulse 68, temperature 98.3°, P.M. pulse 78, temperature 102.2°, and the lochial discharge became very offensive. The pulse and temperature again rose, and on August 9th, A.M. pulse 104, temperature 101.2°, when, upon examination, the tumor was found to be protruding from the external os. Gradually it came down so as to occupy the vaginal cavity, and on the 13th, the general symptoms became so threatening that, during my absence from the city, Dr. Richardson was summoned, and he removed the entire mass, which was exceedingly foul, and thoroughly cleansed the uterine and vaginal cavities. On the following day, peritonitis developed, and shortly after collapse occurred, and death ensued.

Case II. During my service in January, 1886, N. M., single, primipara, was admitted to the hospital. She stated that, having previously menstruated every two weeks, she was exposed in July, since which time the catamenia had not appeared. About this time she began to suffer with abdominal pains, to relieve which she soon contracted the opium habit, and shortly after consulted Dr. C. P. Strong in regard to some "lumps" in the abdominal cavity. He diagnosticated multiple fibroids, but declined to consider the subject of operation for their removal, chiefly because he suspected associated pregnancy, which subsequent observation proved to be the condition.

January 21st, she complained of symptoms which pointed to the coming on of labor, and, by his advice, she was sent to the hospital on the following day, when, upon examination, a very loud and distinct souffle over the whole lower abdomen, but no fœtal heart, could be heard. By palpation the fundus was felt, reaching just above the umbilicus, irregular in outline. Upon either side of this were several fibroid masses. Per vaginum there was found a retro-vaginal fibroid mass, which filled posteriorly the excavation, obviously with a high attachment to the uterus, and could not be dislodged by pressure with the fingers. In front, and very high up, behind the symphisis, the cervix was found, with the os soft and patulous, admitting more than the finger tip, and the posterior lip notably elongated. It was decided to wait until the pains should become more frequent and regular, in order to ascertain what nature would accomplish before attempting interference in any way. During the day, January 22d, it was found that the cervix gradually came down lower in the pelvis, though to a slight degree, and the fœtal heart could be heard, but not counted at the right of and below the umbilicus.

On the following day, in the morning, the pains became nearly constant, but slight, the cervix was taken up; the os, the size of a twenty-five cent piece, was easily reached, and found distended by a fluctuating tumor. The membranes obviously had ruptured at 12 M., on the day before. The os continued to dilate gradually but slowly until 3 P.M., when it was fully dilated, and the fluctuating tumor, which was then recognized as an encephalocele, presented at the vulva. In the meantime, the retro-vaginal fibroid had gradually ascended until finally it was entirely above the brim. Soon after this the child was born, having been delayed somewhat in the passage of the head beneath the pubic arch. The fœtus was stillborn. The uterus contracted firmly after the expulsion of the placenta and there was no hæmorrhage. Convalescence was uninterrupted, and she left the hospital February 4th. Upon examination before her departure, the cervix was found to be lacerated bilaterally, and the uterus was anteverted and lying prone beneath the mass of fibroids.

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[1] Read before the Suffolk District Medical Society, Section for Obstetrics and Gynæcology, Nov. 17, 1886.

In connection with the relation of these cases it may not be out of place to give a brief *résumé* of our present knowledge concerning fibroid tumors in their relation to conception, pregnancy, parturition, and the post-partum period. It is a well-recognized fact that these tumors predispose to sterility, the subserous variety primarily on account of the uterine displacements which they induce, the interstitial for the same reason, and, if these tend to become the third variety, or submucous, on account of the changes which they induce in the lining membrane of the uterus, and which lead to hæmorrhage and other discharges that ordinarily prevent conception. Still sterility is by no means the absolute rule with either variety, and especially is this true of the subserous form. Another fact is observed, which is notably true of the submucous variety, but not confined to this class, that abortion or premature labor is likely to ensue.

In some cases, however, pregnancy is uninterrupted until the period of normal labor arrives. Meanwhile, it is the common observation that during pregnancy these tumors develop rapidly, and, as a rule, undergo a change in consistence, becoming softer, and at times are transformed more or less into colloid or cystic masses. It is a frequent occurrence, too, that abnormal positions and presentations of the fœtus are occasioned by all varieties of these tumors, and it may be added there appears to be a notable disposition, with the interstitial and submucous varieties, to placenta prævia, or to the implantation of the placenta over the locality of the tumors.

At the time of labor, these tumors may or may not interfere with the normal processes of parturition, according, in the main, to the variety, to the size of the tumor or tumors, their location and mobility, to the existence and extent of adhesions, and to the period of pregnancy.

In the earlier months, the process of abortion or very premature birth very likely will not be complicated to an unusual degree, except, possibly, by hæmorrhage, which, however, ought not to become a source of danger in these cases.

In the later months, and at term, either variety may become a serious obstacle to delivery, and a source of danger either to the mother or to the child, or to both, and in various ways, of which the following will serve as illustrations:

Uterine fibrous polypi may be the occasion of hæmorrhage, or interfere with delivery, from occupying so much of the cavity of the body or cervix as to delay or prevent the passage of the fœtus, or from presenting in front of the fœtus.

Submucous fibroids, if situated above the body and in the fundus, will offer no impediment to delivery, except, perhaps, they occasion irregularity in the uterine contractions, or give rise to hæmorrhage. Situated in the body, however, from their size, which is increased largely during pregnancy, they commonly become a serious impediment, acting in a like manner with the polypi similarly situated.

Interstitial tumors obstruct delivery, as a rule, only when, in their rapid growth during pregnancy, they become more or less submucous in character, or are located in the body or cervix, and attain sufficient size to obstruct mechanically the progress of the fœtus. If they develop outwards, tending to become subserous, they commonly afford no serious obstacle, provided they remain, or can be kept above the brim of the pelvis. Similarly, too, extra-uterine or subserous, or subperitoneal tumors may not seriously complicate labor, provided they do not encroach upon the parturient canal to a degree which will prevent the passage of the fœtus.

If such a tumor is connected with the body of the uterus, and is not tied down by adhesions, the longitudinal contractions of the uterus will serve to elevate or keep it above the brim, but if it originates from the cervix, in some cases it will permanently occupy the pelvis, becoming retro-vaginal; and if it attains to a great size, it will afford an impassable barrier to the expulsion of the fœtus, constituting, in fact, a shortening of the pelvic diameters.

The treatment of these cases, in the light of comparatively recent experience, which has been based upon modern advances in gynæcological, obstetrical, and surgical practice, offers a very wide and interesting field for discussion, which the scope of this paper will not permit me to enter upon, except in a very brief manner.

There is a general consonance of opinion as to the treatment of the polypoid variety of tumors. During pregnancy, hæmorrhage sometimes becomes a dangerous symptom, and in these cases, the ordinary rules of surgical procedure should, and may safely be applied, and the tumor should be removed.

At the time of labor, the general practice is to await the proper dilatation of the os, and then, in the intervals between the pains, to push up the tumor, and allow succeeding pains to expel the presenting part in front of it. Failing in this attempt, or if the tumor already is pressed down in advance of the head, and is too large to admit of the passage of the child without endangering its life, or the mother's soft parts, the only proper method appears to be to remove the entire tumor by means of the ecraseur or the knife, if the pedicle can be reached; otherwise, as much of it as possible should be taken away. Fortunately, in these cases it is quite the rule, I believe, that the pedicle is within reach, attached to the cervix, or just above it. If the pedicle is very small and thin, nature, in her efforts to expel the child, would, without doubt in many cases, rupture the attachment, but at the expense of time and strength, which might be saved to the mother and child to their mutual advantage.

With the submucous variety of fibroids, including the interstitial forms, which, in their development during pregnancy, tend to become submucous, the practice has been to await the results of nature's efforts, and when these have failed, to resort to some artificial means of delivery; and, as a rule, until lately the child has been sacrificed in the interests of the mother; but, as a rule, too, in these cases the mother has succumbed, sooner or later, to hæmorrhage, exhaustion, shock, or septicæmia.

Even in cases where there has been no serious impediment to delivery, the tumor, softened by the processes incident to its rapid growth during pregnancy, is subjected to so much pressure after the rupture of the membranes and by the uterine contractions, that sloughing and gangrene ensue, and the patient is overwhelmed with septicæmia or pyæmia, as, for instance, in the case which I have reported.

The older obstetric records furnish little but fatal results in these cases, when left to the natural efforts, or where craniotomy or Cæsarean section, either alone or combined, were performed. The study of the details of reported cases appears to disclose one salient fact, namely, that many, if not most, of the immediately fatal results have been due to delay; and bearing in mind that where delivery has, in a surgical sense, been safely accomplished, while the patient subsequently died with septicæmia, the deduction seems clear to me that the safety of both mother and child, in these cases, suggests the following methods of practice, namely: If the tumor is not so large as to offer a serious obstacle to delivery, I should avoid, as much as possible, the compression of it by manual or instrumental delivery directly after the rupture of the membrane, employing artificial dilatation of the os, if required.

In case the tumor is so large as to block the passage of the presenting part so as to form an impassable barrier and is accessible, it would seem to be the best practice, in suitable cases, to employ enucleation, as has been successfully done by Mundé of New York and others. With regard to a resort to version, forceps or craniotomy, similar rules apply as in cases of deformed pelvis, except that with fibroids we must, on the one hand, endeavor to appreciate with considerable accuracy their position, mobility and consistence, and, on the other, the liability to subsequent septicæmia, to which reference has already been made.

Whenever delivery appears to be impossible per *vias naturales*, either under nature's efforts alone or with the intelligent assistance of art, or when there is good reason to believe that these efforts will not only destroy the child, but very likely the mother also, respect for the obstetric art, and more than this, humanity, seems to me clearly to indicate an early resort to laparotomy in some of its forms.

In the light of modern success in abdominal surgery and from a critical study of the cases in recent years which have been the subjects of Cæsarean section, Porro's, Müller's, or Sänger's operations or of laparo-elytrotomy, it seems to me to be evident that the timely resort to one of these methods will, in the future, result in the saving of many maternal and fœtal lives.

If the tumors be interstitial, but tending to the subserous variety, it is probable that delivery will not be interfered with to any great extent, except from the delay sometimes occasioned by irregular contractions, provided the tumors are above the brim of the pelvis. The same is true in general of the subserous tumors.

In many cases, however, as in the second one I have related, there is a tumor occupying the retrovaginal space. If this be not too large or adherent, it may sometimes be pushed above the brim and held there until the fœtus engages or occupies the excavation. If this cannot be done, I believe the essential point to be determined, if possible, is whether the tumor has its origin in the body or above, or in the cervix of the uterus.

If the former is the case and it is not tied down by adhesions, the longitudinal contractions of the uterus will gradually lift it out of the pelvis, as occurred in the case reported, and in this effort nature may often be assisted, and labor will then go on without dangerous obstacles so far as the tumor is concerned. When, on the other hand, the tumor arises from the cervix the contractions are not sufficient to effect this result, and in this case similar rules will apply as with the submucous variety, that is to say, one ought to resort, if it seems necessary on account of the size of the tumor, to version, forceps or craniotomy, and in some of these cases the timely employment of laparo-elytrotomy, especially, would seem to be demanded with the view of affording the best chances to both mother and child, though it is to be kept in mind that with these subperitoneal tumors, while there is a liability to a subsequent peritonitis, there is not the danger of a supervening septicæmia so common after labor complicated with the submucous fibroids.

The question of the advisability of the induction of premature delivery in these cases is one of great importance and calls for the most careful scrutiny in each instance. The consistence of the tumors, their locality and mobility, their size and rate of development during pregnancy, the occurrence or absence of hæmorrhages, the general physical condition of the individual, possibly the history of a previous labor in the same woman with similar complications, all these should be taken into consideration in estimating the probable results of labor at term or in the latest months.

Reasoning from the large fatality incident to the care of most cases which have been recorded in former years, it would appear that an early induction of labor would result in the saving of maternal life, but, on the other hand, in recent years, the desire of obstetricians to save the children has been favored by the knowledge and experience gained in successful abdominal and vaginal surgery, so that we may not err in venturing to assert that in the future the obstetric literature may reverse the direful record with which, so to say, it has been stained in former years, in connection with the treatment of those cases of labor complicated with fibroid tumors, by a resort to the induction of labor after the completion of the seventh month or by laparotomy in some of its forms.

It only remains for me to add a few words concerning the relation of these tumors to the post-partum period.

It is a common experience that most of them rapidly become smaller after labor, sometimes, indeed, they seem to disappear entirely or nearly so, and this is true of the polypoid, intramural and subperitoneal forms. Occasionally the polypoid variety will slough, but it is then quite amenable to treatment.

The submucous variety, however, and too, the interstitial which during the hypertrophy incident to the period of pregnancy, has tended to become submucous, commonly soon begin to soften more, to slough and become gangrenous, as did the one in the first case I have related. My error then, I believe, was in delay. Possibly an earlier interference with the view of removing the mass, by the curette or otherwise, would have made no difference in the final result, but upon general principles of uterine surgery, it appears to be eminently proper to attack such tumors at once, to remove as much of the sloughing material as we can, and to employ disinfecting agents with the utmost freedom.

Following this method in these cases of submucous tumors, we shall, at least as far as lies in our power, remove the source of systemic poisoning.

The danger from hæmorrhage with such treatment is overstated, for if the necrotic mass be removed quickly you will soon reach healthy tissue, which will not bleed very freely, just as is the case with similar treatment of malignant disease.

Another objection has been made, that by the exposure of such a large freshened surface to the lochial discharges, the chances of septicæmia would be largely multiplied, but I cannot appreciate the justice of this criticism, for surely the lochia cannot be so infectious as the sloughing and gangrenous material of the tumor, and too, the employment of the intrauterine disinfectants, if they serve any good purpose, certainly will tend to render the lochia innocuous.

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Clinical Memorandum.

A CASE OF HÆMATOMA OF THE PANCREAS: DEATH IN THREE DAYS.

BY R. W. AMIDON, A.M., M.D., OF NEW YORK.

In a recent number of the Journal (October 28, 1886), Dr. F. W. Draper narrates five cases of extreme interest, in which pancreatic hæmorrhage coincided with inexplicable sudden death. It may interest those who read his paper to learn of a case in which death was *not* sudden, but in which pancreatic hæmorrhage was the only noteworthy lesion found. The case occurred in my practice several years ago.

A laboring man had been in perfect health until 10, A. M., June 23d. At that hour he was seized with nausea, vomiting, and slight diarrhœa. That evening, attacks of severe pain and cramps in the abdomen and stomach set in, which increased in frequency and force until the next evening, when I first saw him. He was then suffering severely. Countenance pale and haggard, body emaciated, and skin cold. Vomited matter was greenish; later, blackish (did not contain any blood-corpuscles). Frequent cramps run from abdomen into arms, and down legs, causing great muscular rigidity, and making patient cry out with pain. There was intense thirst. The urine was slightly albuminous. The treatment consisted in the free hypodermic use of morphia.

June 25th. The condition was unchanged; no movement from the bowels had occurred. A hypodermic injection of ether (ʒiss) raised the temperature from 97.6° to 99° F.

The patient died rather unexpectedly June 26th.

The pancreas was enlarged and hard. A hard, disk-shaped tumor, four centimeters in diameter, lay seemingly between the head of the pancreas and duodenum, and adherent to both. It presented, on section, a hard, blackish surface. On more minute examination, the tumor was found to encroach upon the substance of the head of the pancreas. The microscope proved the tumor unquestionably a hæmatoma.

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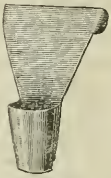
New Instruments.

A NEW EAR-SPECULUM.

BY E. D. SPEAR, M.D.



An ear-speculum, designed by the writer, was presented to several of the aural surgeons of Boston a year or more ago, was noticed by an aurist of another city in his "Treatise upon Diseases of the Ear," and has been of such service, that a description of it is here offered, that its usefulness may be further extended. Made more especially for an operative instrument, it serves equally well as a demonstrating speculum, fulfiling the object for which aural specula are intended; namely, the straightening of the auditory canal, the turning aside of hairs, bits of cerumen, or epidermal scales, and the removal of obstructing parts of the auricle, as the tragus.

As it is easily retained in position by the elasticity of the cartilaginous canal, and does not, therefore, require holding, the surgeon is enabled by its use to perform the usual operations without the aid of an assistant.

In reality, the instrument consists simply of those portions of an ordinary speculum actually in use during an examination of an ear. It is a short, flattened funnel, with a triangular flange projecting from, and forming one of its sides.

It need only be stated, in directions for its use, that this flange should be placed anteriorly, where it will be found pushing aside the tragus to allow light to enter the canal.

It is manufactured by Tiemann & Co., of New York, and may be obtained of them, or through Messrs. Goldthwaite & Co., in Boston.

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

November 17, 1886, Dr. James R. Chadwick in the chair.

Dr. W. E. Boardman read a paper entitled

TWO CASES OF LABOR COMPLICATED WITH FIBROID TUMORS, WITH REMARKS.

Dr. Driver, in opening the debate, mentioned a case of pregnancy in a woman about thirty-eight years old, complicated with a fibroid, apparently interstitial, filling the posterior *cul-de-sac*, the size of a small child's head, which he had sent to Dr. William L. Richardson, at the Boston Lying-in Hospital, for his opinion, Dr. Driver, seeing no way but to induce premature labor. The woman had been delivered in England of five living children. The sixth labor was at term, and accomplished by craniotomy in presence of the tumor then not discovered, Dr. James Braithwaite, of Leeds, accoucheur; seventh pregnancy was terminated at the third month, premature labor being induced by Dr. J. Braithwaite; eighth pregnancy terminated at fifth month, premature labor being induced by Dr. J. Braithwaite; ninth pregnancy terminated at about seven and a half months, premature labor being induced by Dr. William L. Richardson at the Boston Lying-in Hospital. The woman went through four labors safely in presence of a fibroid tumor. Dr. Driver examined the woman November 19, 1886. Her health was good, but she could not work as hard as formerly. The os uteri was well forward, and up behind the pubic arch. The posterior *cul-de-sac* was filled by a large, slightly-mobile fibroid the size of a child's head, apparently interstitial. No hæmorrhages.

Dr. Chadwick said that he had reported ten cases of pregnancy and labor complicated with fibroid tumors, of which eight occurred in his own practice, at the annual meeting of the Massachusetts Medical Society in 1885. He had found several signs of great aid in diagnosticating this complication, to which little or no reference was made in the text-books. First, presence of an area of flat percussions beyond the limits of the tumor or tumors previously known to be located in the uterus, the enlarging womb being so soft as often not to be felt beside the hard tissues of the tumor. Deep pressure in this region would, in the later months, reveal the fœtal parts. Second, the unduly rapid growth of a fibroid, especially if coincident with the arrest of menstruation. Third, blueish coloration of the vaginal entrance, which, though not always present, when manifest, is an indubitable sign of pregnancy. It has been asserted that this change of color may be produced by fibroids alone; this is an error, as he had established by a special study of the subject for the past ten years.

With regard to abortions, it has been shown by extensive compilations that they are no more frequent in this class of cases than in uncomplicated pregnancies.

With regard to the precise location of the fibroid, whether sub-peritoneal, interstitial or submucous, he had never been able to arrive at any conclusion when the case was first seen after the supervention of pregnancy, except in one where the fibroid presented at the os. The only practical division was into intra-pubic and abdominal growths. In the former group, the tumor obstructed the delivery, and efforts should be made to lift the tumor from out the pelvis, with the patient etherized, before labor set in. If this manœuvre was unsuccessful, premature labor should be induced. In the latter group of cases, delivery would be as easy as usual, except that there might be inertia of the uterus.

Dr. Farlow mentioned that in the only case he had had, the fibroid was at the fundus and subserous. The labor and convalescence were normal, except that the labor was much prolonged. In a case seen in early pregnancy, with the patient etherized and in the knee-chest position, he had succeeded in pushing an impacted fibroid out of the pelvis. After this there was no trouble. He thought that the diagnosis was often difficult, as the fibroid sometimes becomes quite soft during pregnancy. Contractions of part of the uterus, localized contractions of the abdominal muscles and the hard, small parts of the child are often very misleading.

Dr. Call said, in reference to her two cases of labor complicated by fibroids reported by Dr. Chadwick, that one of the patients had since been delivered again. At the first labor the tumor was half as large as the fœtal head, with a broad base, but at the second delivery it was not larger than a goose egg, and was distinctly pediculated. There was severe hæmorrhage after the first delivery from imperfect contraction of the portion of the uterus occupied by the tumor, but the second labor was normal in every respect.

Dr. Boardman, in closing the discussion, remarked that the three points in diagnosis mentioned by the Chairman are familiar. Some of them are subject to doubt, especially the vaginal discoloration of pregnancy; may find it from fibroid without pregnancy. It is difficult to diagnosticate the different varieties of fibroids, but the suggestions in the paper were for those cases in which the diagnosis is made. The submucous variety is the most difficult to make out, and he determines its presence by eliminating the other varieties, in cases where an unusual abdominal enlargement occurs with pregnancy, which manifestly is not due to fluid, or to the presence of more than one child.

OVARIAN TUMORS.

Dr. E. W. Cushing, in response to the request of the Secretary that members bring pathological specimens, presented four ovarian tumors, removed by Dr. H. O. Marcy, with his assistance, during the last two months at their private hospital. Also from the same source, a quantity of glandular tissue removed from the uterus by curetting, and sufficient to fill a four-ounce bottle. All the cases recovered without difficulty; in two of the four ovariotomies, both ovaries were removed.

Case I. A large, multilocular tumor, containing colloid material. Patient was sent to us by Dr. George Galvin, who had recognized its nature, although the patient stated that her former physician, a very distinguished practitioner, had declared that she was pregnant, and as she was a single woman, it had greatly troubled her and her family to have such an assertion made.

The walls of the cyst and of the daughter-cysts were very tough, so much so, that some of them could not be ruptured nor conveniently opened with the trocar, but must be incised. The very extraordinary luck of Tait, who had over a hundred consecutive cases which could be extracted through an average opening of two inches, as he says, is tempting surgeons to try to extract tumors through incisions manifestly too small; in this case, it was necessary to considerably enlarge the incision, in order to break up the smaller cysts, by introducing the hand into the tumor. A wound four inches long heals just as quickly as one of two inches, and gain in the strength of the scar in a small opening is too dearly bought if the operation is unduly prolonged, and all the risks increased, and the tissues of the abdominal wall damaged by trying to extract the semi-solid parts of the tumor through too small an opening.

Case II was a single, slow-growing cyst, with thick wall, and had no points of especial interest.

Case III. A dermoid cyst, with a thick wall; it is interesting because there is a plate of real bone at the lower portion, with a long spine projecting into the cyst. There is also hair present. The diagnosis was confused by the fact that the Fallopian tube was spread out over the cyst right in the line of incision, and, being congested, it was a little difficult to be sure that the tumor was ovarian and cystic.

By the vagina, the harder, lower part of the cyst could be indistinctly felt, and when first examined, some two months before the operation, it seemed like a uterine fibroid. The patient was one of Dr. G. W. Jones's, of Cambridge, who kindly assisted at the operation.

CASE IV. A simple cyst, without adhesions, and contained twenty-eight pounds of fluid. The second ovary was removed, as it was undergoing cystic degeneration. Also the tubes, which were diseased.

These four specimens represent various forms of ovarian tumors, and two have been filled with water, and show the size, shape, and amount of fluctuation of the tumor.

It is of especial interest to note the length of the place of insertion of the pedicle, in one case four, and in the other over six inches. It is obvious that with the best of silk, and the tightest of knots, there is some danger that the ligature will slip. Of course, this danger is lessened by the customary method of transfixing the pedicle and tying each way, but even with this precaution, the ligature does sometimes slip, or from excessive tightness, strangulates a considerable mass at the end of the stump.

Dr. Marcy's method, as presented by him in a paper before the International Medical Congress, at London, 1881, and practised by him and others with the happiest results, avoids both these dangers. With a long needle in a handle, and having the eye near the point, armed with Kangaroo-tendon, he transfixes the pedicle near one edge, the tendon is unthreaded, and the other end passed through the eye, when the needle is withdrawn; thus some half-inch of the pedicle is enclosed in a loop, both threads crossing each other through one puncture. The needle, without unthreading, is then passed through again at an interval of half an inch or thereabouts, avoiding any visible vessels, is unthreaded then, armed with the free end, and withdrawn. Then another section is included, thus making a shoemaker's stitch, and so the whole long pedicle is sewn across, just as a saddler sews two pieces of leather together, except that the needle representing the awl carries the two ends of the thread alternately back and forth through one puncture, while the saddler uses waxed ends, which cross through the opening made by the awl.

Thus every vessel is tightly ligatured, and when the sewing comes to the further edge of the pedicle, the tendon is knotted, and may then be passed round the whole and knotted again. The peritoneum is then carefully stripped, as was demonstrated to be possible by the late Dr. Mines, of Buffalo, and dissected from the tumor all round, leaving a free border of half an inch.

With a small needle armed with catgut or fine tendon, the peritoneal surface is then gathered in with a "sero-serous" continuous suture. In this way, there is no need of any thermo-cautery. There is no risk of bleeding; the tendon not only remains long enough, but becomes organized as a part of the tissues of the stump.

There is no strangulated, charred, necrotic mass as a source of danger, and no fresh, open surface to absorb any secretions which may collect in the pelvis, and be more or less septic.

These advantages amply pay for the extra time and trouble of properly sewing up the pedicle, for the extra time required is very little, and the trouble is of no consequence.

The case of curetting of the masses of glands, an operation now performed by Dr. Marcy for the fourth time on the same patient, with more and more rapid recurrence after each operation, will be reported in full at a later time. Notwithstanding the amount removed, and the thinness of the uterine wall left, she had an uninterrupted convalescence.

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SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

APRIL 7th, 1886, DR. G. W. GAY presiding.

DR. D. W. CHEEVER reported two cases of

EXOSTOSIS OF FACIAL BONES.

These cases are reported on account of their comparative rarity, only seven cases being mentioned in Heath.

The first patient was a young man of nineteen years. When twelve years old a hard lump was noticed below each eye, gradually increasing in size, until at the time of operation the eyes were very prominent and pushed up, the nose was flattened and the nostrils occluded, the patient presenting the characteristic "frog-face" appearance. He was very desirous of being operated upon.

The deformity existing on both sides of the face, it was not considered best to remove both superior maxillæ. The chief difficulty in the operation seemed to be in preserving the bridge of the nose.

Curved incisions were made over the tumors, and the overlaying parts having been pushed back with the periosteum, the tumors were chiseled off, on one side leaving orbit and nose untouched, and on the other side making a small opening into the nose, the tumor on that side being attached to the nasal bone and the mass harder and having a broader base than that on the other side.

The patient made a good recovery, and when last seen his appearance had much improved, as well as the sense of sight and of smell.

The bony masses removed were fairly hard, but not like the ivory exostoses spoken of by Heath. They were also unlike the bony exostoses with pedicles that generally start from some mucus cavity like the frontal sinus.

The second patient was a young woman twenty years old. The temporal fossa was filled with a hard, even mass under the muscle. A curved incision to the temporal ridge having been made and the flaps turned down, the mass was chiseled away as far as possible. This tumor was harder than those in the other case, and it was difficult to tell when a sufficient amount had been removed, as no line of demarkation existed between tumor and skull.

Now, two years after the operation, there has been no return of the tumor externally, but the patient has defective vision and hearing, and epilepsy. The latter has improved somewhat under bromide, but the prognosis is unfavorable, as the tumor is probably growing inside the skull.

Dr. Fitz referred to a possible result of the operation for the removal of orbital exostoses as illustrated by a specimen in the Warren Museum. The patient was operated on by Dr. R. M. Hodges. The exostosis was ivory-like, and projected from the forehead. It was subsequently found to protrude into the cranial cavity. Although the condition of the patient was satisfactory for a fortnight after the operation, death occurred a few weeks later from abscess of the brain.

In reply to Dr. Gay, the reader said that in the first case there was an enlargement on one lower alveolar process, and the right antrum was also somewhat enlarged. The palate bones met at an acute angle above, and the upper incisors overlapped. These latter deformities were probably congenital.

Dr. Gay spoke of a case operated upon by Dr. Charles D. Homans, at the City Hospital, for bony tumor below the eye. The deformity was entirely removed, but the subsequent history of the patient was unknown.

Dr. Cheever said that he considered the method of operation in these cases to be exceedingly rude, and that the dental or surgical engine with its saws and burrs would do the work much more rapidly and safely.

Dr. George G. Hayward reported a case of

COMPOUND COMMINUTED FRACTURE OF THE LEG,

exhibiting the patient.

Dr. Hayward spoke as follows: The case seems of interest not so much from its rarity, as its extreme severity and subsequent good recovery under most unfavorable circumstances. Patient, a sailor, was injured in service during a gale, being caught by the main boom penant and main sheet.

He sustained the following injuries, namely: a compound comminuted fracture of the left leg, with a ragged flesh wound over the seat of fracture to the inner aspect of the leg, four and one-half inches in length, also a deep lacerated wound of the left thigh, six inches long, about the middle and transverse in direction.

He was sent ashore at a small town on the coast of Maine, and seen first by the local physician, and after many hours by quite a prominent surgeon twenty-five miles distant.

Examination of the injuries gave only a faint hope of saving the limb, and this was rendered the less from the fact that the surgeon had no confidence in the local physician with whom he was obliged to leave the case.

The wounds were carefully dressed, and some few fragments of bone removed, antiseptic precautions observed, sutures and splints applied. The after treatment was left with the local physician.

Four days after this, during sleep, the patient turned in such a way as to cause intense pain. He could feel the bones rubbing against each other, and was conscious that the limb was out of place. In this condition he was allowed to remain for six days.

On the 4th of July last, ten days after the injury, I was called upon by one of the summer visitors to take charge of this case.

The following will serve to show the condition of things as found at that time, and also give a brief history of the case.

There was considerable amount of shortening (two and one-half inches); no attempt at union. The bones could be seen from the external wound, and felt gliding past one another, being freely movable. The foot was cold, and no pulsation could be detected.

The wounds were extremely foul; the upper one was almost gangrenous, and a large mass of material had to be trimmed away with the scissors before dressing it. The patient objecting to ether, morphia was given subcutaneously before attempting to disturb the fracture. The reduction was easy, and the limb placed in position in an apparatus adapted to the case, and so arranged that the wounds could be dressed without disturbing the fracture, and rendered fixed by heavy sand-bags. Attention was also paid to antiseptic precautions and drainage.

After a few days, the pulsation in the foot became evident, and the general condition of the patient began to improve under tonics and a more liberal diet. At the end of nine weeks there was a firm union, but small, granulating surfaces remained, the limb remaining in the apparatus until everything was perfectly solid.

About the middle of September, a plaster-bandage was substituted, and the patient was allowed to go about on crutches a little. After this, the bandage was split and laced.

During the winter two small fragments of bone came away. He now walks with a slightly thicker sole on the injured side. By measurement, the shortening is scarcely perceptible. He is free from pain, is perfectly well, and able to be at work.

Dr. H. W. Cushing exhibited a patient showing the result of an excision of the elbow, performed four years and a half previously.

Dr. Cushing spoke as follows: The patient I have here to-night, a German, aged sixty, and an artist by profession, was admitted for treatment at the Boston City Hospital on November 15, 1881, for chronic arthritis of the right elbow. His previous history was good. Also no predisposition to disease from hereditary influence was recorded. The only discoverable cause for his condition was that in 1878, three years previous, he had received a contusion of the right elbow from falling on a slippery pavement. No especial trouble was reported until 1879, when slight limitation of arc of extensor appeared. Slight swelling followed the periarticular induration. Gradually-increasing impairment of motion and power of the joint, accompanied by pain. Afterwards, formation of sinuses and prolonged suppuration.

Examination at the time of operation (December 2, 1881), showed such extensive destruction of the articular structures, that an amputation was seriously considered. The patient's general condition also rendered it uncertain whether he could survive the prolonged aftertreatment of an excision.

However, the importance to the patient of preserving the use of his right hand was so great, he being practically dependent on its integrity for its livelihood, that it was decided to make an attempt to retain it. The joint was excised by Dr. W. H. Thorndike through a post-longitudinal incision in the usual way. The humerus was divided above the condyles; the ulnar and radius in a horizontal plane at the level of the radial neck.

The patient remained in the hospital till May 2, 1882, and was then transferred to the Out-patient Department. His general condition at this time was good. There was a slight suppuration from several unclosed sinuses about the elbow, at the ends of which a probe grated over an uncovered bony surface. There was limited motion of the elbow in all directions. Motion of the fingers slight, but gradually returning.

In June, 1882, seven months after operation, *fixed* apparatus was omitted, and from this time until June, 1883, thirteen months after operation, when the patient was discharged well. the treatment consisted in cleanliness, by irrigation and absorbent dressings, usually gauze or oakum, alternating with stimulating lotions. Prolonged, systematic, passive motion and massage seem to have aided much in restoring the mobility of the hand and fingers.

From January, 1883, till now, the power of the elbow, and mobility of the fingers have steadily increased, so that now the patient is able to use his hand at his work as well as formerly. The elbow has gradually changed from a mere "flail" to a joint of considerable power and utility. Diminished power of extension of the wrist, and diminished power of grasping objects with the fingers, are the only noticeable abnormal conditions of this part of the extremity.

The patient can carry articles of considerable weight. can drive nails with a hammer, raise the hand to his mouth, and performs his work as an artist so as to support himself and family — a result which, when the age of the patient and the condition of the articulation at the time of operation, are considered, is exceedingly satisfactory both to patient and surgeon.

Dr. Cushing also reported a case of

PHTHISIS, TUBERCULOUS SYNOVITIS, AND CARIES OF THE WRIST: EXCISION, WITH RECOVERY FROM LOCAL CONDITION.

The patient first had pleuritis about two years ago. This was followed by trouble in the wrist-joint, which gradually increased until the time of the operation, September 8, 1885, when there was marked tuberculous disease of the left apex, and advanced caries of the left wrist. This was excised by a median dorsal incision (Langenbeck's operation). In eight months and three days from the operation, the wrist was completely healed. The patient's pulmonary trouble remains about the same. He has occasionally slight cough and night-sweats, but the general condition is steadily improving, and the power and usefulness of the hand is also increasing, so that it promises to become an exceedingly useful member.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, December 2, 1886.
Dr. J. Blake White presented a

PHTHISICAL LUNG INJECTED WITH CARBOLIZED IODINE.

He said that the results which he had met with during the past year from injecting diseased lungs had greatly excited his enthusiasm. Theoretically, intrapulmonary medication seemed to be a very rational method of treatment, and practically it was found to be of much efficacy. Having referred to the success met with by Drs. Pepper, Robinson, and others, he mentioned a case of his own in which recovery took place, and the course of which was watched with interest by three professional friends. The preparation which he prepared for injections was a mixture of carbolic acid and tincture of iodine, to which was added a small amount of morphia and atropia. In the cases in which he had employed it all the symptoms had been relieved, the cough being controlled, expectoration diminished, sleep improved, and night-sweats checked. The specimen presented was the left lung of a patient in whose case, although hopeless as regards cure at the time the first injection was made, the effect of the treatment was very marked and gratifying.

The patient was a milk-man, a native of Ireland, and forty-six years of age, and Dr. White gave a somewhat detailed history of the case. When first seen by him at Charity Hospital last summer, he was in the third stage of phthisis, with a large cavity in the upper part of the left lung, which was in a state of active suppuration. There was profuse expectoration, exhausting night-sweats, and all the ordinary symptoms of advanced pulmonary tuberculosis. On the 19th of July, the first injection of ten minims of carbolized iodine was made in the first intercostal space. It was followed by no reaction, and there was immediate and marked improvement in the patient's condition. The following week a second injection of the same character and quantity was given, and this also, without any reaction whatever, was followed by marked improvement in all the symptoms. The man felt so much better, indeed, that he was enabled to make an amount of physical exertion that, before the treatment, would have been impossible. On the 30th of August, a third injection was made, this time twenty-five minims of the carbolized iodine being employed. It was attended by a brief paroxysm of coughing, but no bad results followed, and marked improvement was subsequently noted in the symptoms as before. Dr. White's term of service at the hospital now expired, and no more injections were made.

The patient died October 19th, and at the autopsy the left lung was found bound down everywhere by the most extensive pluritic adhesions. The pericardium was also involved by adhesions to a very marked extent. Much of the tissue of the diseased lung presented a cirrhotic appearance, and in the vicinity of the cavity in the apex a considerable space was found to be tinged by the injections. The upper portions, where the injections had been made, presented a marked contrast to the lower portions, where the tissues were in a state of advanced disintegration. During life, also, the auscultatory signs had indicated a dry condition of the upper parts very different from that met with in the lower. Very little pus was found in the cavity.

Dr. William P. Northrup read a paper on

LARYNGEAL DIPHTHERIA; INTUBATION AND PATHOLOGICAL ANATOMY.

He commenced by alluding to the conflict of Bouchat in behalf of intubation of the larynx with Trousseau and the mass of the profession in Paris in 1858, which ended in the official declaration by the Academy of Medicine that this procedure was impracticable. It was true, he said, that Bouchat's seven cases all terminated unfavorably, but this fact at least was proven, that the larynx will bear a tube. It was also shown that the stenosis had been relieved in Bouchat's cases. Having described Bouchat's tube, he said that nothing more was heard of the method for nearly thirty years, when it was revived by a Fellow of the New York Academy of Medicine, Dr. Joseph O'Dwyer, in a manner which at once compelled the attention of the entire profession.

Dr. Northrup then proceeded to give the statistics of all the cases of death from laryngeal diphtheria which had occurred among the children connected with the New York Foundling Asylum during the past five years. The number of children belonging to the institution is about 1,800 per annum, of which 1,100 are cared for by paid nurses in their own homes, and the rest accommodated in the asylum buildings. There were 87 deaths in all from this cause, of which 50 were in females and 37 in males. The greatest mortality was found to be between the ages of three and four years. In 56 the membranes began to form in the larynx before or simultaneously with the exudation in the pharynx. In two cases croup was the first symptom noticed, and death occurred within twenty hours. In 54 cases there was pneumonia, and broncho-pneumonia was very frequently met with. 27 children died from extension of the membranes into the bronchi, and in 29 the pneumonia was sufficiently severe to cause death alone. The highest temperature met with was, in 19, 104°, in 15, 105°, in three, 106°, in two, 103°, and in one, 107°. Having given statistics of the extent of the membranous exudation, he said that in all but three of the 87 cases the membranes were very extensive. Interstitial emphysema occurred in eight cases. There were 51 cases of primary diphtheria, and 31 in which the disease was nearly or remotely related to scarlatina or measles.

Dr. Northrup exhibited a set of O'Dwyer's instruments for intubation, and explained the method of introducing and extracting the tube into and from the larynx. It was important, he said, that the child, wrapped in a blanket, should be held upright in the arms of the nurse, who by grasping the elbows could secure a firm position without interfering with respiration. The gag was to be inserted in the left angle of the mouth, well back between the teeth, and opened widely. An assistant held the head, thrown somewhat back, while the operator used his left index finger to hook up the epiglottis and direct the tube into the larynx. It was better to make several short attempts to introduce the tube than one prolonged effort, on account of the interference with respiration thus caused. The extraction of the tube was more difficult than its introduction, and Dr. Northrup, at the suggestion of Dr. O'Dwyer, recommended that physicians should practice both introduction and extraction upon the cadaver.

Those beginning to practice intubation, he estimated, were apt to use too small a tube, with the result that it was coughed up. Care should be taken, therefore, always to use the size of tube suitable for the age of the child, as indicated by the scale accompanying each set of instruments. There was, however, no danger of the tube slipping down into the trachea, as some seemed to fear; since the head of the tube could not fail to be caught by the cricoid cartilage, which was situated at the narrowest point of the passage. There was also no danger of ulceration of the vocal cords being caused by the tube.

If the condition of the child was favorable for forty-eight hours after the insertion of the tube, the prognosis would be good; but it was entirely unsafe to give a favorable prognosis at any period before the expiration of the forty-eight hours. Not infrequently the greatest possible relief was temporarily secured by intubation in cases which afterwards terminated fatally by the extension of the membrane downwards or by the occurrence of pneumonia. Dr. Northrup also spoke a word of caution in regard to withdrawing the tube too soon. Whether it would be advisable to re-introduce the latter in any case would depend on the condition indicated by an examination of the chest. If on auscultation the vesicular murmur was normal, there was no cause for uneasiness; but if it was found that the air could not get well into the lungs, especially the posterior portions, it was time to re-introduce the tube. The condition of the pulse also served as a valuable guide to the experienced. In many cases the tube could be removed with safety in five or six days.

After referring to the kinds of food which are most useful and most easily taken after intubation, he referred to the cases reported by Dr. Jennings, of Detroit. They were four in number, and as all proved fatal, Dr. Jennings recommended tracheotomy in preference. It was a fact, however, that all his cases were of a very unfavorable character. Still, he recommended intubation in children under fifteen months old and in hopeless cases; believing that it was a supplement to, though not a substitute for tracheotomy.

Having mentioned that O'Dwyer's tubes were of great service in stenosis of the larynx in adults, and especially when the condition was due to syphilis, Dr. Northrup gave some general conclusions in regard to intubation, among which were the following: It relieves dyspnœa due to laryngeal stenosis, and is open to few objections. It is comparatively simple, and is also free from danger. No anæsthetic is required, nor is there need of a trained assistant. There is no fresh wound to serve as a new focus for infection. If intubation proves inefficacious, tracheotomy can still be performed. Intubation, however, he said, had one conspicuous fault, namely, that it embarrasses and sometimes interferes with deglutition. There was also one danger connected with it. The tube might possibly push some of the tenacious membrane down before it, and thus cause a blocking up of the trachea below.

Did it meet the requirements? The statistics showed that it undoubtedly did. Waxham had had ninety-six cases and O'Dwyer forty-eight, and in the one hundred and sixty-five cases which had thus far been reported, no less than twenty-eight and one-half per cent. had been saved. It was to be remembered, too, that the method was still new. Valuable experience had been gained, and it could scarcely be doubted that in the future the results would be even more favorable. The statistics of tracheotomy showed no such satisfactory result as this, and he believed that if all the fatal cases of the operation were reported, the percentage of mortality would be considerably larger than it now appears.

In the discussion which followed, Dr. Francis Huber said that he had performed intubation eleven times. The special conditions for which he had resorted to it were aphonia, stridulous expiration, and extreme recession of the chest-walls, above and below the sternum. He gave a brief sketch of each of his cases, and then stated that out of the eleven, there had been four recoveries, while one child was still wearing the tube. Five had died, and one other, in which he had just practised intubation, would probably also prove fatal. These results were much better than he had obtained with tracheotomy. He had performed this twelve times, but had saved only two out of the twelve children. He stated also that in all his cases of intubation, the method was resorted to very late. In conclusion, he exhibited a modification of the O'Dwyer gag, devised by his friend, Dr. Denhard, who had also had eleven cases of intubation. Five of them were successful, and all of the eleven, like his own, were late cases.

DR. A. S. HUNTER related two cases, both severe, in consultation, in which he had practised intubation. The first was that of a child six years or age, who had been suffering from membranous croup for two days. The stenosis was extreme, and pulmonary œdema was coming on. He introduced the tube with little difficulty, and the relief was immediate and very marked. After forty-eight hours, however, he saw the patient again, and found the respiration very rapid. It had great difficulty in swallowing, and he found that by giving it a large quantity of nourishment at a time, it did better than if the attempt was made to give it by the teaspoonful. The pulmonary trouble was now so great that it was evident that the child could live but a few hours longer. He therefore removed the tube, and found that it breathed well without it. Death occurred about seven hours afterward.

The second case was in a child two and a half years old, with diphtheria, who had a temperature of 103.5°. There was marked stenosis of the larynx, and it was almost completely asphyxiated. The relief afforded by intubation was, as in the other case, prompt and satisfactory. The next day, however, the child coughed the tube up, and it was re-introduced by the attending physician, but death ensued in five or six hours later. Dr. Hunter stated that he had practised intubation five or six times on the cadaver before he attempted it on the living subject.

DR. E. L. PARTRIDGE said that Dr. Northrup had mentioned that the only danger from intubation was the possible detachment of portions of membrane, which might act as a diaphragm in the trachea below the tube. The same objection held true, however, in regard to tracheotomy, and he referred to a case of this operation, in which fatal obstruction occurred in the manner described.

DR. A. G. CAILLE said that he had had one case of intubation, but the procedure was resorted to at so late a period, that he thought it should not go on record. He believed that the introduction of the tube would be rendered easier if the special points of the anatomy of the parts were carefully borne in mind.

Recent Literature.

On the Healing of Arteries after Ligature in Man and Animals. By J. COLLINS WARREN, M.D. New York: Wm. Wood & Co. 1886.

In this book, the author has given the results of his own investigations on a most interesting subject. A long line of experiments, carefully conducted and closely observed, are the basis for his deductions. These differ in many essential points from those of other investigators, which are brought together in a historical abstract in the introductory chapter. The main points brought out are the length of time required to fully complete the healing, from three to six months being necessary. Then the part played by the new tissue formed about the vessel, and which acts as a callus, both without and within, to support it until entirely occluded. Further, the participation of the muscular coat in the process, which has been disregarded by other writers. The fact of the presence of a thrombus in all cases is strongly insisted upon, although of much less size when antiseptic precautions were used, its period of greatest usefulness being at the time when the walls of the vessel are retracting, preventing, on the one hand, the escape of blood; and, on the other, serving as a culture medium for the new cells.

The manner, too, in which the vessel opens again, and the new tissue penetrates to form the lasting cicatrix, is very well illustrated and made prominent. The idea that the endothelial cells take any prominent part in the process is refuted by his experiments, there having only been observed an occasional thickening of the inner coat, which might aid in fixing the thrombus, but nothing more.

Only an extended extract would do justice to his work, which he has carefully summarized at the end, and which should be seen in the original. An extended bibliography and a capital index complete the book. The illustrations, which are entirely from his own specimens, are very numerous, and show clearly the points intended.

We look upon this as a distinct contribution to the science of medicine, on a side which the calls of everyday practice leave untouched for so many. It only remains to add that the publishers have in their liberality made the volume fittingly attractive.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital; Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. Philadelphia: P. Blakiston, Son & Co. 1886. pp. vi. 78.

The reason given by the author for the preparation of this work is that he has received many letters from physicians in England, asking for information about the therapeutical value of massage, in consequence of his having delivered a lecture on the subject in December, 1885. From this it must appear that interest in massage in England is just ten years behind that of Germany, for in 1875 it was an everyday question amongst many physicians in Germany as to what massage meant. Long before that time massage was well known in America. After a short introductory chapter comes a brief outline of the history of massage, which, with much of the rest of the book many of our readers will recognize as having been already more fully published in the United States, in a recent work on massage.

The experiments of Von Mesengeil, showing the increased power of absorption of foreign substances from the joints of rabbits under the stimulus of massage, Dr. Murrell thinks, has placed the whole subject on a firm basis. In 1878, it was thought by some that Weir Mitchell's thermometrical observations placed massage on an exact scientific basis. But more enlarged views of the subject must prevail. In the chapter on the method of performing massage, appropriate excuse for brevity and omissions is made in the statement of the author that it is almost as impossible to teach the art of massage by written or verbal description as it would be to make a piano-forte player without recourse to the instrument. It is a puzzle to us why he and many others state that in doing the deep manipulation the hands must move simultaneously and in opposite directions. This produces a sensation of tearing of the skin; whereas when moved *alternately* in the same or opposite directions the effect is soothing. And yet Dr. Murrell wisely insists on massage being skilfully done by people of education and refinement, and instances the fact that Dr. Mezgr and Professor Von Mesengeil are their own operators.

He asked a medical friend if he used massage in his practice. The reply was "Oh yes, a good deal, my butler does it." After that he should not be surprised to hear that the electrical treatment was conducted by the footman and that the kitchen maid undertook the obstetrical cases.

The author advocates short séances of eight or ten minutes, repeated three or four times a day, and whenever it is possible the patient should go to the house of the operator so that the latter may not be fatigued by travel.

In the chapter on the physiological action of massage the principal item with which we were not already familiar is that of Gapadze's experiments on four healthy men, showing that the temperature in the axilla fell for about half an hour after each massage, but not more than half a degree. After this it rose steadily, and an hour later it was generally a degree higher than at the beginning of the massage. Here he also speaks of the efficacy of massage in hastening the union of fractures as a fact now well established, but does not tell us when or how it should be employed, whether early, to hasten absorption of an unusually large effusion, or late, to stimulate delayed union, or whether all fractures would unite more speedily if massage could be applied without disturbing the fragments.

In place of the somewhat sentimental description of the symptoms of infantile paralysis it would have been better if the author had occupied the space by more clearly defining the indications that would lead us to hope for improvement from massage in such cases. His theory of its action (given in another chapter and somewhat out of place) is that the nutrition of the parts is maintained until new cells in the spinal cord take on the functions of those which have been destroyed. He has had many of these cases under observation "and in every instance in which the treatment was carried out actively and systematically the best possible results were obtained." He regards electricity as a useful adjunct. In recent cases the prognosis is given as good, but in old cases a cautious opinion is best. To our way of thinking, the extent and severity of the central disturbance has more to do with the prognosis than the length of time it has existed. Dr. Murrell says nothing about remedial movements or medical gymnastics, which are of even greater importance than either massage or electricity where a little healthy muscular tissue and slight power of motion still remain. He also states that massage is of great benefit in locomotor ataxia, pseudo-hypertrophic paralysis, facial paralysis, wasting palsy, and allied conditions. He finds massage of great value to reduce corpulency, especially in ladies about the age of thirty-five who have led a sedentary life. But we are not told what sort of adipose tissue is susceptible of decrease, whether hard or soft. We suspect it is only the latter.

Inasmuch, as the author respects the limited space he has allowed himself, we cannot understand why he should have wasted some of it by sensational quotations of faith cures, and the cure of a startling case about which it was not very clear what the matter was. For vague uneasy pains sometimes called rheumatic, neuralgic or growing pains, Dr. Murrell finds that massage affords prompt relief. In *neurasthenia spinalis* he has found massage to be of the greatest use, and he knows of no class of cases in which massage does so much good as in spinal irritation. A careful reader, however, will observe that in quoting some causes of neurasthenia from a recent American work on massage, the quotation is too limited and does not, for this reason, do justice to the original.

For some years there has been a prevalent opinion amongst physicians in London that massage should not be used in cases suffering from heart disease. We have employed massage in almost every form of disease of the heart with, at least, temporary relief even up to the day of the patient's death. It is a satisfaction to have this experience in part confirmed by Dr. Murrell who narrates a case with a loud systolic murmur, a weak and irritable heart that had massage four times weekly for six weeks and improved from the first, becoming better than for many months.

There is also a chapter on joint affections in which the author tells us that most of the cases that he saw treated by Von Mesengeil on the Continent, would have been considered incurable in England. Mention is here made of that curious old book which describes the system and results of friction as used by Professor Grosvenor, of Oxford, a century ago, and regret is expressed that there is no copy of it in any of the medical libraries of London. Dr. Murrell recommends it as well worth reading. But how can it be extensively read if it is so scarce? We are the fortunate possessors of a copy, and all there is of value in it will be found in Graham, on Massage.

The remaining points worthy of notice are that the author has found massage of undoubted value to prepare the system for the assimilation of iron in anæmia, to improve the strength and nutrition in cases of debility after the active symptoms of syphilis have subsided, and to maintain the temperature in cases of acute chloral poisoning.

The chief value of the work is a vigorous confirmation of what has been previously said on the subject of massage, and this coming from a man of such wide reputation will help to raise it in the esteem of the profession. The book is easy and pleasant reading, and is to be heartily commended to those who have not time to read more fully on the subject. But for those who do, it would have been well if the author had referred others more directly to his own sources of information. The index is too copious and has references without meaning, as will be seen by looking for information about lateral curvature. Nothing is said about the effects of massage on this.

Dr. Benjamin Lee's "Tracts on Massage," are much more carefully prepared and will prove more satisfactory to those who desire accurate information.

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THE TREATMENT OF FRACTURES OF THE LOWER END OF THE HUMERUS.

FRACTURES about the elbow-joint will probably always be a source of anxiety to the surgeon. Difficulty of diagnosis, difficulty of retaining fragments in place, the frequency with which the joint is involved, make the results often fall short of perfection and bring deformity to the patient, and chagrin to the attendant surgeon. Fractures into any joint are specially liable to impair the functions of that joint; fractures into the elbow-joint are no exceptions to the rule, and an unfortunate result does not render it necessary to incriminate the method of treatment. A certain number of cases must inevitably be followed by impaired motion.

To those who were fortunate enough to listen to or even read the spirited lecture of Prof. Henry J. Bigelow on "Fractures of the Elbow-joint," such an article as the one we publish to-day seems like heresy. Fractures about the elbow are usually treated in Boston in accordance with the teachings of that lecture which are summed up in the following rule:

"Ascertain if the olecranon is broken. . . . In all other injuries of the elbow-joint whether you are able to make an exact diagnosis or are wholly unable to do so on account of the swelling, *treat them as though the forearm had been dislocated backwards, and secure the arm at about right angles to an inside angular splint.*"

This splint, which might be described as an anterior right-angled splint quite as justly as an inside angular splint — the *inside* referring to the angle and not to the side of the arm — should be solid, or at least firm, and not with a loose hinge-joint at the angle that allows play in all directions and forbids any idea of fixation.

"The character of the injury is determined as far as may be without unnecessary harm from manipulation of the parts, and the elbow being placed at right angles, the wrist is drawn forward while the humerus is pushed backward at the elbow, precisely as if a backward dislocation was being reduced. In this position it is forcibly maintained while the fragments are adjusted as far as may be and an internal angular splint padded by a folded towel is applied by an assistant."

To this it might perhaps be added that a sling needs to be carefully adjusted so as to keep the forearm so raised as to relieve the splint and bandages of the weight and leverage of the forearm and hand. Careful manipulation of the injured elbow, and the addition of any pads and additional splints that each case may call for, may add greatly to the accuracy of adjustment, and assist in gaining results that will leave little to be desired; then a careful supervision to see that the position is maintained, and bandages do not slip, can never be omitted.

The published lecture [1] of the eminent professor to which we have referred, contains also a condemnation of the practice of passive motion as applied to the elbow-joint, which was characterized as productive of more harm than good.

In order to obtain the best possible result in any fracture, one must direct all his efforts to place the broken bones in their normal position and maintain them in such position until union has taken place, due regard being had to the integrity of the soft parts meanwhile. Pumping the joint in the immediate vicinity of the break is certain to interfere with the careful approximation of the fragments, either by direct action or by provoking contraction of some of the periarticular muscles, and is even more likely to impair the result than to improve it. Absolute immobility offers the surest means of obtaining early union with a minimum of callus, and the least inflammatory complication.

It seems worth while to quote in full the statement of Dr. Ingalls to which reference has been made in the article of Dr. J. S. Bigelow. Under the heading "Hospital Notes" occurs a short article "On the Treatment of Fractures of the Upper Extremities in Boston Hospitals. (Specially reported for the *Medical News*,") but the name of the reporter is not given. In that article occurs the following:

"Simple fractures of the lower third of the humerus are put up in an internal angular splint; and this splint is also used for all fractures about the elbow, whether above, through or below the joint, except those of the olecranon.

"Dr. Ingalls, of the Boston City Hospital, is of the opinion that in many cases of fracture of the humerus near the elbow-joint, the best treatment is to make traction with the arm extended instead of being flexed around an internal angular splint; and he intends to treat these fractures in the above manner, and to pay particular attention to the use of passive motion as early as possible."

Certain exceptional cases are then mentioned in which the patients are confined to bed and extension applied. These latter cases are certainly very rare and include few cases besides those of such extensive injury that splints are for a time out of the question, and these are often fractures in the shaft of the humerus, above the region of the joint.

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[1] Boston Medical and Surgical Journal, May 7, 1868.

In quoting authorities, Dr. J. S. Bigelow does not give a passage from Hamilton which tells most strongly in favor of the position he advocates, though expressing a different opinion as to the muscular action: "Although the flexed position must usually be regarded as the best in these fractures (fracture at the base of the condyles, complicated with fracture between the condyles, extending into the joint), for the reason that it most completely relaxes the biceps, brachialis anticus and the flexors of the forearm, and because if anchylosis ensues, the flexed position gives the most useful arm, yet, I think it might be proper to try what better can be accomplished by permanent extension with the forearm straightened upon the arm," etc.

No one can read for the first time the articles which Dr. Allis [2] has published upon the subject of fractures of the humerus without treating fractures in the vicinity of the elbow the better for it, but the straight position is not the inevitable and only refuge from the evils to which he draws attention. And one cannot fail to be struck by such a remark as that of George R. Fowler [3] in a discussion on a paper of Dr. Allis's; "The only case in which there was any considerable loss of movement of the joint was one which I saw in consultation, and advised its treatment in the nearly straight position."

But the final and conclusive argument is the greater utility of an arm anchylosed at a right angle than that of one immovably straight. Any one who has been enabled to watch an otherwise healthy boy with an arm fixed in a straight position, will be very careful how he exposes one of his own patients to the risk of such a misfortune. The straight position cannot overcome the dangers inherent in a fracture into the joint, and the surgeon who adopts that position would certainly abandon all its fancied advantages if an anchylosis should once unfortunately occur in such practice.

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CEREBRAL LOCALIZATIONS.

At the meeting of the Imperial Royal Society of Physicians held in Vienna, November 19th, Exner made an address on cerebral localizations, in which he summed up the present status of physiological opinion on the subject, reviewing the published declarations of the principal authorities, and comparing them with his own views.

Taking for his point of departure the late discussion at the Assembly of German Physicians and Naturalists at Berlin — a discussion rendered memorable by the participation of leading physiologists who have made a special study of cerebral localizations — and after a rapid review of the views of Munk, Ferrier, Hitzig and Fritsch, Luciani and Sepilli, Charcot and Pitres, Exner remarked that, according to his own scheme, the centres of the different functions are not isolated, but inter-connected, each with each in the cerebrum.

Paneth has clearly shown that Hitzig's centres (which differ but little from Ferrier's) represent only the *maximum* of excitability of the sense or motor function therein localized. Hitzig has, moreover, adopted this statement, as harmonizing with the facts which he has witnessed. Charcot and Pitres, Luciani and Sepilli, oppose Exner's views, while admitting the inter-connections of the various centres. After this general survey, Exner takes up the consideration of the different centres.

As regards the motor area in the dog, Exner asks if this area be really circumscribed, or if it extends beyond the limits indicated by Munk. Munk presented to the Assembly of Naturalists a dog which he had rendered blind by removing the occipital lobes; but, as this animal could not descend a flight of stairs, Goltz affirmed that there must be a lesion of motility also, for a dog, simply deprived of its visual lobes, ought to be quite able to descend stairs. Munk, in commenting on this objection, affirms that a dog from which a part of the cerebrum has been removed must comport itself differently in its movements from a dog whose cerebrum is intact, meaning by this that the motor functions of the dog are impaired; hence the occipital lobe not only contains the visual centre, but the motor area extends also into this lobe. Goltz has declared that the results which he has obtained are not in contradiction with those of Exner and Hitzig. Fritsch, moreover, led by anatomical considerations, has pronounced against the exact limitation of localization, so that a majority of physiologists are agreed as to what concerns the motor sphere. Among the sensorial zones, the visual centre is the best known and the most important. According to Munk, the visual zone is very limited; Goltz protests against any such limitation, and Hitzig, Luciani, and Sepilli are in agreement with him. Exner and Paneth have determined lesions of the sigmoid gyrus in ten dogs. Nine of them had visual troubles, but it is possible that these were due rather to a "lesion of attention" than of true vision.

Is it possible to render mammals blind by extirpation of the occipital lobes or of the entire cerebral cortex? Frogs preserve their visual faculty intact after extirpation of the whole of the cerebral cortex, and it is the same with birds. Nevertheless, Munk pretends that pigeons become blind after extirpation of the entire cortex. Gudden has removed, in hares, the greater part of the hemispheres, and these animals do not become blind.

Munk has demonstrated that a dog may be rendered blind by extirpation of the occipital lobes. Goltz presented to the Assembly of Naturalists the cerebra of dogs, which, during life, saw very distinctly. These cerebra differed in nothing from those shown by Munk. It is then very probable that the extirpation of the occipital lobes does not always produce blindness. This view seems paradoxical, and in contradiction, at first sight, with the law of causality, but it must be remarked that the brain is an organ whose functions are still largely in the domain of hypothesis; and variations of greater or less importance in both structure and function have been proved. Thus it is that aphasia is determined sometimes by lesion of the left inferior frontal lobe, and sometimes by lesion of the right inferior frontal lobe; there exists also cases in which decussation of the pyramidal columns has not been found. Munk's dogs were blind, but in these cases Munk himself has acknowledged that there was atrophy of the optic nerves.

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[2] Allis, Oscar H. Deformity from Fractures of the Humerus. Annals of the Anat. and Surg. Society. 1880. p. 289.

[3] George R. Fowler. Annals of the Anat. and Surgical Society, Brooklyn, N. Y. 1880. p. 359.

Must we deny the law of Gudden, which says that lesions of the cortex never determine lesions of the peripheral nerves, or must we admit that Munk removed something besides the cortex?

The animals observed by Munk also presented functional lesions of certain parts of the retina. Here, again, the question comes up: was not the visual trouble of these dogs due rather to lesion of the attention than of the faculty of vision? Munk's scheme, according to which the cerebral cortex of one side is connected with half the visual field of both sides, has been combated by Luciani, who has obtained the same visual troubles, whatever part of the cortex was extirpated.

Exner finally makes allusion to the little knowledge which we possess respecting the cerebral localization of the other senses; he remarks that almost all the physiologists who have wrought at this question admit that there do not exist strict and well-defined localizations, but that the different centres are inter-connected, each at the same time presenting a region more especially rich in nerves and nerve-fibres pertaining to a certain function.

The report of the Physiological Section of the German Naturalists and Physicians at the meeting in Berlin last September (*Deutsch. Med. Wochr.*, No. 40, 1886), shows not only great differences of opinion in regard to cerebral localizations, but of interpretation of the results of experiments upon animals. In fact, some of the meetings were quite stormy, and it was apparent that anger may possess the minds of physiologists as of celestials.

DIET IN FEVERS.

At the meeting of the Society of Therapeutics, Paris, October 13th, 1886, Dujardin-Beaumetz read a communication on "Diet in Febrile Maladies" which was of a practical nature, and elicited considerable comment.[1] He recalled to the minds of those present that after the memorable discussion of this subject at the Society of the Hospitals thirty years ago (in 1857) the rigorous diet heretofore imposed upon fever patients was abandoned, and a more generous alimentation adopted, especially in typhoid fever. Trousseau, Monneret, and Hérard were prominent advocates of this new dietetic treatment of fevers. On what basis may a rational alimentary regimen in febrile maladies be established? If we take into account the average waste, that is, the daily loss of weight, the need of reparative alimentation is apparent. According to Layton's figures, a typhoid fever patient loses weight at the rate of two hundred and thirty-nine grammes a day, though the waste is often greater than this. But however abundantly nutriment may be provided, it is not certain that much will be assimilated. In typhoid fever (which may be taken as the type of fevers), the lymphatic network of the intestines is the seat of an inflammation which opposes absorption. The chyle, (that is to say, the fatty substances and the peptonized albuminoid matters), will not then find its way into the circulation by the lacteals and thoracic duct, and it is only by the radiates of the portal vein that aqueous and saline substances can get into the system.

Moreover, the labors of Bouchard, of Lépine, of A. Robin, have shown that in the febrile process there is an accumulation in the economy of the products of organic disintegration, and that it is desirable to facilitate the excretion of these toxic products.

From all this it results, according to this view, that in febrile states, and in particular, in typhoid fever, the digestive tube is not in a fit condition for the absorption of albuminoids and fats, and the economy is poisoned by the débris of organic disintegration. Dietetics have but a limited role in these cases, since only liquid and saline substances can penetrate the economy at the same time that the patient's own fat and muscular tissue is consumed by the febrile process.

As to the kinds of food most likely to be appropriated, it may be affirmed that the broth and milk which we are in the habit of administering to our typhoid patients enable us to introduce on the one hand a great quantity of water, and on the other certain saline substances. In the typhoid patient there is a veritable *inanition* of mineral matters, resulting from the daily losses in potassium, in sulphuric acid, in phosphoric acid, and chloride of sodium, products of disassimilation which pass off by the urine, and which attain the figure of three to four grammes of chloride of sodium, one and one-half to two grammes of phosphoric acid, 2.967 grammes of sulphuric acid, and 1.730 grammes of potassa. Broth seems best to fulfil the desideratum, for it contains little besides water and salts.

Is it the same with milk? This question may to a certain extent be answered in the affirmative. By the water and saline ingredients it contains (and which latter resemble those of serum), milk very well responds to the indication for a liquid and saline nutriment in febrile diseases. But milk contains albuminoids and fats besides. What part do these play? Do they act as food, or are they rejected, without being absorbed. We are entirely ignorant, and careful experiments, made by daily weighing typhoid patients fed exclusively with beef tea and broth, and such as are fed exclusively on milk, might, perhaps aid in throwing some light on this question. Such experiments Beaumetz is instituting in the Cochin hospital, while inclining to the opinion that milk in typhoid fever has a nutrient value only by reason of the salts and water which it contains. As for wine, he believes that it has a general tonic effect, besides being a waste-restrainer.

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[1] Bull. et Mém. de la Soc. de Thér., October 20, 1886.

In the discussion which followed the reading of the paper of which the above is an abstract, Blachez remarks that, if it were well proved that fever patients do not assimilate albuminoids, it would be useless to give them a nutriment so rich in albuminoids as milk.

Catillon thought that alimentation by broth was an illusion. Corville and Bochefontaine in their experiments on dogs have shown that these animals when fed only on broth waste quite as fast as those to which nothing but water is given. As for the organic combustions, they are not always in relation with the excretion of urea, which may augment while the temperature remains normal.

Ernest Labbée remarked that it was a custom of Monneret to give his fever patients six quarts of liquid nourishment a day. This he regarded as excessive alimentation, forcing into patients more liquid than they like to take, and imposing on the kidneys too heavy a task of elimination, whence renal congestion and albuminuria are likely to result. He thought that four quarts of liquid a day should suffice.

Cadet de Gassicourt was of opinion that the scales would enlighten us as to the value of milk in the diet of typhoid fever patients; by daily weighing our patients we should find whether they lose as much weight when fed on milk as on broth, or whether there be a difference in favor of milk.

Bucquoi regarded it as a matter of indifference whether milk or broth be the diet of typhoid patients, for during the active stages of the fever (periode d'état), these patients cannot assimilate the nutritive elements of either the one or the other. Perhaps even the medicines we give are no better absorbed.

Crequy observed that if milk were not absorbed in typhoid fever, the casein would appear in the stools in the form of curds, which in his experience was not often the case.

Ernest Labbée replied to the remark of Bucquoi concerning medicaments, that we have proof that certain medicines, as quinine and antipyrine are absorbed, for we note their physiological effects; quinine, moreover, has been found in the urine.

Campardon observed with reference to the absorption of salines, that it is a fortunate circumstance that these substances are so readily assimilable they promote diuresis, and thus purify the organism by more rapid elimination of effete products. Bucquoi, thought that to be consistent, Dujardin-Beaumetz ought to replace milk by whey in the alimentation of his typhoid patients.

Cadet de Gassicourt closed the debate by saying that the suggestive communication of Dujardin-Beaumetz brings before us questions of very great importance. We have now to ask ourselves if all that we can do is simply to subject our fever patients to an aqueous, saline diet (as seems probable from the new physiological considerations which have been advanced), or whether we can sustain their forces and check too rapid waste by a suitable strengthening alimentation. The question cannot be solved by discussion or speculation, but by direct and accurate experimentation.

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INCREASE OF INSANE AND PAUPERS IN NEW YORK.

A special meeting of the State Board of Charities was held at Albany, December 9 and 10, for the purpose of considering the annual report. The report shows a slight increase in the pauper and reformatory classes, and a large increase in the number of the insane, the various asylums of the State having 13,533 insane persons in their care on October 1st, 1886, as against 12,707 at the same date in 1885. These institutions are generally crowded, and there is urgent need of increased accommodations for this class.

At the same time, the report points out the importance of more stringent measures for the prevention of the shipment of the insane or otherwise infirm paupers into New York from other States and countries.

One of the most important questions to which the Board has directed its attention during the year is the desirability of a more practical industrial training of the youthful wards of the State, especially girls and young women; and at the recent meeting, measures were adopted for bringing the matter prominently to the notice of the managers of orphan asylums and all other public institutions having charge of female children.

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MEDICAL NOTES.

— It appears that her gracious majesty, Victoria, was nursed at the breast of her mother, the Duchess of Kent, and that she herself performed the same maternal office for each of her nine children. But then, of course, the outside duties and engagements of a queen are much less onerous than those which oblige so many women of society to delegate such homely duties to a menial.

— The *Archives of Pediatrics* (July, 1886), contains a good word for salicylate of sodium in infantile diarrhœa. A prominent factor in all cases of infantile diarrhœa, if indeed not the chief factor, is that fermentation has taken place in the course of the alimentary tract, and the motions are constantly therefore acid, extremely offensive, and full of undigested milk. To prevent this fermentation should be the first aim of treatment. With this object, Dr. Shank recommends salicylate of sodium as being at once an antacid and a powerful antiseptic, and, what is of great moment, a medicine easily administered to a child. He gives one grain every three hours to a child a year old. If there is much vomiting he adds a fourth of a grain of calomel to each dose, and small quantities of opium if there is much pain.

— The Chinese have a rather radical cure for cholera. A Shanghai paper says that on July 22d, a Chinaman employed on one of the steamers was taken ill, apparently with cholera. The following is the course which was adopted, according to the paper from which we quote: "His friends immediately sent for a native doctor. This individual had with him a box containing some long needles, and these he used on the patient. A needle was driven some distance into the man's head, near each temple, and again behind his ears. In each case bleeding followed. Needles were also driven into the lips, both sides of the chest, both sides of the stomach, and also into the pit of it. The doctor then scraped the skin of the man's throat till it looked like the neck of a turkey. This violent treatment had the desired effect, and in a few hours afterwards the man was quite well, and eating his midday meat with evident relish."

In a recent number of the *Berliner Klin. Wochenschrift*, a remarkable case is recorded by Dr. Wolf of Goritz, of poisoning by the medicinal administration of iodide of potassium; the amount of the drug taken was no more than four tablespoonfuls of a three per cent. solution in about thirty-six hours, and the purity of the drug was shown by chemical analysis. The patient was suffering at the time from subacute kidney disease of about three months' standing, and cardiac hypertrophy, which facts we must bear in mind in estimating the idiosyncrasy. After the administration of four tablespoonfuls of the above-named solution, the face became swollen and covered with pustules, papules, and bullæ, and twenty-fours after the mucous membrane of the mouth, pharynx, and alimentary canal became attacked in a similar manner. On the cessation of the drug no amelioration ensued, and in eight days the patient sank into a state of collapse and died. No necropsy was made. A similar case was recorded by Morrow, in which the administration of the drug to a person suffering from renal and cardiac disease caused an eruption resembling pemphigus, with similar symptoms and result.

NEW YORK.

— At the annual meeting of the New York State Veterinary Society, which was held at the American Veterinary College on December 15th, the following officers were elected: President, Dr. W. H. Pendry; First Vice-President, Dr. Theodore Birdsall; Second Vice-President, Dr. George Brown; Secretary and Treasurer, Dr. W. E. Cuff.

— The annual meeting of the Society of Medical Jurisprudence and State Medicine was held December 9th, when the following officers were elected: President, Amos G. Hull, Esq., Vice-President; Dr. E. A. Harwood; Secretary, Dr. E. C. Spitkza; Assistant-Secretary, Dr. J. F. Chauveau; Treasurer, Dr. R. C. M. Page. Mr. W. H. H. Russell presented the report of a committee which had been appointed to devise means to aid the Health Department in suppressing the manufacture and sale of unwholesome or adulterated food. The report urged the appointment of four additional inspectors of milk, nine of meat, six of fruit, and one of fish; and the recommendation was opposed by Drs. Leale and Spitzka, who contended that the Board of Health already had sufficient inspectors to do the work required of them.

— The Governor has appointed Mr. Thomas Newbold, of Poughkeepsie, recently a State Senator, and Dr. Maurice Perkins, of Schnectady, Professor of Chemistry in Union College, members of the State Board of Health, to fill the vacancies made by the retirement of Dr. E. M. Moore, and the death of the Hon. Erastus Brooks.

At a meeting of the board of Health held December 16th, a reply was formulated to the criticisms of the Commissioners of Accounts, and sent to the Board of Estimate, in the course of which they assert that the expenditures for salaries were incorrectly stated by the Commissioners; that the actual amount of the unexpended balance of the appropriation for the year 1886 may be regarded as caused by the small amount employed for disinfection last summer; that the standard of qualifications of additional sanitary inspection has not been lowered, and that the statement of the Commissioners that hardly fifty per cent. of the Board's primary orders are complied with, is disproved by the records, which show that between July 1, 1885, and July 1, 1886, of 19,490 such orders issued, 18,732 were complied with.

— On December 13th, when the Board of Estimate and Apportionment were engaged in finally settling the amount of the appropriation for the Health Department for the coming year, a communication was received from the Commissioners of Accounts, in which the management of the latter was severely criticized. A portion of it is as follows: — "The department has undoubtedly many serious obstacles in its path, not the least of which perhaps are its defective laws, and yet we cannot resist the conviction that notwithstanding the inperfection of the law, it falls far short of what it might be under a capable, vigorous and experienced head. Its system of business is too circulatory and expensive. There is too much formality and too little out-door work of an aggressive and effective kind; the lax policy which obtains in regard to the enforcement of original orders tends to bring the authority of the department into contempt. Hardly fifty per cent. of its primary orders are carried out. Inspections and reinspections of a single case occur until they are numbered by scores and entries thereof on the book by hundreds. The policy now pursued is the reverse of that which obtained in the early history of the department."

PHILADELPHIA.

— The College of Physicians will celebrate the centennial anniversary of its organization on Monday, January 3d. The President of the College, Dr. S. Weir Mitchell, will deliver a commemorative address at Association Hall, Monday evening, which will be followed by a reception. Tuesday evening, the President and Fellows will give a dinner at the Assembly Rooms of the Union League Club. It is understood that many of the vacancies in the associate membership will be filled by the election of distinguished members of the profession in other parts of the country.

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Correspondence.

MORE SEVERED DIGITS.

FORT TOTTEN, DAKOTA, Dec. 16, 1886.

MR. EDITOR, — I have just read Dr. I. F. Galloupe's letter in your issue of November 25th, in regard to severed digits, and send you a report of the following case, which occurred in my practice.

Private Charles Tomlison, Company "F," 17th Infantry, reported to me on the 2d of October, 1885, with about half an inch of the tip severed from the ring finger of his left hand. He stated that he had just met with the accident while cutting wood at his company quarters, about three hundred yards away. As he did not bring the severed piece of finger with him, I sent some one to look for it at the wood-pile, and after, perhaps, twenty minutes, it was found and brought to me. I carefully washed it in tepid water, replaced it on the stump, secured it by means of strips of plaster and hermetically sealed the dressing with collodion.

No other dressing was used, and in a little more than a month the piece had freely reunited. Ultimately the sensation was almost entirely restored. I forgot to mention that the cut was a clean one. Respectfully yours,

A. A. DELOFFRE, *Asst. Surg. U. S. A.*

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COMMITTEE FOR COLLECTIVE INVESTIGATION, INTERNATIONAL CONGRESS.

110 W. 34TH ST., NEW YORK, Dec. 19th, 1886.

MR. EDITOR,— In the session of the International Medical Congress, of Copenhagen, I was appointed the American member of the Committee for Collective Investigation, and permitted to select a colleague in the United States. Thus the pamphlets and circulars prepared by, or with the authority of, the General Committee in London, were distributed under the names of N. S. Davis, and the undersigned. They were made returnable to my address, on January 1st, 1887.

As I have resigned my position on the above committee, I require the permission and privilege of notifying, through your Journal, the holders of the above pamphlets, that they ought to be sent to N. S. Davis, M.D., 85 Randolph Street, Chicago, Ill., instead of the undersigned.

Very respectfully, A. JACOBI, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 11, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Typhoid Fever.
New York	1,439,039	835	333	26.16	13.08	7.92	10.44	1.68
Philadelphia	971,363	412	145	15.60	6.32	—	8.16	3.36
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	229	78	14.08	19.36	3.08	6.16	2.64
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	166	63	13.20	12.60	—	6.60	2.40
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	89	19	10.08	13.44	—	3.36	5.60
Pittsburgh	190,000	68	29	23.52	8.82	8 82	4.41	5.88
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	9	22.75	4.55	13.65	—	—
Charleston	60,145	49	14	6.12	10 20	—	4.08	—
Worcester	68,383	20	4	5.00	15.00	—	—	—
Lowell	64,051	30	12	20.00	10 00	—	3.33	6.66
Cambridge	59,660	35	17	20.00	16.30	—	11.16	2.86
Fall River	56,863	16	6	18.75	6.25	—	—	6.25
Lynn	45,861	14	6	14.28	—	—	14.28	—
Lawrence	38,825	8	—	—	25.00	—	—	—
Springfield	37,577	14	3	7.28	7.28	—	7.28	—
New Bedford	33,393	12	3	16.66	25.00	—	8.33	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	2	7.69	15.38	—	—	7.69
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	6	2	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	50.00	16.66	—	50.00	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	1	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	4	2	—	—	—	—	—
Waltham	14,609	1	0	—	—	—	—	—
Newburyport	13,716	2	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,055: under five years of age 760: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 395, lung diseases 316, consumption 262, diphtheria and croup 166, measles 82, typhoid fever 52, diarrhœal diseases 35, malarial fever 23, scarlet fever 11, whooping-cough 10, cerebro-spinal meningitis seven, erysipelas seven, puerperal fever two From diarrhœal diseases, New York 18, Philadelphia nine, Boston, District of Columbia, and Fall River two each, Nashville and New Bedford one each. From malarial fevers, New York 15, Baltimore four, Philadelphia three, Charleston one. From scarlet fever, New York six, Philadelphia two, Baltimore, Pittsburgh and Worcester one each. From whooping-cough, New York and Lowell three each, Philadelphia two, Boston and Baltimore one each. From cerebro-spinal meningitis, New York five, Philadelphia and Baltimore one each. From erysipelas, New York four, Boston, Pittsburgh and Nashville one each. From puerperal fever, Boston and Pittsburgh one each.

In the 19 cities and greater towns of Massachusetts, with a population of 967,534 (population of the State 1,941,465), the total death-rate for the week was 23.06 against 18.14 and 16.64 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending November 27th the death-rate was 20.2. Deaths reported 3,529: infants under one year of age 825; acute diseases of the respiratory organs (London) 413, measles 144, scarlet fever 75, whooping-cough 54, fever 55, diphtheria 37, diarrhœa 35.

The death-rates ranged from 13.4 in Brighton to 29.5 in Norwich; Birmingham 16.6; Bolton 17.8; Bradford 19.4; Hull 20.2; Leeds 23.1; Leicester 20.9; Liverpool 21.8; London 19.4; Manchester 22.0; Nottingham 18.2; Sheffield 21.5; Sunderland 15.6.

In Edinburgh 18.9; Glasgow 25.4; Dublin 25.3.

For the week ending November 27th, in the Swiss towns, there were 32 deaths from consumption, lung diseases 18, diarrhœal diseases 18, measles four, diphtheria and croup four, whooping-cough two, erysipelas one.

The death-rates were: at Zurich 17.2; Geneva 12.1; Basle 16.3; Berne 9.6.

The meteorological record for the week ending December 11, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Dec. 11, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 5	30.441	14.0	16.0	7.0	64.0	87.0	84.0	78.0	N.W.	N.	N.E.	12	16	20	O.	H.S.	L.S.	—	—
Monday,.. 6	30.187	25.0	31.0	14.0	77.0	52.0	69.0	66.0	N.	N.	N.E.	20	16	24	O.	O.	O.	—	—
Tuesday,.. 7	30.032	22.0	30.0	17.0	86.0	93.0	87.0	89.0	N.E.	N.E.	N.E.	28	29	21	L.S.	L.S.	L.S.	—	—
Wednes... 8	30.131	29.0	34.0	20.0	73.0	61.0	60.0	65.0	W.	W.	W.	13	15	10	C.	C.	O.	—	—
Thursday, 9	30.359	35.0	42.0	27.0	69.0	51.0	72.0	64.0	W.	N.W.	N.	9	8	1	F.	C.	C.	—	—
Friday, ...10	30.298	35.0	44.0	21.0	92.0	48.0	53.0	64.0	N.W.	W.	W.	4	13	22	F.	C.	C.	—	—
Saturday, .11	30.180	42.0	52.0	27.0	49.0	53.0	57.0	60.0	W.	W.	N.W.	14	13	7	C.	C.	C.	.36½	.88
Mean, the Week.	30.272	29.0	35.0	19.0				69.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 11, 1886, TO DECEMBER 17, 1886.

Williams, Jno. W., major and surgeon. Ordered for duty at Jackson Barracks, La. S. O. 205, Division of the Atlantic, December 14, 1886.

Pope, B. F., major and surgeon. Relieved from duty in the office of the Surgeon General of the army, and will report in person to the president of the Army Medical Examining Board in New York City, for duty as member and recorder of the Board. S. O. 285, A. G. O., December 9, 1886.

Pope, Benj. F., major and surgeon So much of S. O. 285, A. G. O., December 9, 1886, as directs him to report in person to the president of the Army Medical Examining Board, New York City, for duty as member and recorder of the Board, is revoked. S. O. 287, A. G. O., December 11, 1886.

Corson, Jos. K, captain and assistant surgeon. Leave of absence extended seven days. S. O. 288, A. G. O., December 13, 1886.

Barrows, Charles C., first lieutenant and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his post commander. S. O. 285, A. G. O., December 9, 1886.

Wilson, George F., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply to headquarters, Division of the Missouri, for an extension of twenty days, to take effect about December 15, 1886. S. O. 125, Department of Dakota, December 1, 1886.

Ball, R. R., first lieutenant and assistant surgeon. Ordered for duty at Fort Riley, Kan. S. O. 144, Department of Missouri, December 13, 1886.

SOCIETY NOTICE.

Norfolk District Medical Society. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, December 28, at 7.45, P.M. Communications: I. "Insomnia," Samuel G. Webber, M.D. The discussion will be opened by Albert B. Robinson, M.D. II. "Convulsions of Children," Herbert W. White, M.D. The discussion will be opened by Orville F. Rogers, M.D., and Edward T. Williams, M.D. III. "Exhibition of a Human Fœtus of Three Months," Allen Burdick, M.D. IV. "Exhibition of a Human Fœtus of Two Weeks," Jas. C. D. Pigeon, M.D.

S. Allen Potter, M.D., *Secretary.*

APPOINTMENT.

Edward Reynolds, M.D., has been appointed assistant in Obstetrics in the Harvard Medical School.

BOOKS AND PAMPHLETS RECEIVED.

Sixth Annual Report of the State Board of Health of New York. Transmitted to the Legislature, March 19, 1886.

The Relative Influences of Maternal and Wet-Nursing on Mother and Child. By Joseph Edcil Winters, M.D., New York. New York, 1886. (Reprint.)

American Pharmaceutical Association. Preliminary Draft of a National Formulary. Reprinted from the Proceedings, Vol. 34, 1886.

An Epitome of the Newer Materia Medica. Standard Medicinal Products, and Fine Pharmaceutical Specialties. Introduced and manufactured by Parke, Davis & Co. Fourth edition. Revised and enlarged. 1886.

Massachusetts Institute of Technology. Twenty-Second Annual Catalogue of the Officers and Students, with a Statement of the Courses of Instruction and a List of the Alumni, 1886–87. Boston, 1886.

Conference of the American Shipping and Industrial League, held at Pensacola, Fla., November 10–12, 1886. Address on Relation of Quarantine to Shipping Interests. By Joseph Holt, M.D., President, Board of Health, State of Louisiana.

The Microbic Revolution in Surgery. An Address Introductory to the Fifth Session of Lectures, in the College of Physicians and Surgeons, of Chicago, delivered September 21st, 1886. By D. A. K. Steele, M.D., Professor of Orthopedic Surgery. Chicago, 1886. (Reprint).

The Science and Art of Obstetrics. By Theophilus Parvin, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, etc. Illustrated with 214 wood-cuts and a colored plate. Philadelphia: Lea Brothers & Co. 1886.

Cataract Extraction without Iridectomy. Paper read before the San Francisco Medical Benevolent Society, November 22d, 1886. By Geo. H. Powers, A.M., M.D. (Harvard), Professor of Ophthalmology and Otology in the University of California. San Francisco, 1886.

Lecture.

THE BEST EQUIPMENT FOR MEDICAL STUDY.[1]

BY FREDERIC HENRY GERRISH, M.D.,
Professor of Anatomy in Bowdoin College.

One of the chief objects of the American Academy of Medicine is "to encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine"; in other words, we declare that a college education is a particularly desirable prelude to the pursuit of medical science. But the training afforded in different institutions of this class is by no means the same. In one the classics are given especial prominence; in another, the sciences; in a third, mathematics or the modern languages; and, while we recognize the value of a knowledge of each of these studies, we cannot fail to see that the preparation of men coming from one college more adequately fits them to acquire a medical education than that possessed by the graduates of another. Thus, though we are glad to find the prospective medical student decorated with the baccalaureate degree from any respectable institution of learning, because such discipline as he presumably has had has qualified him in large measure to appreciate and profit by the teachings of the medical schools, we are usually justified in regretting some features of his course, and in wishing that other subjects had been taught in their stead.

The Academy, however, has never expressed itself definitely upon this very important topic. In few of the colleges of this country have courses been established with especial reference to the preparation of young men for medical study; and clearly, only a small proportion of those who are ambitious to qualify themselves in this regard can attend these institutions. But, in most other colleges, the elective system is so far established that the student has a generous range of studies from which to choose, and can nearly, if not completely, adapt his curriculum to any scheme which this society may recommend. An obstacle to the practical working of the plan is the fact that so many young men develop no definite preference for one profession or another until an advanced period in their college course. Some, however, and, in the aggregate, a very large number, determine early upon a medical career, and to them the advice of the Academy will be of great value.

It may be objected that it is unwise to attempt to bend a youth's thoughts in the direction of his life's work while yet he is in college; that he needs the training which shall discipline his mind in all its parts, so that it may be prepared to do any task that shall be set for it.

To this the answer is made that the plan proposed, while believed to be particularly adapted to the requirements of the future medical student, has in it nothing essentially professional, and is so proportioned that it provides for the symmetrical development of the intellectual and moral faculties. Every one of us would deplore a preparatory education which would make a man one-sided in any respect. We all recognize the necessity of the humanities as well as of the sciences; and no education can be regarded as liberal which omits either of them.

The purposes of this paper are, first and principally, to indicate in what branches and by what methods the student will find at once the most wholesome training for his mind, and the furnishings which will best equip it for medical study; and, second, to propose a minimum standard, which every student should be obliged to attain before being admitted to the study of medicine.

THE PROPER STANDARD.

First, in order of importance, is a knowledge of the English language, a tongue so generous in its hospitality that it welcomes to its adoption any word, whatever its nationality, provided it gives a reasonable promise of usefulness; so flexible, that a writer who besprinkles his page with foreign expressions is immediately suspected of an insufficient acquaintance with his vernacular; so strong, that it seems destined to develop into the universal speech. Without a complete knowledge of it, the student cannot understand the text-books he reads, or the teachers to whom he listens; he is unable to communicate to others his own thoughts, and, as a practitioner, his observations, though possibly of value on account of his native aptitude of perception, will fail to receive the recognition they merit, from the slovenly, crude, and obscure manner in which they are presented. We too often see illustrations of this fact in our medical journals; and still more frequently we meet men of great original ability, whose keenness has detected some new peculiarity of a disease, or some curious and unrecorded action of a medicine, or whose ingenuity has devised an improvement in surgical therapeutics, who are restrained from publishing their discoveries by an overwhelming sense of inability to report them properly.

A schooling is radically defective which does not include a steady, persistent, long-continued drill in English; constant exercises in reading the best writers in prose and verse, for the sake of acquiring elevation of taste and purity of style; daily practice in definition and the use of synonyms, in order to enlarge the vocabulary and give precision to diction, and, consequently, accuracy to thought; and frequent tasks in composition, that facility in written expression may be gained, and the pen become a fleet and willing assistant, instead of the slow and reluctant slave, which it is to so large a number of physicians.

Immediately suggested by these rhetorical exercises, because inseparably associated with most of them, is the matter of penmanship. It is not necessary that a physician should perform like a professor of calligraphy; but he ought, at least, to write with absolute distinctness. A short time ago there appeared in a prominent medical weekly a paper on abdominal section, and in it occurred this remarkable statement: "In Battey's operation the brains are removed: in Tait's the brains and the tubes." Who can blame the compositor for a mistake in a report so badly penned that "ovaries" looked like "brains"; and who would waste sympathy on an author who took so little care to make his manuscript legible? But the worst thing about a physician's bad penmanship is in connection with his recipes. A reference to the prescription-file of any apothecary will sadly confirm this statement. Nothing but long familiarity with such scrawls can enable the pharmacist to decipher the hieroglyphs, and one shudders at the thought of having such documents fall into the hands of a compounder whose imagination has been but slightly tutored, and whose experience is limited in the interpretation of cabalistic characters. A mistake of the type-setter, made in consequence of the illegibility of the copy, is usually productive of no worse a result than anger on the part of the author and amusement among the readers of the article; but an error of the apothecary on such an account may bring a valuable life to an untimely end. In prescriptions the writing should be so distinct that no word or symbol can possibly be mistaken for any other. Every letter even ought to be well defined; and that there may be no lapse from clearness on these important occasions, it is best to write plainly at all times. The chirography of certain physicians is almost homicidal.

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[1] Read before the American Academy of Medicine at its annual meeting, October 12, 1886.

Closely allied to writing is the much rarer accomplishment of drawing. The same faculty which enables a person to learn to write, if cultivated a little more, makes him something of an artist. Any one who has compassed the difficulties of penmanship can learn to draw — not well, perhaps, but sufficiently to give him a pronounced advantage over his neighbor, who knows nothing about the art. One who has no facility with the pencil but faintly appreciates the usefulness of such skill; while he who can sketch, even though it be but little, hardly sees how he could do his work without the assistance of this ability. All through student-life occasions are continually arising in which the helpfulness of the pencil is very apparent: the arrangement of the apparatus on the lecturer's table, the shape of a leaf or flower, the form of a crystal, all are originally represented, and afterwards recalled, much more readily than by any description in words; and the busy doctor, anxious to preserve the memory of a peculiar case — a tumor, a monster, a malformed limb, a crooked back, a misshapen member of any kind — sketches it into his note-book in three minutes, and has it secured for future use, while the record, which he intends to make as soon as he gets time, is never written. The power to draw should be so common as to cease to be considered an accomplishment.

Mathematics require attention. The necessity of a knowledge of arithmetic is too obvious to call for lengthy explanation: without it, no step can be taken towards the higher grades, and the simplest problems involving number are incapable of solution. But the mathematical training must not be allowed to stop at the point where the grammar school leaves the pupil. Many questions in his subsequent course will admit of no comprehensible answer without the help of algebra; and, for the understanding of certain points in physics which find a place in physiological investigations, even the calculus is necessary. Geometry is the key to so many chambers in the halls of natural philosophy that we cannot omit it from our curriculum.

An acquaintance with geography, both political and physical, is more important to a medical student than would at first appear. Deprived of its aid, the whole science of climatology would be a closed book, and, at the present time, this department of knowledge is developing to such an extent and in such lines as to be of peculiar value to physicians. We are learning more and more that certain diseases are produced or, at all events, greatly favored by particular climates and in especial localities, and that other regions are singularly exempt from disorders which prevail elsewhere. All these facts have a marked interest in a most practical direction, and require for their comprehension a familiarity with the conformation of the earth's surface, and the differences of its conditions and productions in various parts.

We come next to consider the study of languages other than English. And first of all start up the claims of Latin. Nowadays it is becoming fashionable to decry the study of ancient languages. They are spoken of as superfluities, nearly, if not quite, useless, and sometimes, if not usually, harmful. With such opinions I have little sympathy. It may well be admitted that, up to a recent date, a disproportionate amount of time has been by many spent upon the classics, to the exclusion of scientific branches which are almost as useful in giving discipline to the mind, and serve better to prepare one for the practical work of life. But the fact that an undue importance was assigned to the classics formerly is no reason for our refusing to recognize any good in the study of them, even in the preparation for scientific pursuits. We should remember that just this berated classical training gave the world as splendid an array of medical men as has ever been seen — intellectual giants, who thought they saw one reason for their success as scientific physicians and surgeons in the thorough drill they had experienced in the dead languages.

There are certain bald facts which stand up persistently and demand recognition. One is that Latin enters largely into the composition of every modern language which it is of importance to the medical student to know, and that an acquaintance with Latin renders the acquisition of any one of these tongues a comparatively easy task. Another prominent and essential fact is that the nomenclature of every science is based directly on Latin or Latinized Greek, and the more one knows about these languages, the better will be his appreciation of the terms he uses, and the greater his ability to employ them correctly. There is less necessity for a familiarity with Latin now than formerly, when all medical works were written in it; but the time will never come when any other tongue will be chosen as the universal basis of scientific terminology, for Latin is, as it were, crystallized, and is not subject to the changes which modern languages are constantly undergoing.

How much of this language should be required as a preliminary to medical study is a question about which there is room for difference of opinion. An eminent teacher has declared that a student can learn in two weeks all the Latin he needs in his medical education. Possibly this is true in the case of a very active mind, but it does not follow that it would not be far better for him to study it a much longer time. Probably the pelts of two sheep would give any one of us sufficient covering for his nakedness and protection from the weather, but we never think of restricting ourselves to apparel of this primitive character. We know that our comfort, convenience and means of usefulness are all augmented by wearing raiment produced by the application of ingenuity, skill and labor to this original material. Our clothing costs more, but it is worth the increased price. Just so with the study of Latin; a little will give a scanty help, enabling the student to understand the ordinary variations in the forms of words, so that, for instance, he will not use singulars for plurals, or nominatives for genitives; it will show him how to frame a prescription grammatically; and it will give him enough of a vocabulary to save him from the grossest blunders in his recipes. But he will never be able to use the language in any but this mechanical way; he will grope and stumble among his scientific terms, failing to recognize the kinship between nearly related words, obliged to learn arbitrarily by itself every new name, struggling against difficulties which, to one who is better equipped, are no longer obstacles, but pleasures. Any one who has had much experience in teaching medical students must have noticed the difference in the relative ease with which the terminology of medicine is acquired by those who have, as contrasted with those who have not, had a careful drill in Latin.

The student, then, ought to have such a command of the language as will enable him to read simple Latin with tolerable facility, and this can be gained, under competent instructors, by the time he has read Cæsar's Commentaries, a few of the orations of Cicero, and five or six books of Virgil. The teaching ought to be directed not mostly to the memorizing of rules of grammar, though something of this is unavoidable, but it should be addressed mainly to obtaining a mastery of the vocabulary, and the proper use of the language in expressing thought. In other words, Latin should be taught in much the same way as are Italian and Spanish, as if it were a living rather than a dead tongue, as nearly as possible as the Roman children were instructed in it. Thus, it would cease to be regarded as a shrivelled corpse, dry, cold and repulsive, and would seem to be fresh, and warm, and instinct with life — delightful to study, and pleasant and easy to remember.

As regards Greek, a different verdict must be rendered. Admirable as it is in its symmetry, wealth and precision, probably most of the best educated physicians would agree that it has been of little help to them in any department of their life-work. It is true that very many words in medical nomenclature are derived from the Greek, but, before they are accepted, they are converted into Latin and baptized with new terminations. It is also true that, in the veins of all modern languages, there courses a strain of Grecian blood; but here, too, the influence of the Roman is dominant, and, with a knowledge of Latin, one is so well equipped for conquering a living tongue, that the additional assistance afforded by the Greek is insignificant as compared with its cost. With great veneration for Greek as a language and admiration for its completeness and beauty, I would require a medical student to know no more of it than enough to recognize and pronounce its words, so that he can make intelligent use of his dictionary.

In continental Europe, two countries are especially prominent for their activity in medical affairs. Forty years ago France was the great centre to which all flocked who desired to perfect their education, but her supremacy is yielded now to Germany, and Berlin and Vienna, instead of Paris, offer the chief attractions to one who seeks to round out the training of the American schools with continental observation. Still Paris is great in medicine, and continually there are emanating from her physicians instructions which are entitled to the admiration and respect of the world. Many of the articles in the French and German journals are presented to us in abstracts in our magazines, and many books are translated from both languages into English, but the great mass of the literature of these nations is never translated. Some of the most valuable of their works are so costly that American publishers dare not venture on their production. Emerson's remark that he would no sooner think of reading a work in the original, when he had a good translation, than of wading a river when there was a bridge to cross on, has a correct application where translation is laborious, but is worse than pointless to one who has a real familiarity with the language in which the book is written, for, however fine a translation is, it cannot convey in its entirety the impression of the original; a something, often eluding description, like the fragrance of a delicate flower, is lost in the passage from one to another tongue, just as the finest tea loses a certain deliciousness of flavor in its journey across the ocean. Thus, if a student does not know French or German, vast stores of knowledge are locked against him, and the occasional parcels, which are withdrawn for his benefit by men who have admission-keys, are liable to be somewhat battered and torn in the process.

But the student of the present should be able not only to read French and German, but likewise to speak them; for, though this country certainly presents wonderful opportunities for medical study and observation, the facilities of the European capitals are, in some directions, immensely superior to anything on this side of the Atlantic, and every physician of proper ambition, who has not already been abroad for study, longs to go. Unquestionably, the chief reason why many are deterred from making the pilgrimage to these Meccas of medical science is an inability to speak and understand their languages. The preliminary education should, therefore, include a reading and speaking knowledge of French and of German.

The human body being a machine, subject to all the influences which affect artificial mechanisms, as well as to others which are more subtile, an understanding of its action involves a knowledge of the forces which are continually at work in and about it. There is no function of the body which does not necessitate the expenditure of energy, and, therefore, the investigation of these processes requires an acquaintance with the science of natural philosophy. One can never study physiology intelligently without having learned much concerning the properties of matter, the mechanics of solids and fluids, electricity, heat, light, and sound. A single throb of the heart, the merest glance of the eye, even the movement of a cilium on a cell of epitheleum, presents problems to the physiologist which are incapable of solution except by the aid of natural philosophy. And, as disease is not an entity, but a process, a perversion of normal action, in order to comprehend its nature, the aid of the same science must be again invoked. Thus, physics must be given a place in the curriculum.

But these various operations of the human machine cannot be explained by natural philosophy alone. We find that new substances are constantly being formed in the body by the union of two or more which previously existed; and, on the other hand, a single substance is broken up into two or more unlike itself. Nothing can explain these processes but chemistry, and a thorough drill in the elements of this science is as essential to a mastery of physiology as is an acquaintance with physics.

Aside, however, from the utility of chemistry in leading the way to physiological knowledge, it is helpful to a medical student in a way entirely independent of this, and, after a fashion, almost as important. It trains his mind into a habit of diagnosis, which is of the utmost value to him in his professional career. For example, in the laboratory he has presented to him a solution, containing an unknown substance, which he is to determine. He applies to a portion of the solution a certain test; no reaction occurs, and he knows from this that no member of a certain group of substances can be present. To another portion he adds a second reagent; again no change appears in the liquid, and a second group of bodies is ruled out. So he goes on, treating successive portions with different tests, continually narrowing the field of investigation, until a response is given, indicating that one of a certain group of substances is present. Then, pursuing still the same method, he eliminates one after another of the elements concerned, until but one is left, and his task is completed. How identical is this with the plan which the systematic physician pursues at the bedside of a patient, whose disease does not declare its character at once! The doctor first asks himself: To what great class of maladies does this case belong? The features of one class are absent; it cannot be that; there is no evidence of its membership in a second, so that may be thrown out of the question; and thus, by careful steps, he reviews the various divisions of the nosology, until he reaches a group to which the case must belong; and, finally, by rejecting all but one disease of the lot, he arrives at his diagnosis by exclusion. This exercise in chemical analysis is so productive of a close and accurate method of thinking, that the discipline which it gives a medical student is, perhaps, as valuable as the knowledge he gets from it.

Let it not be thought that I have forgotten that general chemistry is taught as a part of every medical course: the fact is too patent to be ignored. But the only excuse for its being there is simply that many, yes, most students, come to the schools without the smallest knowledge of this science. The professor of this branch must begin at the very foundation in instructing his class, for he knows that, if he presupposes any chemical information on the part of his hearers, his lectures will be unintelligible to them. Really, however, there is nothing medical about general chemistry, however much there may be that is chemical about general medicine. Its study, by right, should be pursued long before the youth reaches the medical school, that he may have a preparation for the physiological instruction there imparted to him.

The student of medicine should devote himself entirely, during his first year, to human anatomy and physiology — the sciences which treat of the structure and functions of that quintessence of dust, man. The human animal, however, is so complex an organism, and the operation of his various parts so intricate, it is desirable that the student who intends to investigate these things should have an opportunity to study simpler forms, passing, by gradual steps, from the lowest of living beings to the highest. Hence, plants should first be taken, as they are the most simply constructed of all things which are endowed with life. Their tissues are comparatively coarse, their organs readily observed, and their processes understood without difficulty; and, while there are vast differences between the highest of them and the lowest of vertebrates, the student cannot fail to observe the striking similarities of structure and function in the vegetable and man. Botany also, like chemistry, furnishes a capital discipline in differential diagnosis. In the analysis of a specimen, the series to which it belongs must first be determined, then the class of this series, next the sub-class of the class, the division of the subclass, the order of the division, and so on, until the plant is, as it were, run down with merciless certainty. Here, again, we have diagnosis by exclusion, the most systematic, positive, and satisfactory of methods. Such training as this cannot fail to correct slovenly habits of thought, and establish in their stead methodical intellectual processes.

Proceeding upwards from the study of our humblest relations to the consideration of those which are higher in the scale of being, we come to the animal group, some members of which are so like vegetables that we hesitate to draw the line between them. The student should go step by step from those which have a simple to those which have a complex structure, ending with the vertebrates. To these he should devote prolonged and faithful labor, dissecting them carefully with the scalpel, scrutinizing their minute structure with the microscope, tracing the homologies between them and the members of inferior orders, and considering the philosophy of their architecture. Dry and wet specimens should be prepared, injections of vessels and cavities practised, and microscopic specimens mounted. This method is of advantage not merely because it gradually unfolds to the student, in a rational and comprehensive manner, the mysteries of animal anatomy, but also because it gives him expertness in the use of the implements of dissection and of the microscope — instruments which he must use so constantly in his medical course, and ought to use all through his career. The practice is gained, too, on material which is fresh, inexpensive, and easily obtained, whereas, without this experience, his first efforts, with all their wasteful mistakes, must be expended on human cadavera, which, in this country, are often stale, always costly, and generally difficult to procure.

It will be observed that, in all these branches where laboratory work is practicable, it is insisted on as essential to proper training. The student must perform the experiments in physics, analyze the chemical specimens, dissect the flowers and the animals, and mount the microscopical sections. Merely seeing these things done by his teachers, he has not half learned the lesson; actual contact with the fact, and many repetitions of the contact are indispensable to real acquisition.

In all of these studies, the student should be required to make copious notes of what he sees and does. The benefits of this procedure are numerous, but least among them I reckon the preservation of a record of his work. It is of little consequence that he or any one else should be able to ascertain subsequently what his experiments have been, unless they include original work,— a supposition which is wildly improbable; but it is of the greatest moment that, early in life, he should establish the habit of recording the details of his labor, so that, when he enters upon the practice of his profession, he may find it easy to keep an account of each case, and thus have at hand, for ready reference, an orderly accumulation of facts occurring within his own observation, a history of his experience, to which he can refer at any moment, refreshing his memory of former patients, who come again into his field of vision, collecting groups of cases, and tabulating the results of special lines of work, to the great advantage of his clientèle, the instruction of his fellows, and the advancement of his own reputation.

A department of study to which little attention is paid, but of immense importance to a student, is logic, the science and art of reasoning. Unless he is practically familiar with the rules which cannot possibly be deviated from in sound reasoning, his mental operations are loose and heedless, and he is always exposed to the injurious results of his erroneous deductions. His observation of facts may be keen, his record of them religiously accurate, and his desire to reach the truth deep and enthusiastic; but, if he has not the training of a logician, his conclusions may be so wide of the mark as to make his efforts, at the best, unproductive of good, at the worst, pregnant with evil. Always are we hampered with the products of the bad reasoning of great men in our profession. One, to whom we look up as to an oracle, states a conclusion at which he has arrived, and we accept it as correct. Unable to repeat his experiences and relying on his wider opportunities, we adopt his recommendations, and, when we fail to achieve results like his, we blame our own lack of skill. After we have had years of disappointment, there arises another investigator, a man who has dared to think for himself, and he declares that the facts stated by the first teacher have been misinterpreted throughout, that really they are incapable of the construction which has been put upon them. The cause of our failure is now plain, and, disgusted by our bitter fortune, we are inclined to become sceptical about all the conclusions of all the leaders. If he who affected to instruct us had been trained to logical methods, we would have been spared the humiliation and grief which follow defeat, and our patrons would have escaped our well-meant but useless ministrations.

As the labor of no one of the learned professions requires more intellect than the medical, so also in none of them is there more need of a sound body. The unavoidable irregularity of his meals, the frequent disturbance of his sleep, his exposure to the inclemencies of the weather, and the anxieties by which a physician in active practice is constantly harassed, combine to form an array of depressing agencies which often overwhelm a seemingly invulnerable constitution. Consequently it is a necessity of the case that a young man entering upon the study of medicine should bring to his work a body that is free from disease and full of vigor and elasticity. However richly a youth may be endowed with these qualities, a failure to observe the laws of hygiene will undermine the glorious fabric and leave it a ruin. The physical training of a young man contemplating medical study should never be neglected. He should be taught early that the preservation of the integrity of his body is a duty which he owes to himself and his possible offspring — a duty which cannot be violated with impunity. He should be indoctrinated with the great truths of hygiene, and imbued with an ambition for high health. Thus he will come into the profession with unusual power to resist malign influences, and will be a physical delight to himself and a noble example to others.

Finally, though by no means least in importance, there should be embraced in the preliminary course of the medical student instruction in ethics. I intend no disparagement of any other calling in expressing my conviction that in no profession is there so great need of correct ideas of duty as in the medical. The physician meets his fellow-beings in relations more delicate and trying than those in which any other man is put. It is he who is made the confidant of youth and manhood and old age; who carries with him the secrets of prince and peasant; who sees the sufferings which are disclosed to none else. No other man is habitually exposed to temptations as terrible as his. The lawyer's work is subjected to the jealous scrutiny of an adversary; the clergyman is the constant target of hundreds of curious eyes; but the physician does his task in the privacy of the sick-room, with no competent critic standing near to inspect his performance. He can conceal his mistakes so cleverly that they are unsuspected; he can turn his bungling into reasons for his patient's gratitude; he can multiply remunerative visits far beyond the needs of his cases. His knowledge of the innermost histories of his patrons gives him a power over them which he can wield to his pecuniary profit. In such circumstances how essential it is that the physician should have clear conceptions of right and wrong! But in no other relation does the need of inflexible morality appear as conspicuously as in his association with women. He should ever bear in mind that it is not simply faith in his skill but confidence in his honor that induces women to place themselves in his professional care, and that a violation of this trust is worthy of, and will receive, the execrations of all decent men. It is impossible for a physician to be too scrupulous in his conduct toward the other sex. The preservation of purity of life and the cultivation of a genuine respect for the rights of others is a branch of the preliminary education which none can afford to neglect.

Doubtless the exactions of the plan presented in these pages will seem to many to be too severe. They will object that the scheme requires so great an expenditure of money and time that many young men of excellent talent and enthusiastic bent towards medicine will be excluded from the schools. But, if a boy of fourteen, robust and bright, who had already learned to read and write English, had mastered a common-school arithmetic, and had acquired a fair knowledge of geography, were to devote himself to the proposed course of study under good tutors, working only as much as is consistent with the maintenance of a high degree of health, he could cover the whole ground creditably in six years at the outside. No reasonable person would want a boy to attend a medical college before he was twenty years old, and unless I am grievously mistaken, the youth in question would be prepared for his professional course at that age.

This disposes of the question of time; next comes the criticism based on the money cost. Without doubt many who now go through our schools would find an insuperable obstacle in the necessity for a large outlay for a preliminary education, but the loss which the profession would sustain by their exclusion would not be serious. If a man of the right stamp really wants to be a physician, poverty will not keep him from entering the profession, and he will accept the preliminary requirements with a conviction of the correctness of the principle which underlies them. Those who rebel against these exactions have not in them the stuff that good physicians are made of.

It will probably be argued that some of the most brilliant members of the profession had but a scanty early education. Granted; but they were geniuses, as few men are, and it would be absurd to make our rules with reference to such prodigies and their needs, rather than for the average man and his wants. Besides, such an education would be helpful even to a genius; the great John Hunter would have been improved by it, for it would have made him a better English scholar, at the very least.

Perhaps there are some who will consider the scheme too narrow. It may be said that a physician should be an accomplished gentleman, versed in literature, science and art, one whose very presence would be charming to the most refined and cultivated patients. It is readily admitted that no equipment is too good for a physician, but we must not expect impossibilities, and too exalted and variegated a standard might result in the production of a race of doctors like Talleyrand's, who knew "a little of everything, even physic."

THE MINIMUM STANDARD.

Of the great number of medical schools in the United States, comparatively few have a genuine entrance examination, and only a minority of these require more than a meagre grammar-school education. Many of the most prominent, influential and numerously attended institutions make no mention of the subject in their announcements, and recently one of the most celebrated took pains to state that no evidence of preparatory study was demanded, thus putting a premium on ignorance and unfitness. In other words, our medical schools largely assume an attitude which practically proclaims their belief that no preliminary study is necessary. The pitifulness and melancholy error of this position need no further presentation to this society.

If such a plan as that proposed in the preceding pages were to meet the approval of those having in charge the medical schools of this country, it would be impracticable to apply the system immediately; so great a change must be brought about gradually. That something of the kind will ultimately be done it is a pleasure to believe. But meantime it is evident that many intermediate steps must be taken. First, the managers of the schools must be persuaded that to encourage a person to pursue a course in medicine who has had little or no previous training and is ignorant of those branches which are the proper prelude to medical study is an act of injustice to the would-be student, of degradation to the profession, and of inhumanity to the community. Next, it must be proven to them that they have no right to throw the responsibility of the student's preparation upon his medical preceptor, as so many of them do, for the preceptor will not, as a rule, insist upon the pupils knowing any more than the schools require. Finally, the lowest preliminary requirements must be agreed upon, and religiously exacted at every school.

The remainder of this essay will be devoted to a statement of the minimum of attainments which medical schools should require of students before admitting them to the study of medicine, with such additional remarks as may be necessary to the elucidation of the subject.

In the first place, the student should have a thorough training in the branches taught in the common schools. It will doubtless strike many as absurdly superfluous that this requirement should be mentioned; they take it for granted that every man who aspires to be a physician has much more education than this. But such confidence betrays their lack of knowledge of the material with which medical teachers sometimes have to deal. If the matriculants in one of the metropolitan schools were to be subjected to a severe scrutiny as regards their attainments in this direction, developments would be made which would excite both mirth and pity. It would be found that many are unable to compose a business letter of moderate length without glaring mistakes in orthography and syntax; to give correctly the boundaries of the State of their residence; to solve a simple arithmetical problem; to read intelligently a news column of a daily paper. Occasionally one would be discovered whose skill is so severely taxed in making his autograph that he will misspell his own name. Extravagant as all this seems, it is merely a statement of actual observation. I have known a single candidate, who was nineteen years old, had attended school four years, and had studied medicine with his father, a physician in active practice, to give the following answers: Germany is in South America; Europe, Asia and Africa also are in South America; Russia is in North America, about five hundred miles from New York City; England is in Russian North America; New Orleans is north-east from Indiana; water freezes at thirty-three degrees below zero, and boils at one hundred and two above; the torrid zone is hotter than the frigid on account of climate; summer is warmer than winter because of temperature; all animals are called quadrupeds; mosquito is spelled m-o-c-q-t-o; if two apples cost three cents, twelve will cost thirty-six cents. It is one of the commonest experiences of the entrance examiner to read the essay of a man who has both a paucity of ideas on any subject that may be selected for his composition, and an almost utter inability to express the few notions he has with any approach to clearness or fulness, to say nothing of elegance or even accuracy. The vocabulary of some medical students is so limited that they not only cannot give intelligible utterance to their own thoughts, but cannot comprehend much of what is spoken to them in the lectures of their professors. How preposterous it is that such men should receive any encouragement to enter upon the study of medicine!

We must insist, then, upon a display of a competent knowledge of the fundamentals. The student must show that he knows his mother-tongue; that he can read English intelligently, hear it with understanding, and express ideas clearly in it; that he can write plainly; that he can make ordinary arithmetical calculations; and that the chief facts in political and physical geography are familiar to him. In addition to these, the elements of algebra should have been mastered; Latin should have formed such a part of his study that he can translate passages at sight from a Latin reader; and the foundation principles and leading facts of natural philosophy should be to him as household words. His body should be healthy and strong, his mind active, and his morals pure.

These preliminary requirements are scanty, indeed, but what a change in the character of the classes in our medical schools would take place, if they were to be enforced! The difference, moreover, would not be such merely as one would ordinarily anticipate, but would be much greater. The poorly-prepared, and those altogether without preparation would not venture to apply for admission, and many of those who had undertaken to qualify themselves to the extent specified would perceive the enormous advantage of still further equipment along the same lines, and would extend their studies in the direction of a liberal education. This statement is not the result of a mere conjecture, but of observation of the practical working of such a rule.

Gradually the standard could be elevated; and, in less than a generation, the whole aspect of medical education in America would undergo a change of the most radical character. A chief obstacle is the desire of the faculties of medical schools to have large, and, consequently, lucrative classes. Each thinks, and with considerable reason, that, if it takes the step proposed, its classes will diminish below the paying point, and its rivals will acquire what it loses.

It seems to me that the Academy can exert a most healthful influence upon the medical schools of this land, and do much to convince their faculties that a genuine requirement of preliminary education should be enforced, and that such a standard as has just been explained is the least that will justify a physician or a school in permitting a person to enter upon the study of medicine.

Original Articles.

THE TREATMENT OF PROLAPSE OF THE UTERUS AND VAGINA, ESPECIALLY IN THE AGED, WITH ILLUSTRATIVE CASES.[1]

BY CHARLES M. GREEN, M.D.

It is not intended in this paper to consider the treatment of those minor degrees of prolapsus uteri of such frequent occurrence during the child-bearing period, which are generally associated with anterior, posterior or lateral displacement, and complicated with, if not caused by, inflammatory changes in the parametrium. In these cases treatment is primarily directed to the removal of inflammatory exudations; and the use of pessaries, or the application of any operative procedure, is expressly contra-indicated until that result shall have been accomplished. But attention is invited to the consideration of a class of cases of less frequent occurrence, in which the uterus and vagina are wholly or in part without the vaginal introitus, — constituting in effect a genital hernia, the bladder and rectum usually sharing in the hernial protrusion. These cases occur chiefly in multiparous women advanced in years, still obliged to lead laborious lives; but they are sometimes seen in the nulliparous under favoring conditions.

Prolapse of the uterus and vagina originates principally in one of two ways:

a. The perinæum has been badly torn, and the anterior vaginal wall thereby deprived of the normal support of the perineal body: a cystocele thus develops. The recto-vaginal septum also bulges forward and downward. The descending vagina thus drags down the uterus, even though it be of normal size and weight until its position shall have induced secondary changes from disturbances of circulation: a frequent result of this traction on the uterus is an hypertrophic elongation of the cervix.

b. Frequent child-bearing, with insufficient rest in bed, has resulted in a condition of subinvolution both of uterus and vagina, and the consequent increase in the weight of the uterus unduly taxes the sustaining powers of the peritoneal folds which suspend that organ: thus the unsupported uterus descends by its own weight, and drags with it the vagina. Not infrequently the cervix has been badly lacerated, and has undergone hyperplastic changes which add to its size and weight. In the nulliparous, prolapse of the vagina and uterus may occur from the presence of uterine tumors, the enlarged and heavy uterus distending the vagina and finally dragging it into complete inversion.

While partial or complete prolapse may occur strictly in either one of the two ways above mentioned, it is probable that in most instances both factors are operative: the heavy uterus presses from above, and the descending vagina drags from below. Although the foundations of future trouble are laid during the child-bearing period, external protrusion often does not occur until after the menopause. Owing to the disturbed circulation of the prolapsing parts, the atrophic senile changes do not take place. A potent factor in causing genital hernia then becomes operative, namely, the enfeebled muscular tonicity of advancing years, the descent of the parts being favored in a manner analogous to the formation of intestinal hernia in old men.

Unless produced suddenly by some great strain or unusual effort, genital hernia is developed gradually from the causes above alluded to, and entails symptoms which usually lead the patient to seek relief before extreme degrees of prolapse have occurred. Such cases are, therefore, never seen among the well-circumstanced, except in those rare instances in which a morbid sense of delicacy has prevented the patient from taking advice until the extrusion of the parts has compelled her to do so. But among the laboring poor, accustomed to lift and carry heavy burdens, who often bear uncomplainingly the minor ills of life, and especially in the aged and neglected drudge, early symptoms are often ignored; and in this class, therefore, complete inversion of the genital canal is not infrequently seen. When the prolapse has reached any considerable degree, the inevitable attrition soon results in abrasions and ulcerations: want of cleanliness and the fetid discharge from sloughing tissues make the patient an object of offence to all about her. The usual displacement of the bladder renders the complete emptying of that viscus no longer possible, and the distress of cystitis is added to the discomfort and pain from the hernial protrusion. The condition of the patient is indeed pitiable: she can neither stand, sit, nor walk, is at last unable to work, and becomes a burden to herself and her family.

The treatment of these cases is usually most trying and unsatisfactory in ambulatory practice: after the digital reposition of the prolapsed parts, temporary rest in bed is generally indispensable to success in the application of any method of treatment. The means at our command, from which we are to choose according to the circumstances and indications of each case, are the astringent tampon, pessaries, and the various surgical procedures,— colporrhaphy, anterior and posterior, colpo-perineorrhaphy, amputation of the infra-vaginal cervix, removal of the uterus, shortening of the round ligaments, and the formation of cicatricial contractions of the vagina by the use of the thermo-cautery. Such of these measures as have been utilized in my own experience will be commented on *seriatim.*

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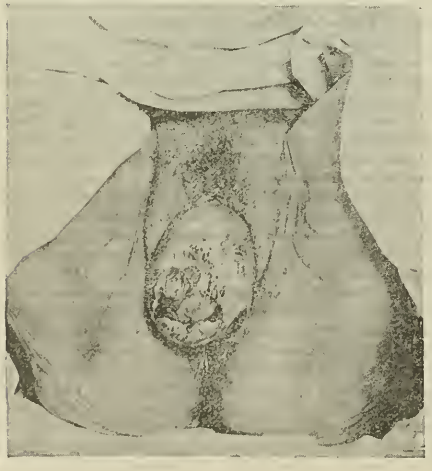
[1] Read before the Boston Society for Medical Improvement, December 13, 1886.

The temporary use of the astringent tampon is a valuable antecedent to any method of treatment: by its means, the patient remaining recumbent, not only are the parts retained *in proprio situ*, but abrasions are healed, the circulation is improved, the drawn-out cervix is enabled to retract, and the uterus is often considerably diminished in size. These changes are materially aided by the depleting effect of glycerine, with which the tampons are moistened,— the copious watery discharge relieving the congested vessels. The astringent most applicable is tannin, and it is my custom to use it in a twelve and a half per cent. solution in glycerine. To be most effective the tampon should consist not of a single large wad of cotton, which may indeed retain the parts *in situ*, but of small pieces applied with care in such a way as to bring the medication in contact with every part of the vagina. Common carded cotton is preferable to the absorbent, being more elastic and less easily matted together. After from ten days to two weeks in bed, the patient may be allowed to sit up and walk about; and were it not that this method required the frequent services of the physician, the long-continued use of the tampon would be advisable in many cases not suitable for more radical treatment. Intelligent women may often be taught to make and use themselves a cotton ball of suitable size to retain the parts, when the uterus is not much enlarged, and when other measures are contraindicated. The value of the tampon is well illustrated by the following case:

Mrs. T., widow, seventy-two years of age, bore her third child at the age of forty-eight, and passed the climacteric at fifty. For twenty years she had been troubled with prolapse, but had become much worse in the past three years. She had never sought medical advice, her family ignoring her complaints until her presence became obnoxious to them on account of the offensive odors of her person. When she entered my consulting-room at the Boston City Hospital, I judged from the usually unmistakable odor that her case was one of uterine carcinoma; but examination revealed a condition well shown in this photograph.



The hernia was as large as a cocoanut, and consisted of the entire vagina and uterus and part of the bladder. There were several erosions and ulcerations, emitting a foul, purulent discharge. The vaginal wall was thickened. The uterus measured only a little over three inches in depth and was not therefore sufficiently heavy to have dragged down the vagina, but rather was dragged down by the gradually prolapsing vaginal walls. The patient for some time had been unable to empty her bladder, but passed urine frequently and in small quantities. Examination showed the urine to be slightly alkaline, specific gravity 1010, and to contain hyaline and finely-granular casts. The hernia was easily reduced; but a well-marked cystocele still protruded. Treatment consisted of rest in bed, glycerite of tannin tampons, and such general measures as the enfeebled condition of the patient demanded. In two weeks the ulcerations were healing rapidly, and in three weeks Mrs. T. was allowed to sit up most of the time. The mental condition, however, was unsatisfactory, and several attacks of unconsciousness and great general prostration (due in part to chronic diarrhœa) presaged an early lethal issue; there was therefore no indication for further local treatment, other than the continued use of a retaining tampon.

Pessaries of many kinds have been devised for the treatment of prolapsus, and some of them are of value in suitable cases; but experience has taught me that the safe and effective use of a pessary demands the exercise of a greater degree of care and intelligence on the part of the patient than is to be found in the majority of those suffering with the affection under consideration. Indeed, my rule is never to use a pessary in any patient until her docility has been thoroughly tested, preferring, if no other measure is available, to do no good rather than to accomplish temporary good at the risk of subsequent harm. It is well known, but not always remembered, that, if a pessary is efficient in retaining the parts, subsequent senile atrophic changes will often so narrow the vagina that the instrument is imprisoned and may cause serious ulcerations before the patient, by subjective evidences, is aware of it. Such cases are occasionally seen, in which the pessary has to be broken up before it can be removed. Within a year I have seen a case of cervical epithelioma undoubtedly caused by a long-worn and neglected pessary. This instrument should be used, therefore, only when it can be watched, the patient returning at stated intervals for the removal and cleansing of the pessary and for the inspection of the parts. Sometimes a patient can remove, cleanse, and replace her own instrument: in such cases the physician's attendance may be less frequent.

With those forms of pessary consisting of a cup supported by a stem and kept in place by external bands and belts I have had no experience, believing their use to be attended with too much annoyance and irritation about the external genitals and perinæum. When the prolapse is not extreme, I have often found the inflated, soft-rubber, doughnut-shaped pessary to be effective and safe. It will not, of course, raise the uterus to its proper place; but with care it will keep the parts within the introitus, and serve as a palliative measure when the various surgical procedures are contraindicated.

Mrs. C., aged seventy-six, multiparous, had probably suffered with a gradually-increasing prolapse for many years, but had borne her affliction in silence, and it was only in the latter months of her life that the protrusion was discovered by her nurse. It was found that the uterus had undergone senile atrophy, and in the recumbent position was still within the introitus; but the vagina was prolapsed, and there was also a considerable prolapse of the urethra. Only palliative treatment was indicated, and this was successfully accomplished, after several trials, by the use of the inflated, soft-rubber pessary, by the help of which the parts were retained, and the patient enabled to go down stairs and go out driving. The prolapsed urethra retracted under the use of astringents, and gave no further trouble.

The opinion is held by many that the surgical treatment of genital hernia in the aged is unwise and unwarrantable, and the various objections given are, — that it is often unsuccessful; that, even if successful at first, the prolapse will recur; that it is not always safe to operate; that it is not worth while. Excluding from consideration the Alexander-Adams operation of shortening the round ligaments, and the operations for the removal of the uterus, I am unprepared to believe that the usual surgical methods are attended with more danger in the aged, if the patient is in suitable condition, than in those less advanced in years. Organic disease of vital organs should of course be given due prognostic importance in either old or young in considering the advisability of operative treatment; but age alone I do not recognize as a contraindication. Nor has experience taught me that primary and lasting success is less frequently attained in the aged than in the young: in fact, if intelligently performed, the restoration of prolapsed parts in those who have passed the child-bearing period and who have for whatever reason discontinued marital relations should be attended with better chances of lasting benefit than in younger women; not only because in the former senile changes diminish the possibility of subsequent prolapse, but also because the celibate condition warrants an almost complete closure of the vagina.

Whether or not operative treatment is worth while, the patient will often decide; but I never hesitate to advise a woman suffering with this infirmity, but otherwise in good health, to give up two or three months or less to radical treatment with a good prospect of entire relief, rather than to subject herself during the remainder of her life to the never-ending annoyance, inconvenience, and sometimes danger, of treatment with pessaries, which may be only partially successful.

Mrs. D., multipara, sixty years of age, for ten years a widow, came from another State to seek relief from prolapse of the uterus and vagina, which began to protrude twenty years before and for ten years had been outside the genital fissure. She complained of pain in the head and back; was unable to walk, stand, or sit without pain and discomfort in the prolapsed parts, and was comfortable only when lying down. Her general condition was fairly good; but her nervous system was in a measure unstrung by discomfort and pain. Defecation was always difficult: urination was frequent and sometimes painful on account of the prolapse of the bladder.

Physical Examination. Perinæum torn to sphincter, perineal body gone; vagina subinvoluted, thickened, and entirely prolapsed; uterus external to the vulva, enlarged, the cavity measuring four and a half inches; the cervix and vagina were the seat of many abrasions and ulcerations.

Treatment: The uterus and vagina were replaced and retained with tampons, the patient remaining in bed; a ten per cent. solution of nitrate of silver and a twelve and a half per cent. solution of tannin in glycerine were used to heal the abrasions. In less than three weeks the size of the uterus was reduced to three and a half inches in depth, the diminution of one inch being doubtless due in great measure to a retraction of the cervix. There being no apparent contraindication, the patient was then etherized, a large elliptical piece removed from the whole length of the thickened anterior vaginal wall, and the wound closed with sixteen sutures: a moderate venous oozing was controlled with hot water. Ten days later the parts were exposed and the stitches removed: the lower angle had failed to unite well; but two weeks later, when the patient was again etherized for posterior colporrhaphy, it was noticed that there had been no prolapse of the as yet unsupported anterior wall. The denudation for the second operation was carried well up the posterior and lateral walls of the vagina, and the wound closed with seven silver sutures, thereby narrowing the vagina and building up a large perineal body. During the convalescence the patient had considerable nervous disturbance with hallucinations, and several times she got out of bed in the momentary absences of the nurse; but on the removal of the stitches on the thirteenth day it was found that there was good union except externally, that is, at the base of the perineal triangle.

Ten weeks later Mrs. D. presented herself at my office, happy in entire relief. Examination showed a firm perineal body, the vagina would admit only the index finger, and the uterus was high in the pelvis: not wishing to distend the parts with a speculum, I did not measure the depth of the uterine cavity. The patient then returned to her distant home, and I have no proof that the result obtained was permanent; but apart from the probability that I should have heard from the case had the prolapse returned, it seems to me hardly possible with the vagina narrowed to the size of the index finger, the uterus diminished in size and weight and under favorable conditions for undergoing senile atrophy, that the parts could again descend to their previous position.

Mrs. R. C., a widow, sixty-five years of age, had borne six children, the youngest being thirty-two years old. She was a sober, industrious housewife, and her health had always been good until about a year before I saw her: at that time she was somewhat debilitated and began to suffer with "falling of the womb." At the time of consulting me she declared she was in perfect general health, and wished only to be relieved of the local trouble, which alone prevented her from performing her usual household duties.

Examination disclosed a complete prolapse of the anterior vaginal wall, which was thickened and whitened from attrition and exposure: the cervix protruded from the vulvar cleft, and the perinæum was torn; but there was no marked protrusion of the posterior vaginal wall. The uterus was not enlarged. The patient readily acceded to operative treatment: she was therefore kept in bed for a week and the parts retained with astringent tampons. It was at first proposed to remove a portion of the anterior wall before closing the perinæum; but, as the uterus was not heavy, it was finally decided to make a more extensive denudation of the posterior wall and practically close the vagina, in the belief that in this way efficient support would be given to the anterior wall and subsequent prolapse prevented. The denudation was therefore carried well up on the sides of the vagina and to Douglas's cul-de-sac posteriorly: the wound was closed with silver sutures and dressed with iodoform by insufflation. The vagina would not admit the index finger.

The patient was comfortable after the operation, having scarcely any pain or constitutional disturbance: the temperature was normal on the third day. The next day, however, there was pain in the right labium, and a small abscess formed: this was opened externally and in no way interfered with the success of the operation. The stitches were removed on the ninth day, and two weeks later the patient was allowed to sit up and begin to walk about. Examination showed that perfect union had taken place and that the vagina would admit only a large-sized lead pencil. The general condition was excellent, and the patient returned to her family in just a month from the time of beginning treatment.

About five months later Mrs. C. returned for inspection of the parts: she was in perfect health, the vagina would admit only the index finger, there was no protrusion, the uterus was high in the pelvis and undergoing senile atrophy. Six months after this visit the patient again returned at my request. During this time she had performed her usual duties and had remained in good health: there had been no change in the local condition, the uterus still remaining high and the vagina narrow. It seemed to me, therefore, that her relief would be permanent.

The following case is reported not as a surgical success, but for its intrinsic ætiological interest and as an illustration of what is perhaps the best method of dealing with such cases under similar circumstances:

E. M., fifty-two years of age, single and nulliparous, a retired serving-woman, had passed the menopause ten years previously, at the age of forty-two. She had always been well and strong, but for the past twenty years had noticed a hard lump above the pubes and to the right: this, however, gave her no trouble, and she now sought relief from "falling of the womb."

It was found on examination that the vagina was entirely inverted and protruding from the *rima pudendi:* the uterus measured four and a half inches in depth and also protruded as far as the length of the vagina would allow. The pelvic brim was occupied by a hard, non-fluctuating tumor as large as a cocoanut, which was evidently a sub-serous, fibroid enlargement of the fundus uteri. Various pessaries had been tried to retain the parts within the vulva; but they either failed of their purpose or caused ulcerations necessitating their removal; the future treatment of the case therefore caused me serious consideration. Removal of the uterus seemed to afford the only sure hope of curing the prolapse; still as the tumor gave rise to no symptoms other than those caused by the hernia, so serious an operation was to my mind unwarrantable. On the other hand, with such a heavy mass pressing from above, narrowing the vagina, seemed an almost futile procedure. In the hope, however, that with advancing years the uterine tumor would diminish in size, I determined to perform the latter operation, and afford at least temporary relief.

After preliminary treatment with rest in bed and astringent tampons, the vagina was narrowed by colporrhaphy posterior, and three weeks later the patient was allowed to be on her feet again. Examination a week afterwards showed firm union to have taken place, the vagina would barely admit the index finger, the uterus was high and the cervix only just within reach.

The patient was not seen again until two months afterwards, now three weeks ago. It was then found there was some dilatation of the ostium vaginæ and a slight protrusion of the vaginal walls. The future issue of the case is doubtful; but, if the patient continues under my care, I shall endeavor to keep the parts within the vulva with a soft-rubber pessary, or with a cotton wad and T-bandage. And if this object can be successfully accomplished, senile atrophic changes in the tumor may ultimately so far reduce the weight of the uterus that a hard-rubber pessary can be worn.

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THE FUNCTIONS OF THE THYROID GLAND.[1]

BY JAMES YOUNG SIMPSON, M.D., OF ORANGE, N. J.

THE functions of the thyroid gland have for many years been a subject of much interest to the medical profession. Our opinions have almost all been based on theories and conjectures until the last few years, when our knowledge has reached a much more definite status by the conclusions reached by experimenters, and students of this subject.

These conclusions are that the thyroid is a true gland, and that it holds a position of the most vital importance to the proper performance of our functions. For the further elucidation of this subject, we are indebted to the medical and surgical profession chiefly of England, Switzerland, Germany, and Italy, while America has furnished us with very little information.

The thyroid gland is a bi-lobed, dark-red, and vascular organ, enclosed in a thin, firm, fibrous capsule, from which numerous prolongations are given off to form a network on the interior. The meshes of the network contain a few elastic fibres, but contain chiefly vesicles, which form the body of the gland. These vesicles are minute, ovoid, spherical, or flattened bodies, and consist of a homogeneous, connective-tissue, basement membrane, lined with a layer of columnar or cubical epithelial cells, the whole enclosing a yellowish, transparent fluid. The cells contain nuclei, sometimes nucleoli, and have a tendency to undergo colloid degeneration, becoming swollen, and then rupturing, empty their contents into the cavity of the vesicle.

Granules, cells, and, according to Baber, large numbers of colored and colorless blood-corpuscles, are to be found in the interior of the vesicles. The colored cells are in a state of partial disintegration, and are supposed by some pathologists to be red blood-corpuscles destroyed by the natural function of the thyroid gland. The gland is very richly supplied with blood-vessels, and its lymphatics form huge lacunar spaces just outside of the margins of the alveoli, and these lacunæ probably serve to absorb the mucinoid substance found in gland, and then to carry it into the general system. Although having no duct, there seems to be sufficient reason for believing that the thyroid is truly glandular in its nature. In studying the physiological functions of this organ, we must consider, firstly, what significant symptoms are produced by diseases in which it is involved; and secondly, what effect upon the system does the entire or partial removal of this body produce either from necessity in human beings, or for experiment in animals. The thyroid is involved chiefly in three diseases; namely, myxœdema, cretinism, and exophthalmic goitre, the first being attended with atrophy, and the other two with hypertrophy; and it is to these diseases that we must turn to ascertain the symptoms produced by an interference with the functions of this body by pathological changes. Myxœdema was first described by Sir William Gull, although he spoke of it as a cretinoid state, the present name being given to it later. Ord afterward described the disease more fully, and has received from some quarters the credit due to Gull for having first called our attention to this condition. In every case of myxœdema, we find decided atrophy of the thyroid body — a condition variously described by authors as due to either disease of the trophic centres of the medulla oblongata, primary affection of the gland itself, or compression by the mucin deposited. The patient presents an appearance which is very striking. The face has a puffy, pallid, œdematous appearance; the lips and wings of the nose are protuberant and much thickened; the abdomen becomes prominent, the hands are flattened and swollen, and the skin is rough and dry. The apparently œdematous portions of the body do not pit on pressure, but are firm to the touch. Later in the disease, the expression of the face is heavy and unintelligent; the speech grows slow, uncertain, and hesitating; the gait appears clumsy and unsteady; the respirations and cardiac contractions are found to be depressed; the blood assumes a thin, watery condition; and the mind loses its activity and strength, until finally the victim of this disease is idiotic. There is no change in the kidneys, although, in the last stages of myxœdema, the urine is increased in quantity and contains albumen.

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[1] Read before the Orange Mountain Medical Society, November, 1886.

A few autopsies on these cases have revealed the presence of an increased amount of connective tissue in all of the organs, accompanied by the deposit of a thick, transparent, and slimy substance, similar to mucin. This mucinoid material may destroy the parenchyma of the organs involved by the pressure its presence produces. The disease is apparently a trophic neurosis, due to a disturbance of the central nervous system, accompanied by atrophy of the thyroid gland. We will next turn to cretinism, which is a peculiar condition, marked by deformity, idiocy, and goitre. It is found to effect people living in valleys of the Alps, the Pyrenees, and the Himalayas, and although many investigators have ascribed miasma and locality as its cause, the fact remains that the thyroid is involved in most of the cases, and, therefore, cannot be normally carrying on its functions. A Cretin is usually very short in stature; has a large, peculiarly flattened head; vacant, unintelligent countenance; thick lips, flat nose, large tongue, red, watery, and often crossed eyes; and a cadaverous, rough, dry skin. Idiocy of the lowest order is usually their condition.

The symptoms of exophthalmic goitro are well known to us, and we may divide them into three groups, consisting of bronchocele, protrusion of the eyes, and functional heart disease. Anæmia, chlorosis, or any factor which may depress the vitality may be the apparent cause of this disease. The fact that the exophthalmia disappears after death, and may be reduced by pressure during life, makes it probable that the cause is due to the intra-orbital bloodvessels becoming dilated, and not to the presence of an abnormal amount of adipose tissue at the back of the orbit. In most cases of this disorder, we find the cardiac contractions increased in frequency, and associated with a very distinct murmur, but in other cases the action of the heart is less frequent than normal. In the latter class, we very frequently find decided mental impairment; delirium, and epileptiform convulsions being often present. All of the symptoms appear to be due to an interference with the central nervous system, and although some writers have located this neuropathic condition at the cervical portion of the cord, or in the medulla, we have no definite proof that this is correct. It has been necessary for me to pass over these three diseases in a hurried manner, but I hope it is apparent to all of you that they are due to a disturbance of the central nervous system, and that interference with the functional activity of the thyroid gland is an important pathological factor.

To Kocher, of Berne, Switzerland, we are indebted for a very complete report of the symptoms following partial and complete removal of the thyroid gland. Having performed thyroidectomy on one hundred and one patients, his mind was first directed to the results following the operation by the appearance of one of his cases a few months afterward, when called in consultation with another physician. This case having disappeared from his notice for a number of months after the complete healing of the wound, he was surprised to find, when he again had an opportunity to examine the patient, that symptoms of a peculiarly striking nature were present. These symptoms, when described, we will all recognize as being similar to those of myxœdema. Desiring to investigate the subject, Kocher communicated with all his cases possible, and succeeded in personally seeing thirty-four of them, and obtaining letters from six.

From twenty-four of these patients he had removed the entire thyroid body, and from the remaining sixteen had removed only one-half. The latter were all in good health, but only six of the former were well, and three of these had present a supernumerary gland, which seemed to replace the thyroid. The remaining eighteen were all suffering from the same train of symptoms, differing only according to the time of removal of the gland. These symptoms clearly indicated progressive disease. First was noticed heaviness of the limbs, inability to endure fatigue, mental inactivity, dryness of skin, loss of hair; swelling of face, hands, and feet; anæmia, and finally, decided mental failure. Kocher applied to this condition the name of Cachexia Strumapriva, meaning Struma-goitre, and fully described it, without knowing of the symptoms ascribed to myxœdema by the English investigators, especially by F. Simon.

A year before Kocher's report, Reverdin, of Geneva, claimed that feebleness, anæmia, pallor, and swelling of the face and hands, followed complete thyroidectomy, but never placed his views before the profession with the same force that we find attending the statements of Kocher.

Wölfler has collected histories of sixty-eight cases of thyroidectomy performed by Billroth, from all of whom the entire organ was removed, but arrives at very different conclusions from Kocher. He was unable to find any of the characteristic symptoms described, and claimed that complete removal was no more dangerous than partial.

Bardeleben contended while discussing Kocher's paper that the cachexia strumapriva of the Swiss surgeon was due to the disease itself, and the locality of the homes of the patients, and consequently this condition would have developed even had the gland been allowed to remain.

We have an assertion from Rankin which is very important in considering the cause of, or result from bronchocele, for he reports that of two thousand cases he had seen in India, not a single case of anæmia was he able to find among them. Experimental thyroidectomy has thrown much light on this subject. Cats and dogs, from which Schiff removed the entire thyroid body all developed a dull, heavy manner, with itching, paræsthesia, tremors, paralysis, and arterial dilatation. Inside of twenty-five days death had occurred in every case, although the wounds healed kindly in a few days. Horsley, of England, performed his experiment on monkeys and has given us a most accurate and complete account of the results obtained. The wounds healed completely in about three days, but at the end of about five a well-marked fibrillation was present, affecting chiefly the intrinsic muscles of the hands, jaws, and feet, this condition being followed by constant tremor, then by paroxysms, afterward by convulsions, and finally the fibrillation returned and death ensued. A few days after the operation the monkeys became languid and feeble in their movements, puffy around the eyelids and abdomen, and showed a marked lowering of temperature, pallor of skin, and leucocytosis, followed by oligæmia. Sometimes a partial hemiplegia was noticed, and although the motor centres appeared much involved, the sensation was very little impaired until near the end. The animals all died in a comatose condition in from five to seven months after the operation, and post-mortem examinations revealed hypertrophy of the fibrous elements of the connective tissue; mucinoid transformation of the ground substance as evinced by the presence of a shining, sticky substance; and an atrophic condition of the adipose tissue. These changes were associated with hypertrophy of the salivary glands, and instead of the excretion of saliva the glands were found to be pouring out mucin. The mucous membranes were much swollen and covered with an abnormal quantity of mucus. Marked distension of the meshes of the pia mater was found, and the central nervous system was decidedly anæmic and atrophic.

Horseley maintained that tremor in these cases was probably of central origin, from the fact that the pathological changes were found there and none apparently in the nerves; also that division of the nerves supplying the affected muscles had no result, that inhalation of ether increased them, and that reflex action caused them to disappear. Examination of the blood demonstrated that it had increased in its number of white corpuscles, decreased in its proportion of red corpuscles, and lost some of its power to coagulate. Lanquirico and Canalis, of Italy, extirpated the thyroid body of twelve dogs and obtained results corroboratory of Schiff. All the animals died inside of sixteen days. Anæmia and œdema of the brain was found at the autopsy, and but slight changes in the blood. Zesas experimented on dogs and cats, and all died within a few weeks. Marked cerebral anæmia was present, and to this he attributed the dull, weak, and progressive marasmic condition attending his cases. A few cases operated on by Wagner have still further confirmed the results of Schiff, for although the animals died in a few days, and probably from the operation, the nervous symptoms noted. indicated a disturbance of the central ganglia. Kaufmann has attempted to contradict the conclusions of these experiments, by operating on three dogs and exhibiting the results. One died in five weeks from distemper, and the other two were living nine months after the operation, but according to Zesas were very emaciated. However, Kaufmann, Wölfler, and Tauber support Bardeleben in opposition to Kocher. It is also asserted that the last named surgeon's patients were quite young, and that he would have had better success in older patients whose constitutions were more matured. This is somewhat disproven from the fact that only nine of Kocher's patients were under twenty. Having described the symptoms accompanying disease of this organ and the conditions following thyroidectomy, let us now turn to a consideration of the deductions made by these eminent experimenters and physiologists. Schiff, Lanquirico, and Canalis concluded that the thyroid gland exercises a great influence over the nutrition of the central nervous system; Zesas holds that it has a certain hæmatogenous function similar to that of the spleen, and is also an important regulator of the intracranial circulation; and Horseley believes its hæmatogenous function is the formation of red blood-corpuscles and that it also excretes mucin. Liebermeister and Guyon support Zesas in his conclusions in relation to the effect this gland produces on the blood-supply of the brain. This theory is also upheld by Simon, who acknowledges the probable intimate relation between the thyroid and the nutrition of the nervous system.

Lushka has advanced the idea of it being a mechanical bolster to keep pressure from the important structure of the neck, a theory, however, which has met with but little favor. English authorities seem to be well agreed that myxœdema, cretinism, and cachexia strumapriva are the same disease somewhat modified in each form and described under a different name. In view of the fact that in all three of these diseases, in exophthalmic goitre, and in the condition following thyroidectomy, nervous symptoms are so constantly and prominently present I believe the thyroid gland bears a relation of very high functional importance to the central nervous system, and also that it excretes into the interior of its vesicles a mucinoid material which is taken up by the lymphatics; a belief which is based on the presence of this substance in the acini of the gland and throughout the body in myxœdema, cachexia strumapriva, and the animals used for experiment. The theory that it is a regulator of the intra-cranial circulation is based on the anæmic appearance of the brains of patients and animals examined, and also on the decided mental failure attending the cases; while the claim that it has a hæmatogenous function which gives it the power of producing red blood-corpuscles has foundation only in the degenerated colored cells found in the vesicle, and the decreased number present in the blood of the diseased patients and vivisected animals. Much more accurate and positive information will be needed before we can accept either of these functions as assured. The idea of it acting as a mechanical bolster is certainly very fanciful and somewhat disproved when we consider that pressure on the deeper structures of the neck is usually the cause for removal of the gland. That the thyroid has any connection with the spleen is confuted by experiments on rabbits by Tizzoni. He clearly demonstrated that splenectomy caused no changes of any kind in this organ. It appears well, therefore, in view of the present information obtainable in relation to this subject that we should never undertake the complete removal of this important organ unless it is absolutely necessary. In closing, I desire to express my regret at being unable to do more justice to a subject of such importance, but realize that I have already sufficiently encroached on your time.

Clinical Memorandum.

A REDUCING SUBSTANCE IN URINE RESEMBLING GLUCOSE.

BY T. BARTON BRUNE, M.D., OF BALTIMORE, MD.

A few days ago a specimen of urine was sent to the writer, the analysis of which revealed the presence of a substance likely to be of importance to Life Insurance Companies and of considerable interest to individuals applying for insurance. On the 13th of this month, the agent in this city, of one of the prominent New York Life Insurance companies sent me a sample of urine and the following account of it. It was passed by a young man of good physique, who had in the last three years gained fifteen pounds in weight and three inches in abdominal girth and also was in apparently perfect health, but had been repeatedly turned down, as a bad risk, by prominent medical examiners of other first-class companies because of the presence of glucose in his urine. As he had recently been examined by the medical staff of the agent's company and some doubt had been raised regarding the presence of glucose in his urine and as he wished a large insurance, the agent requested me to analyze the accompanying sample and communicate to him the result of the analysis. The analysis, made December 13, 14 and 15, was as follows:

ANALYSIS OF THE URINE.

Physical characteristics. Urine sparklingly clear, light amber in color, urinous smell, acid reaction, specific gravity 1022; amount for twenty-four hours said to be 32 ounces. No sediment when received. Applicant on ordinary mixed diet, having eaten nothing unusual and taken no medicine.

Normal Constituents. Indican and other normal ingredients of urine present in normal quantities, as determined approximatively. No bile pigment as determined by sulphuric acid and nitric acid containing little nitrous acid. No albumen.

Upon standing several hours (fourteen) a very slight, flocculent, whitish sediment appeared, and the supernatant fluid began to be discolored, a reddish yellow. later a brownish-red, from its surface down.

Heller's or Moore's Test. Upon the addition of a solution of *sodic hydrate* (1-3) the earthy phosphates were precipitated in considerable quantity and the supernatant fluid became a port wine red. later (after a few hours) almost black. This effect was hastened by *boiling*. *Nitric acid* in small quantity rather heightened the color, but in excess almost decolorized it without evolving any caramel odor. The sodic hydrate was proven free from lead salts, and the urine free from hydrogen sulphide. Probably from this reaction a considerable quantity of grape sugar was supposed by some examiners to have been present.

Boetger's Test. Upon the addition of *subnitrate* of *bismuth* and solution of *sodic hydrate* in the cold, a reaction took place in the supernatant fluid similar to that above, but the subnitrate was not abnormally discolored even upon *boiling*, becoming simply a very light brown.

Roberts's Modification of Fehling's Test. Upon boiling 4-5 c.c. of Fehling's Test Fluid, as recommended by Roberts, and adding 1-2 c.c. urine there first appeared a dark greenish discoloration rapidly followed by separation of a greenish-white sediment from a dark brown supernatant fluid. On standing an hour its sediment resolved itself into a greenish-white layer superimposed upon a mixed red and orange layer, a reaction resembling that of sugar.

Johnson's Picric Acid Test. Ten minims of *picric acid* solution gave, according to Johnson's method, a reaction similar to that produced by one and a half grains of glucose, and twenty minims a reaction such as would be caused by two grains per ounce of urine. In both cases, however, the discoloration ensued before as well as after boiling, and the resulting color was more brown and less red than that produced by glucose.

Fehling's Test. With *Fehling's* test a very unsatisfactory reaction ensued, for while a slight amount of cuprous oxide was precipitated, instead of decoloration of the supernatant fluid there resulted a deep brown discoloration similar to that produced by too long boiling of the fluid in Roberts's test.

Fermentation gave no result even after thirty-six hours.

Ultzmann's Saccharimeter. The *polariscope* showed upon repeated trials a lœvo-rotation of 0.2°, a rotation, although the opposite of that caused by glucose, too slight to be of value.

Thymol and *sulphuric acid* gave a light violet color.

Upon the addition of *silver nitrate*, a grayish-white precipitate resulted, which quickly blackened upon agitation.

Ferric chloride gave a faint green precipitation.

Nitric acid gave a light yellow instead of violet purple zone between its fluids.

Boiling gave a reddish purple clear fluid.

Galippe's Test. *Picric acid* gave the faintest possible white-cloudiness, which cleared upon boiling. and no abnormal darkening of the mixture.

The *microscope* revealed that the sediment consisted of mucus with urates and some irregular crystals, and a few pigmented granules.

CONCLUSION.

The presence of glucose indicated (shall I say to the non-specialists?) by the sodic-hydrate, copper, and, perhaps, picric acid and bismuth-subnitrate tests, is absolutely negatived by the polariscope, the fermentation, silver-nitrate and ferric-chloride tests, and a proper interpretation of the other tests. Clearly, the question as to the presence of glucose is answered in the negative. As to the next question, What is the abnormal substance giving these reactions? I cannot answer without further analysis, but hope to supplement this by an account of its discovery. Whatever it is, it would seem to be in small quantity, and to have little if any pathological significance. The brownish discoloration of the urine from above downwards, and its reaction with sodic hydrate and its copper salts, would indicate a substance discovered in urine by Baedeker in 1861 and called "alkapton." This body is, however, probably a composite one, and its further reaction with ferric chloride and silver nitrate would point towards pyrocatechol or proto-cateclinic acid, (both of exceedingly rare occurrence in its human urine) as the possible cause of its behavior of the urine. The analysis, however, is not complete. Although such is the case, two important lessons may be drawn from this analysis: — The one is that the copper and sodic hydrate tests, as generally used, are not sufficient *positive* tests for glucose, but should be supplemented by the fermentation, subnitrate of bismuth and polariscope tests, or, in doubtful cases, by all three; the other is that medical examiners should not lightly tell applicants for insurance that they are suffering from serious illness. For this applicant was very much alarmed by a very prominent examiner in another city telling him he was in the last stages of diabetes and absolutely refusing to recommend him for insurance.

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Reports of Societies.

QUARTERLY MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.

A QUARTERLY meeting of the Rhode Island Medical Society was held in Providence, December 16, 1886, the President, DR. HORACE G. MILLER, in the chair.

Delegates to medical societies for the ensuing year were appointed as follows: Maine Medical Association, F. B. Fuller, C. V. Chapin; New Hampshire Medical Society, Eugene Kingman, G. T. Swarts; Vermont Medical Society, C. H. Leonard, L. S. Hill; Massachusetts Medical Society, J. H. Eldridge, H. R. Storer; Connecticut Medical Society, C. H. Fisher, F. T. Rogers; New York State Medical Society, J. W. Mitchell, J. W. C. Ely; New York State Medical Association, J. H. Morgan, Charles O'Leary; New Jersey Medical Society, F. H. Rankin, A. J. Browning.

DR. W. R. WHITE reported

A CASE OF INTESTINAL OBSTRUCTION IN AN INFANT CAUSED BY THE INGESTION OF WOOL.

The patient, a girl aged twelve months, had had no evacuation of the bowels for two and a half days, and during the last twenty-four hours had been very restless and uncomfortable, refusing to nurse, and evincing abdominal pain. To relieve her, the mother had given no medicine, but had tried enemata of warm water and molasses without avail. The last enema was followed by a severe convulsion of short duration. Dr. White gave two grains each of calomel and sugar. One dose was effectual, the child having within ten hours four copious and painless dejections, composed of normal fæcal matter, with which was mixed masses of wool-fibres to the amount of two handfuls. The mother recognized the nature of the foreign substance by numerous pink and blue fibres, which she then remembered to have seen the baby picking from the fleece of a soft woolen blanket on its crib.

DR. W. E. ANTHONY recalled a similar accident in the case of a child three years of age, who had no movement of the bowels for three days, and had received two ineffectual doses of castor oil, causing great pain. In attempting to introduce a syringe, he met an obstruction immediately above the sphincter ani, and with the only instrument available, a button-hook, he removed twenty-eight squash-seeds, which were found impacted in a solid mass.

DR. F. C. CLARK advised small doses of calomel for these intestinal obstructions of children. One or two grains frequently repeated yields more satisfactory results than the use of enemata.

DR. H. CANFIELD read a paper on

HEALTH RESORTS AT THE SOUTH, WITH REMARKS ON THE GENERAL SUBJECT OF CLIMATOLOGY.

The ideal locality for any class of invalids during the winter months does not exist, nor will any one locality ever be found fulfiling all requirements. Different places offer certain peculiar advantages from which the physician may choose for every individual invalid.

The sand region of the Carolinas is characterized by a climate moderately warm, with a marked diurnal variation, a moderately low relative humidity, again with a marked diurnal variation; an ordinary amount of sunshine, great purity of air, good provision for living, monotonous scenery, poor means of recreation, but easy accessibility. They answer as good half-way stations for the sick invalid in going South in the fall and returning in the spring, while the semi-invalid may prefer them for the whole winter.

The mountain region of the Carolinas possesses a slightly colder climate, with less diurnal variation, a relative humidity about equal to that of the sand belt, a greater amount of sunshine, greater purity and invigoration of air, fair provisions for living, the finest scenery, good means of recreation, and fair accessibility. This is the climate for those who do not object to a moderate degree of cold, and is probably the best for creating a healthful reaction in the diseased system.

The eastern coast of Florida is warm and moist, subject to sudden changes, both in temperature and humidity, has a fair amount of sunshine, good, and, for Florida, very bracing air, the best of provision for living, fair scenery, numerous resources for recreation, and easy accessibility. The semi-invalid, the lover of good society, the aged, will find here a most delightful locality for passing the winter months. The lake region of Florida is slightly warmer, much drier, has bright sunshine, a pure, easy-living air, fair provision for living, for Florida, varied scenery, fair means of recreation, and easy accessibility. The Gulf Coast is still warmer, with a greater relative humidity than the lake region, but less than that of the Eastern coast, plenty of sunshine, an easy-living, but poor recuperative air, no provision for living, fair scenery, numerous objects of diversion, and good accessibility.

For sicker invalids, the lake region is by far the best of all Florida; those who can "rough it" should not stop short of the Gulf Coast.

DR. CHARLES V. CHAPIN read a paper on

DISINFECTION AND DISINFECTANTS.

Steam at a pressure of twenty-five pounds, at which its temperature is 240° F., destroys the most resistant spore almost immediately. At lower temperatures it requires longer to act. Boiling water will kill microbes without spores almost instantly, and boiling for half an hour will destroy all disease-poisons.

Chloride of lime, or more properly, bleaching-powder, is best used in solution. Its value depends upon the chlorine it contains. The standard solution recommended by the Committee on Disinfectants of the American Public Health Association is four ounces to the gallon. For this purpose, the bleaching-powder should contain twenty-five-per cent. available chlorine. Labarraque's solution is practically the same thing, being a solution of hypochlorite of soda, but the strength of the preparations on the market is very variable, some of it being worthless.

Mercuric chloride in the strength of 1–1000 destroys all spores within two hours, and it is an efficient antiseptic in the strength of 1–15000. The poisonous character of this salt interferes with its indiscriminate use. It should not be used in lead pipes or in a pan water-closet. The standard solution of the American Public Health Association is two ounces to the gallon. This for safety had best be colored, which may be done by the addition of one pound of sulphate of copper, another disinfectant of considerable value. Mercuric chloride coagulates albumen, and as disease germs are often contained in albuminous material, the action of the disinfectant is thus frequently interfered with.

Dry heat requires that the article to be disinfected should be for two hours exposed in an oven at 300° F., a temperature which injures woolens. Moreover, unless the articles are freely opened, the heat will not penetrate to their interior.

The fumes of burning sulphur, sulphurous acid gas, when present in one per cent. of volume, destroy in a few hours certain disease poisons, but does not, even in much larger proportion, kill the spore-producing microbes. This gas is easily generated, and, within certain limitations, is a valuable and almost indispensable disinfectant. Three pounds of sulphur should be burned for every 1000 feet of cubic air space of the room to be fumigated.

Carbolic acid, even in saturated solution, does not destroy spores, but in two per cent. solution it will in two hours kill microbes without spores. Thus it is seen that the vapor of carbolic acid can have no value whatever as a disinfectant.

The salts of zinc, the suphate and chloride, are not disinfectants at all, but are often useful as antiseptics or deodorizers. The same can be said of the sulphate of iron.

Hydrochloric acid is a valuable disinfectant in the strength of 1 to 50, and is a good antiseptic in the strength of 1 to 1700. It deserves to be used much more than it is at present.

In the present state of our knowledge, it is impossible to name a single disinfectant which can be given internally in sufficient quantity to kill the disease virus or even to suspend its activity without killing the patient. All we can attempt to do is to destroy or hinder the growth of disease poisons outside of the body. We can disinfect the room and the air it contains, the clothing and bedding, the drains, vaults and cesspools, and even food and drink, but we cannot disinfect the alimentary canal or the blood, neither can we put antiseptics into them with safety. The prevention of infection is better than disinfection. Isolate the patient; expose as few articles as possible to the contagion; remove filth and repair the drains rather than rely on the use of disinfectants and deodorants.

Dr. Goldsmith, while admitting the utility of sulphurous acid gas in fumigating small rooms, pointed out the special value of chlorine in the case of hospital wards.

Dr. Greene inquired as to the disinfectant value of coal tar. He had used it successfully in case of foul soil-pipes.

Dr. Chapin said that coal tar is a complex chemical substance, and some of its elements may have some power as disinfectants. Coal tar, like carbolic acid, has feeble disinfectant power, but is something of a deodorant. The best way to clean out pipes is to pour down a boiling solution of caustic potash, followed by free use of clear water.

Dr. Swarts asked whether there were any statistics of acknowledged value concerning the relative merit of the various disinfectants.

Dr. Chapin replied that it is very difficult to get accurate facts about the value of special disinfectants. Health officers in most large cities use the sulphur fumes for fumigating.

Dr. Leonard called attention to *aqua ammonia* spray as a good measure, in addition to full ventilation, to free the room of sulphurous gas after fumigation, but the pungent fumes would still be troublesome to sensitive lungs for some hours.

Dr. F. P. Capron reported two cases of

MASTOID DISEASE

which recovered.

Dr. E. T. Caswell exhibited a

DERMOID CYST OF THE OVARY,

which he removed from a woman fifty years of age. The patient made a good recovery after a protracted convalescence of six weeks, during which she suffered from obstinate vomiting requiring rectal alimentation.

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BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

December 13th, 1886.

The President, Dr. F. W. Draper, in the chair.

VACCINATION COMPLICATED BY A TRIVIAL WOUND.

Dr. J. B. Ayer who reported the case had vaccinated on the arm, a healthy eight months' child with bovine matter. The following day, while crawling on the floor, he got a small wooden splinter in his leg just below the knee, which was soon removed.

On the eighth day vaccination had taken perfectly in both places with less than the ordinary amount of irritation and without eruption elsewhere upon the body.

The mother called attention to the leg, but there was nothing visible except a minute abrasion which did not appear to be inflamed. He was called, however, five days later and found phlegmonous inflammation about the abraded spot. In a few days it was lanced, evacuating a large amount of pus, but no bit of retained splintered wood was found in the wound, as had been expected. Inflammation extended downward and a second abscess formed above the ankle. This was lanced and recovery followed at the end of a month.

This case showed that trifling local irritation could be the source of much trouble in the course of vaccinia, notwithstanding the fact that the child was healthy, and the vaccine matter excellent.

Dr. H. I. Bowditch suggested that vaccination and the slight wound might be mere coincidences; and that the splinter could have had the same effect even if the child had not been vaccinated.

SUBCUTANEOUS ŒDEMA, OR ASCITES TREATED BY PROLONGED DRAINAGE THROUGH FINE CANULÆ.

Dr. W. C. B. Fifield showed an instrument, the invention of Dr. Southey, of London, consisting of a fine trocar with canula, this last having evenly rounded projecting shoulders. There was also a fine rubber drainage tube. The trocar with a canula was thrust through the side of the tube and then obliquely through the skin, or directly into the abdominal cavity. Next the trocar was withdrawn, and lastly the projecting shoulder of the canula was pushed directly into the tube. A number of canulæ accompanied the trocar.

This he had used fourteen days ago in a case of cirrhosis of the liver, where the patient was unable to lie down because of œdema, the swelling of the scrotum in particular being such that the penis was lost to sight. These canulæ had been left in for days without causing inflammation. Some nine quarts of fluid had been evacuated with great relief to the patient and without wetting the bed, the fluid being carried off by the tube. Dr. Southey had used the same instrument in ascites, passing the trocar into the abdominal cavity and leaving in the canulæ. The only objection to this instrument seems to be that rubber, and especially foreign rubber, spoils in no long time. The ordinary tapping the skin with needles is objectionable, in that it wets the bed and clothing, causing irritation of the skin.

Dr. Francis Minot said that he had seen a similar instrument used in the peritoneum for ascites in his wards of the Massachusetts General Hospital just before beginning his own service. He thought that the skin might be punctured in œdema more often than is done. A patient that he had seen in consultation had been drained from September until her death in May or June from punctures in the ankle and with great relief. Fluid ran off rapidly when she was sitting up, but generally not so well when in bed. Puncture gave complete relief to dyspnœa.

Dr. Fifield said that tubes so small as in his instrument could not, he thought, be got in this country.

Dr. C. M. Green read a paper on

THE TREATMENT OF PROLAPSE OF THE UTERUS AND VAGINA, ESPECIALLY IN THE AGED, WITH ILLUSTRATIVE CASES.[1]

Dr. W. H. Baker expressed himself as strongly in favor of operative treatment in proper cases. The operation gives permanent relief. He had performed it a great many times and had seen the displacement recur in one case only. He wished to emphasize as a reason for operating, the fact that many of these patients are careless. The same woman who at thirty or forty or fifty will take very good care of herself, will at sixty or seventy or eighty become neglectful, and this habit of neglect is a reason for not trusting to pessaries in advanced life. He showed a soft rubber ball which he had many years before removed from a woman who was supposed to have cancer; but who had really this ball cracked open, and filled with foul discharge, she having worn it for three years. It had been removed with difficulty, and simply illustrates what he had been saying. In speaking of muscular effort as a cause, he mentioned a woman who had caused this prolapse by lifting the end of a piano, and he had twice known a less severe effort to have a similar result.

It is true that in the poorer classes this prolapse is more often marked than among the wealthy, for the reason that it is more often neglected; but this neglect is in part at least, due to a difference in nerve tolerance. Women of the lower class appear at the dispensary and say that the womb is down. It annoys them because they have to support it with a napkin, but it causes no pain; while women of the educated class will suffer from the same lesions. In other words, the educated woman has less nerve tolerance than the uneducated, and we have no right to assume that there is not pain in the cultivated, because we may have seen the same condition borne without complaint by a dispensary patient. The higher the education, the less the nerve tolerance.

In regard to operation, it may be proper in the very aged to close the vagina to the size of the finger or less for the purpose of ensuring a permanent result, but we cannot do so in younger women. Yet we see women at thirty or forty with this prolapse, and in them the speaker prefers to make the narrowest part of the passage very high up. It may be made nearly as high as the cervix.

Dr. Baker also spoke of the different methods of operating. That of Emmet, in which but a narrow surface is denuded, depends for success upon the holding of all the stitches and we do not get so much strength as if more is cut away. He prefers to draw the walls together experimentally with hooks and to mark the place where the utmost amount of coaptation can be secured, allowing for swelling after the operation. If the entire thickness of the mucous membrane is cut away the adhesions will be firmer. In order to do this safely, the bladder must be pushed up out of the way. He uses silver sutures and leaves them in for two or three weeks.

Dr. Fifield related two cases in which permanent good appeared to be done by electricity.

— A writer in the *New York Medical Monthly* reports an operation of circumcision in a patient over ninety years of age, suffering from the effects of an elongated prepuce, which, as the author says, should have been removed just ninety years and ten days before it actually was. The somewhat belated operation was performed successfully without ether, cocaine being injected into the preputial fold, and the aged patient beguiled the time for his surgeon by telling stories throughout the operation. The healing was rapid, and the gentleman is now provided with a serviceable organ.

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[1] See page 615 of the Journal.

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ANNUS MEDICUS, MDCCCLXXXVI.

With the closing number of another year it becomes the duty of the Journal, in accordance with its custom in the past, to gather up a few of the threads of the medical history of the year.

The Pasteur movement has by no means ceased during the year. A Pasteur Institute was founded in New York early in January. Dr. Pasteur (as he is now, having been given the degree this year, *honoris causa*) received a grant from his government of a location for his hospital for thirty years, but on his objecting that this was too ephemeral a lease for the character of the buildings contemplated, it was extended to ninety-nine years. Among his sharpest critics have been Frisch, of Vienna, and Professor Colin, of the Veterinary School at Alfort, France. On the other hand, we learn from the statement of the President of the Local Government Board of England made to Parliament, August 26th, that the British Hydrophobia Commission, under Dr. Victor Horseley, appointed to investigate Pasteur's methods, though not ready to make a formal report, were substantially satisfied of the effectiveness of the treatment. The report made by Pasteur to the Academy in the fall was naturally the occasion of a sharp discussion. The details of his communication have already been laid before our readers. Up to October 31st he had inoculated 2,490 persons, of whom 1,700 were French. Out of the latter number ten had died. The mortality among the foreigners was much larger. Among wolf-bitten Russians, at any rate, his inoculations have evidently not been successful. According to the figures which we allow for the cases in which the biting dogs were not really rabid, and again for the cases in which even a bite from a rabid dog produces no hydrophobia, will be our confidence in the life-saving power of Pasteur's inoculations.

Our English brethren have been much exercised during the year over the subject of "direct representation" in the General Medical Council. This body, constituted by Parliament in 1858, has hitherto consisted solely of appointees of the Crown, and of the great licensing corporations. Its chief function has been the registering of medical practitioners. Last summer Parliament voted that the latter class of persons should be entitled to elect five out of the thirty members of Council, and, during the last two months, the ballot has been cast for three representatives from England, one from Scotland, and one from Ireland. From a total registration of 18,074, 13,381 votes were cast, showing the wide interest taken in the matter. Among the successful candidates was Mr. Wheelhouse, a Leeds surgeon, who has held important offices in the London College of Surgeons. Except in his case and that of Dr. Kidd of Dublin, the Irish representative, who is a member of the Council of the College of Surgeons, and an ex-president of that body, the "general practitioners," distinct from all licensing bodies, to whom it was the special aim of this act to permit representation on the Council, are considered to be well represented. The other members chosen are Dr. Glover, one of the editors of the *Lancet*, Sir Walter Foster, and Dr. Bruce of Scotland. Among those already in the Council are Sir Henry Ackand, Professor of Medicine at Oxford, President of the Board, Matthews Duncan, Richard Quain, and others more or less well known on this side of the water.

Medical education has had several windfalls during the year by legacy, though we regret to say that the medical institutions of New England have not been so fortunate as some others. The late William H. Vanderbilt left $500,000 to the College of Physicians and Surgeons in New York. This was supplemented by another fund of $250,000, contributed by three of his sons for a "Vanderbilt Clinic" in connection with that institution, and by a nearly equal sum from his daughter, Mrs. Sloane, for a maternity hospital. Thus the benefactions of the Vanderbilt family to this college of medicine have amounted to nearly $1,000,000. Mrs. Woerishoffer gave to the New York Academy of Medicine $25,000 in memory of her husband. By the death of Lady Wilson, the Royal College of Physicians of England gets about £200,000 from the estate of the late Sir Erasmus Wilson.

Among the prominent national society meetings for the year were the following: The Seventh Annual Meeting of the American Surgical Association was held in Washington, April 28th to May 1st. The Thirty-Seventh Annual Meeting of the American Medical Association was held at St. Louis, May 4th–7th. The Third Annual Meeting of the American Climatological Association was held in Philadelphia, May 10th and 11th. The Eighth Annual Meeting of the American Laryngological Association was held in Philadelphia, May 27th and 29th. The First Meeting of the New Association of American Physicians was held in Washington, June 17th and 18th. The American Otological Society held its Nineteenth Annual Meeting at New London, July 20th, which was followed, immediately, July 21st and 22d, by the Twenty-Second Annual Meeting of the American Ophthalmological Society. The American Neurological Association held its Annual Meeting July 21st–23d at Long Branch, N. J. The Fifty-Fourth Annual Meeting of the British Medical Association was held at Brighton, August 10th–13th. The American Dermatological Association held its Tenth Annual Meeting at Greenwich, Conn., August 25th–27th. The American Gynæcological Society held its Eleventh Annual Meeting at Baltimore, September 21st–23d. The Fourteenth Annual Meeting of the American Public Health Association, with a conference of State and Provincial Boards of Health was held at Toronto, October 4th–7th. The American Academy of Medicine held its annual session at Pittsburgh, October 12th–13th.

The Assembly of German Physicians and Naturalists met at Berlin in September. The French Congress of Surgery met in Paris, from October 18th to October 24th, and discussed chiefly tetanus, nephrotomy and nephrectomy, orthopædic resections, and operative intervention in irreducible traumatic dislocations. The International Congress of Hygiene which met at the Hague in 1884, was appointed to meet this year in Vienna, but for some unexplained reason did not assemble, and the meeting is now announced for next year. The International Congress for Climatology and Hydrology met at Biarritz, October 1st.

A movement was originated by the American Surgical Association in the direction of the formation of a Congress of American Physicians and Surgeons, which should be a more representative body than any existing organization of the best work of the profession in this country. Committees were appointed from the various societies which were invited to join in this congress, namely, the American Surgical, Climatological, Laryngological, Neurological, Otological, Ophthalmological, Dermatological and Gynæcological Associations, and the Association of American Physicians. These committees met at Washington in September and, though there was a strong spirit manifested by most of the delegates towards preserving the absolute autonomy of each society in all matters concerning its meetings, it was voted to hold a conjoint meeting of the Societies in Washington every three years, beginning in September, 1889, such meeting to occupy two evening sessions, at one of which there should be an address and at the other a topic for discussion.

Meantime, what of the prospects for an *International* Medical Congress in this country in 1887? The death of the lamented Dr. Austin Flint left a vacancy in the presidency of the Congress which Dr. N. S. Davis, of Chicago, has been selected to fill. The Executive Committee have also filled up other vacancies in the general offices of the Congress and of the respective Sections, caused by the resignations of men who did not endorse the methods of the Congress. Those objectors have with scarcely an exception adhered to their resolution to stay out. For this reason, as well as in accordance with the "territorial policy" of the management, the cities of the Atlantic Coast will have but a small representation in the honors of the Congress. The principle of territorial representation has been carried to a considerable length, but has not yet had its perfect work. Texas and Oregon are fairly provided for, but Alaska, which in accordance with this principle of appointments, is entitled to nearly a third of the offices, has thus far been treated very shabbily. A few more Sections will have to be added to the eighteen already announced, if all our great country is to be adequately represented. We learn that Dr. Pancoast, of Philadelphia, has personally invited the Queen of England to be present. Should she come (and how can she do otherwise?) it will be a great time for the bird of freedom. It is proposed to ask Congress to furnish a little pap.

Among the general educational interests of the year which especially deserve mention in this connection, was the Heidelberg festival, held last summer in commemoration of the 500th anniversary of the foundation of that seat of learning. Our own younger university, Harvard, attained this year the completion of her first quarter millennium, and this occasion was celebrated at Cambridge with festivities whose recollection is not only fresh in our readers' minds to-day, but will remain equally distinct for many a year to come. Nor should we omit to add a word of the distinguished part borne by our own poet on that occasion, who had but just returned to us crowned with the highest academic honors of Oxford, Cambridge, and Edinburgh.

The epidemiology of the year is of interest. Fortunately, in this country, we have escaped any considerable infection by any of the devastating epidemic diseases. At the beginning of the year cholera was still lingering in Spain, causing considerable havoc in certain towns — in Alcante, Murcia and Granada. In February it sharply attacked Tarifa, the southernmost town of Spain, where, of a population of 3000, fifty were struck down in one day. From this time it gradually diminished in Spain. Passing over France, it took a general easterly course, being present through the summer in Italy, but without causing the same alarm that prevailed in the previous year, and towards autumn and early winter attacking Hungary, the southern Austrian provinces and the Turkish frontier. In Italy, cholera appeared at Brindisi in the middle of April, with only moderate severity.

A number of local epidemics occurred. Quarantine, or as it has become the fashion to call it since the Roman Sanitary Conference, "observation," was maintained by all Mediterranean ports against Italy. The reliance of that country on quarantine was shown to be weakening by a unanimous protest of the Chamber of Commerce of Venice against all quarantine restrictions, in which protest they were, for the first time, supported by some influential papers in Rome and other cities.

In Venice, during the spring, it was asserted, though denied by the authorities, that occasional cases of cholera had appeared, but an official bulletin was required by May to allay the growing uneasiness by an exact statement of the number of cases. Regular bulletins appeared after that. With the occurrence of warmer weather at the end of May, the cases in Venice decidedly increased, there being eighty-five deaths in the last week of that month, and one hundred and twenty-one for the first week of June. Though the disease appeared with spasmodic virulence in scattered parts of the country, the provinces of Venetia and Brindisi continued to bear the brunt of it.

In September a number of cases of cholera appeared in Buda-Pesth, as well as at Trieste and several other towns of Istria. Early in October it was officially announced that the epidemic of cholera had ceased at Venice, though scattered cases were reported from other Italian towns, and a few at Rome. At Pesth the deaths were averaging six a day and were on the increase. In the latter part of October a case occurred in Vienna; Austrian and Turkish Croatia were then involved. An outbreak occurred among the garrison at Belgrade, where, between November 21st and 27th, there were fifty cases and ten deaths.

The history of cholera in Japan during the first half of the present year gave a total of 10,276 cases, with 7,803 deaths, about 75 per cent. of *reported* cases, at least. During the summer the mortality continued to be large in Yokohama and Tokio, as well as in Corea. The mortality in the latter island has been frightful. Early in the fall the deaths at Seoul, the capital of Corea, numbered 1000 per day, and there were no means of burying the bodies.

In South America, cholera has established itself since November, in the Province of Buenos Ayres of the Argentine Republic. Several towns report from twenty to thirty new cases daily, and the city of Buenos Ayres is reporting from thirty to forty cases daily, with a mortality of 60 to 70 per cent. The large Italian immigration is undoubtedly responsible for the introduction of the disease, which will probably be heard of next in Brazil.

The Local Government Board of England, which during the first of the year had laid a prohibition on the importation of rags from Spain, extended that prohibition, on April 1st, for four months, and the Board of Supervision also extended the prohibition in Scotland till August 26th. No further extension of this restriction was made, the cholera having ceased in Spain, but on July 3d, the Board prohibited the bringing of rags from Italy between that date and November 1st. This latter prohibition was later extended till April 1st, 1887, and during the autumn a similar prohibition was placed on the bringing of rags into England from Austria-Hungary, this restriction also to remain in force until April 1st, 1887.

Yellow fever prevailed during the first half of the year on the northern shores of South America and in Central America, being at times quite severe in Rio de Janeiro, Bahia, Pernambuco, Guiana, as well as among the British residents of Venezuela and the workmen of the Panama canal. The epidemic in Brazil has served to call renewed attention to the matter of Dr. Freire's inoculation for yellow fever with the *cryptococcus xanthogenicus*. These inoculations have been practised upon a large number of persons, and their protective effect is still *sub-judice*. Dr. Holt, of Louisiana, has asked that a commission be sent to Brazil and also Mexico by the United States government to investigate the subject. Assurance has been given that, should such a commission go out, the fullest opportunity will be granted by Dr. Freire for studying his methods and their results. It is certainly of great importance that the truth in this matter be sifted, though it is but fair to say that bacteriologists look askance at the claim, and are prepared to see it relegated to the same limbo as that of Ferrán.

A Norwegian vessel from Aspinwall brought six cases of yellow fever into New Orleans in August, but prompt sanitary measures were taken and the disease did not extend. An epidemic, which led to a heated discussion among local sanitarians and clinicians, occurred at Biloxi, Mississippi, a small town on the gulf coast. It began in August with two or three deaths. An investigation by the Louisiana Health Board made it appear to be yellow fever, and the place was quarantined. The local physicians denied this diagnosis, and called in a surgeon of the United States Marine Hospital Service, who supported their views. The quarantine was then raised, amid maledictions from the citizens that it had been imposed. The disease continued in moderate severity till fifty cases, with fifteen or twenty deaths occurred, and the quarantine was again imposed by the Louisiana Board. The disease finally ceased, and the controversy as to its nature remains unsettled.

Massachusetts has during the year, by a righteous divorce of an unnatural alliance, regained once more a separate State Board of Health. The act was recommended by Governor Robinson in his annual message in January, and passed through both legislative houses, safely evading all the snares of the adversary. On May 19th, the governor sent in the names of seven gentlemen to constitute this Board. They were at once confirmed and have since then exercised the functions which had for the last seven years been in a state of more or less desuetude, —"innocuous desuetude," we fear it can hardly be called.

On March 24th, the corner-stone of the conjoint Examination Hall of the corporations of the Royal Colleges of Physicians and of Surgeons on the Thames embankment, was laid by Queen Victoria with great ceremony and in the presence of a very distinguished company. The new building is to be a most spacious and elegant one, one hundred and fifty feet square and five stories in height, with every requirement for technical work.

Among the regular, endowed medical lecture courses of the year in England and this country we note the following:—

The Erasmus Wilson Lectures on "Evolution in Pathology" were delivered before the Royal College of Surgeons of England, by J. Bland Sutton, F.R.C.S.;

the Gulstonian Lectures on "Spasm in Chronic Nerve Disease" were delivered before the Royal College of Physicians, by Seymour J. Sharkey, M.B., F.R.C.P.; the Croonian Lectures on "Some Points in the Pathology of Rheumatism, Gout, and Diabetes" were delivered before the Royal College of Physicians, by P. W. Latham, M.A., M.D., F.R.C.P.; the Lumleian Lectures were on the "Electrical Conditions of the Human Body" and were given by William H. Stone, M.D., M.R.C.P.; the Cartwright Lectures were delivered before the Association of the Alumni of the College of Physicians and Surgeons of New York, beginning March 23d, by William Osler, M.D., Professor of Clinical Medicine in the University of Pennsylvania; the Ingleby Lectures on "Some Functional Disorders of Females" were delivered at Queen's College, Birmingham, by Willoughby Francis Wade, F.R.C.P.; the Bowman Lecture was delivered before the Ophthalmological Society of the United Kingdom, by Wilhelm von Zehender, Professor of Ophthalmology in the University of Rostock, and was on the subject of "Parasitic Diseases of the Eye."

The year 1886, which has made such signal havoc in the higher ranks of political life — in the death of the vice-president of the United States, of an ex-president and of three prominent candidates for that high office, as well as of the late unsuccessful candidate for the vice-presidency — has not spared the medical profession, some of whose brightest lights have gone out. Among the most widely-known persons who have died, we mention a few:—

John C. Draper, M.D., LL.D., died the last of December, 1885, of pneumonia, at the age of fifty. He was for thirteen years analytical chemist in the New York University. In 1860 he was appointed Professor of Chemistry in the Cooper Institute but relinquished the position after two or three years to become a surgeon in the army. He was the author of several chemical text-books as well as of a work on Medical Physics. He was son of Prof. John W. Draper and brother of Dr. Henry Draper.

Dr. Amédie Dechambre, of Paris, editor of the *Gazette Hebomadaire*, and one of the oldest medical editors of France, died early in the year.

Dr. Jules Guérin, one of the oldest French physicians, founder of the *Gazette Médicale* of Paris, a vigorous participator in the debates of the Academy of Medicine, and a very voluminous writer, died January 25th, at the age of eighty-six.

Alfred C. Post, M.D., LL.D., one of the oldest and most distinguished surgeons of New York city, died February 7th at the age of eighty-one, having been in continuous surgical practice for fifty-seven years, and continuing it up to within a week of his death. He had been surgeon to the New York Hospital, and more recently to the St. Luke's and Presbyterian Hospitals. He was one of the founders of the Medical Department of the University of the city of New York and was at the time of his death President of the Faculty and Emeritus Professor of Clinical Surgery in that institution. He had been connected with many of the chief medical societies of this and other countries.

John Cooper Forster, M.B., F.R.C.S., died March 2d, at the age of sixty-two. He had retired from professional work a few months previously, leaving the highest position in his profession, namely, the Presidency of the Royal College of Surgeons of England. Having been the assistant surgeon to Guy's Hospital until the retirement of Mr. Hilton in 1870, he was that year made surgeon to the hospital. He performed the first gastrotomy in England in 1857, upon a patient with cancer of the œsophagus, and was one of the earliest to try the Listerian method, although he afterwards abandoned the system in its details. He furnished many valuable articles in the Guy's Hospital Reports and was the author of a book on the Surgical Diseases of Children.

Dr. Gaspar Griswold; M.D., F.R.C.S., a graduate at Bellevue Hospital, demonstrator of anatomy at Bellevue and a professional associate with Dr. Fordyce Barker, died suddenly March 4th, at the age of twenty-nine.

Samuel Oakley Vander Poel, M.D., LL.D., of New York, surgeon-general of New York State during the war, where his duties were most responsible and arduous, Health officer of the port of New York from 1872–1880, professor of Theory and Practice in the Albany Medical College and of Public Hygiene in the Medical Department of the University of New York, died March 12, at the age of sixty-two. He had been president of the New York State Medical Society and a member of the International Medical Congress at Copenhagen in 1884.

Austin Flint, M.D., LL.D., of New York, died March 13th, at the age of seventy-four. Little need be said to remind our readers of the results accomplished by the ability and industry of this eminent physician. His works on Phthisis, on Auscultation and Percussion and his classical Principles and Practice of Medicine are in the libraries of most of the physicians who use the English tongue. He had been invited to deliver the address in Medicine before the British Medical Association, and though the address had fortunately been prepared and has since been published, the honor of appearing in behalf of American Medicine on that occasion was transferred to Dr. Billings. Dr. Flint was, as is well known, the president elect of the International Medical Congress of 1887.

Dr. Santesson, of Stockholm, a famous anatomist and surgeon and professor emeritus in the University, died at the age of sixty-four.

Dr. Bochefontaine, chief of the Laboratory of the Faculty of Medicine of Paris, died in the spring. He was an active opponent of Pasteur and Koch and showed his faith by his works, in swallowing a dose of cholera bacilli last year.

Legrand du Saulle, physician to the Salpêtrière, and author of a number of monographs on Toxicology and Forensic medicine, died May 6th, at the age of fifty-five.

Walter Moxon, M.D., F.R.C.P., one of the most prominent English pathologists, died suddenly July 21st, at the age of fifty. He showed wonderful promise while a student at Guy's Hospital, taking many prizes, and at his graduation, honors in every subject. He began his teaching career as Demonstrator of Anatomy in the Medical School of Guy's, and five years later succeeded Dr. Wilks in the pathological department. After several years' work in this department he was appointed to the joint lectureship on medicine. Many of his most important productions are published in the Guy's Hospital reports and include a wide range of important subjects, all of which are treated with the precision of expression and definiteness of knowledge which characterized his earlier anatomical work.

Alfred S. Purdy, A.M., M.D., an old practitioner of New York, died July 23d, in the seventy-ninth year of his age, and the fifty-sixth of his practice.

Frank Hastings Hamilton, M.D., LL.D., died in New York, August 11th, at the age of seventy-three. In conjunction with Dr. Austin Flint he bore an important part in the establishment of the Medical Department of the University of Buffalo. Removing to New York in 1862 he became professor of surgery at the Bellevue Hospital Medical College, which position he held for thirteen years. He remained surgeon to this hospital to the time of his death. During the War of the Rebellion he served in the army and became medical inspector. He was one of the consultants in the case of President Garfield. His monumental work on "Fractures and Dislocations" passed through several editions and was translated into more than one European language. Besides this he wrote text-books on other subjects, including one on military surgery and another on general surgery. The death of Gross, Post and Hamilton, within a year of each other leaves a void in the ranks of American surgery, hard to be filled.

Charles Chadwick, M.D., F.R.C.P., formerly President of the British Medical Association, and always prominent in its counsels, a leading physician of Leeds and connected with the hospitals and the medical school of that city, died suddenly August 30th, of acetonæmia, at the age of seventy-one.

James Goodchild Wakley, M.D., M.R.C.S., editor of the *London Lancet*, and son of the founder of that journal, died August 30th, of epithelioma of the tongue, at the age of sixty. His official position naturally made him known in matters of public medicine, and he was a most constant and generous helper of all worthy objects of benevolence. He played an important part in the foundation of the Hospital Fund to which he twice gave the sum of £1,000. He left on record a strong testimony of his faith in the Christian religion, and in the hearts of the poor of the great metropolis a lasting remembrance of his practical applications of those principles. It may be remarked, in this connection, that the Hospital Saturday and Sunday Funds in London, amounted this year to the unprecedented sum of $200,000.

Dr. Bernard von Gudden, perhaps the most distinguished alienist of the day, and director of the Munich Insane Asylum, was killed by the insane King Ludwig, of Bavaria, upon whom he was in attendance. He was sixty-two years of age. It is said that he had on hand more than a hundred brains, to which he intended to devote his careful study with the hope of elucidating certain questions in cerebral pathology.

Dr. Hermann Maas, professor of surgery in Würzburg died at the age of forty-four.

Joseph Samson Gamgee, M.R.C.S., a well-known surgeon of Birmingham, England, died September 18th, in his fifty-ninth year. He was a popular and successful teacher of clinical surgery in Queen's College, and a valued member of the staff of Queen's Hospital, besides being the author of many publications and the inventor of several surgical appliances.

Dr. Wm. Henry Dudley, President of the Collegiate Department of the Long Island College Hospital, died in Brooklyn, October 8th, at the age of seventy-five. He was one of the chief founders of the Long Island College Hospital in 1859, and has ever since contributed liberally in money and exertion to its successful development He was also a physician to St. John's Hospital.

Frederick John Farre, M.D., F.R.C.P., and Arthur Wynn Williams, F.R.C.P., the one Senior Physician to St. Bartholomew's Hospital, and the other Consulting Physician to the Samaritan Free Hospital, died in November, at the ages respectively of eighty-two and sixty-seven.

Paul Bert, eminent as a physiologist, died November 13th, at the age of sixty-three, from dysentery, at Tonquin, where he had resided as President General since April last. His earlier and more peaceful triumphs were at the Faculty of Sciences at Bordeaux, and at the Sorbonne, Paris, where he collaborated with and afterwards succeeded Claude Bernard. Under Gambetta in 1881, he was made minister of Public Instruction. His later years were much given up to political contests, in which he was a hard fighter.

John P. Gray, M.D., LL.D., superintendent of the State Lunatic Asylum, at Utica, New York, died November 29, 1886, at the age of sixty-one. He served as assistant physician in that institution from 1851 till 1854, when at the age of 28 he was made its medical superintendent. In the same year he began to edit the *American Journal of Insanity*. Beside this work he wrote many monographs and made many addresses, among them one before the State Medical society, in 1871, relative to the "Dependence of Insanity on Physical Disease;" and in 1873, before the American association of medical superintendents of hospitals for the insane, an address on the "Pathology of Insanity." Appointed in 1864 professor of psychological medicine and medical jurisprudence in Bellevue Medical College, he gave a course of lectures that impressed the students and faculty, and drew in auditors from the outside; a discourse giving a "General View of Insanity," was published, and serves to show the breadth and thoroughness of the discussion. The State Medical Society summoned him again to speak before it, in 1884, when he presented "Thoughts on the Causation of Insanity." The Albany Medical College in 1876, appointed him its professor of pyschological medicine, and there as well as at Bellevue, he continued his lectures, until 1882. Other productions which have been published, are: "Mental Hygiene," delivered in 1876 in Philadelphia before the International Medical Congress (of which he was president of the psychological section;) "Pathological Researches," 1877; "Abstract of the laws of New York relative to Insanity," before the association of medical editors, 1878; an elaborate discourse on "Suicide," delivered at Bellevue Hospital Medical College, 1878; "Hyoscyamia in Insanity," before the medical society of New York, 1880. His address on "Heredity" in 1884, delivered as president of the American Association of Superintendents in Philadelphia, exhibits his vigor of thought and force of style in their excellence. Elected again as president of the State Medical Society, his address in 1885 treated in a very liberal spirit of the "Relations of the State to medical science." A lecture, on "Insanity and some of its preventable causes," delivered before the Utica Mechanics' Association in 1885, while popular was full of sense and science. He was shot in 1882 by an insane man and never recovered from the nervous shock of the wound which finally led to his untimely death.

Dr. Marcovici, Professor of Clinical Medicine and Dermatology in the Faculty of Medicine of Bucharest, died at the age of fifty. He achieved considerable distinction as interne at the Bicêtre, and on returning to his country, made some useful contributions to medical literature. He had taken an important part in several medical congresses.

Dr. Norman Chevers, C.I.E., whose death occurred on December 2d, was Secretary to the Medical Board at Calcutta, and subsequently became principal and first physician, and professor of medicine of the medical college of that place, where he lived for about quarter of a century. He was a member of the Medical Committee appointed by the Secretary of State for India to inquire into Professor Koch's discovery in connection with the prevalence of cholera.

NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY FOR 1886.

We include three deaths which occurred at the end of last year, too late to be included in our necrology for 1885:

Alfred Wood, M.D., of Taunton, died December 28, 1885, aged eighty-nine.

Nathan Pike Brownell, M.D., died in South Scituate, December 29, 1885, aged sixty.

Rufus Woodward, M.D., died in Worcester, December 30, 1885, aged sixty-six years.

James Henry Whittemore, M.D., died in Boston, January 6, 1886, aged forty-six.

Ebenezer Coolidge Richardson, M.D., of Ware, died January 10, 1886, aged sixty-five.

William Henry Haston Shepard, M.D., died at Westminster, February 7, 1886, aged forty-four.

David Fogg Drew, M.D., died at Lynn, February 13, 1886, aged sixty-six.

Joseph Haven Smith, M.D., died at Lowell, February 25, 1886, aged eighty.

John McLean Hayward, M.D., died at Wayland, March 9, 1886, aged forty-eight.

Austin Flint, M.D., Honorary M.M.S.S., died in New York, N. Y., March 13, 1886, aged seventy-three.

Clinton Joseph Ricker, M.D., died at Chatham, Mass., March 15, 1886, aged thirty-nine.

Robert Mendum Otis, M.D., died at Roslindale, March 19, 1886, aged forty-two.

Levi Goodenough, M.D., died at South Sudbury, April 3, 1886, aged eighty-two.

George Amory Bethune, M.D., died in Boston, April 5, 1886, aged seventy-three.

Anderson Dana Dyer, M.D., died at Brandon, Vt., April 12, 1886, aged twenty-seven.

George Washington Pierce, M.D., died at Leominster, May 1, 1886, aged sixty-six.

David Parker, M.D., died at Gardner, May 8, 1886, aged eighty-four.

Horatio Gilead Morse, M.D., died at Roxbury, May 12, 1886, aged sixty-nine.

Eugene Stephen Yates, M.D., died in Lawrence, July 28, 1886.

Charles Dudley Homans, M.D., of Boston, died at Bar Harbor, Me., September 2, 1886, aged sixty years.

John Lang Bennett, M.D., died at Wollaston, September 13, 1886, aged thirty-five.

Joseph Sampson Gamgee, F.R.S. Ed., M.M.S.S. Hon., died in Birmingham, Eng., September 18, 1886, aged fifty-eight.

John Sherman Emerson, M.D., died in Lynn, September 23, aged fifty-four.

Alley Talbot Wakefield, M.D., died in Cambridge, October 18, 1886, aged thirty-one.

Frank Albert Durgin, M.D., died in Salem, November 4, 1886, aged thirty-one.

Frederic Davis Brown, M.D., died in Webster, November 8, 1886, aged sixty-two.

Francis Patrick Scully, M.D., died in Portland, Me., November 12, 1886, aged thirty-four.

Luther Parks, M.D., died in Pau, France, November 19, 1886, aged sixty-three.

Josiah Sturtevant Hammond, M.D., died at Plympton, November 28, 1886, aged seventy-six.

Frederic Clinton Woodbury, M.D., died in Boston, December 4, 1886, aged twenty-five.

Willard William Codman, M.D., died in Boston, December 22, 1886.

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MEDICAL NOTES.

— An important addition to the Topeka Insane Asylum, Kansas, has just been completed. It is a hall for dramatic, musical and other entertainments, is 80 by 50 feet, has a stage and accessories, is well lighted and ventilated, and will seat six hundred persons. It was appropriately dedicated December 11th.

NEW YORK.

— At a meeting of the Board of Health, held December 23d, Dr. Day, Sanitary Superintendent, made a report in regard to the investigation of a complaint recently received by the Board from a resident of one of the uptown streets, in which the New York Steam Heating Company have been making excavations for a trench in which to lay its pipes. In the complaint it was stated that the exhalations from the excavations were offensive and injurious to health, and that in some places the gas-pipes had been injured, and gas allowed to escape. Dr. Day reported that he had inspected the locality named, and that the work, which was still unfinished, had been commenced as long ago as November 15th, and that since that time members of three families in the neighborhood had suffered from malarial symptoms sufficiently severe to require medical attendance. In consequence, Dr. Day made a recommendation that in the future the Steam Heating Company should be required to disinfect the earth as it is thrown out from the trench, and this was adopted by the Board.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 18, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Typhoid Fever.
New York	1,439,039	795	341	25.35	13.91	8.45	10.40	1.04
Philadelphia	971,363	419	123	9.60	18.96	.48	2.40	1.92
Brooklyn	690,000	312	134	23.68	14.08	3.52	10.56	2.56
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	202	59	10.89	17.91	.50	6.44	.99
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	169	49	19.75	19.16	—	6.49	2.95
Cincinnati	325,000	142	70	24.14	9.23	15.62	2.84	3.55
New Orleans	238,000	131	21	9.12	15.20	—	3.80	.76
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	65	18	7.69	15.38	—	1.54	6.16
Pittsburgh	190,000	91	49	38.52	5.45	6.54	16.35	3.27
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	28	15	28.56	14.28	24.99	—	—
Charleston	60,145	44	15	6.81	11.35	—	—	—
Worcester	68,383	20	7	50.00	20.00	—	5.00	—
Lowell	64,051	32	9	28.17	12 52	—	15.65	3.13
Cambridge	59,660	29	5	34.48	20.70	—	10.36	20.70
Fall River	56,863	22	7	13.66	9.11	—	—	4.55
Lynn	45,861	19	4	5.26	15.78	—	5.26	—
Lawrence	38,825	12	7	18.33	8.33	—	8.33	—
Springfield	37,577	13	5	15.38	7.69	—	—	—
New Bedford	33,393	9	2	22.22	11.11	—	—	22.22
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	1	—	22.22	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	5	0	20.00	20.00	20.00	—	-
Taunton	23,674	5	0	—	—	—	—	—
Haverhill	21,795	5	2	20.00	—	20.00	—	—
Gloucester	21,713	7	2	14.28	—	—	14.28	—
Brockton	20,783	2	1	50.00	50.00	—	50.00	—
Newton	19,759	7	1	—	14.28	—	—	—
Malden	16,407	3	0	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	2	0	—	—	—	—	—
Newburyport	13,716	5	1	—	40.00	—	—	—
Northampton	12,896	4	0	25.00	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,507: under five years of age 958; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 462, consumption 398, lung diseases 374, diphtheria and croup 186, measles 114, typhoid fever 57, diarrhœal diseases 44, malarial fevers 15, scarlet fever 12, cerebro-spinal meningitis 11, whooping-cough 10, erysipelas nine, puerperal fever four. From diarrhœal diseases, New York 21, New Orleans four, Brooklyn, Boston, and Baltimore three each, Cincinnati, Charleston and Lowell two each, Nashville, Fall River, Springfield and Northampton one each. From malarial fever, Brooklyn six, New York four, Baltimore and New Orleans two each, Charleston one. From scarlet fever, Brooklyn six, New York five, Pittsburgh one. From cerebro-spinal meningitis, New York six, Baltimore two, Cincinnati, Lowell and Springfield one each. From whooping-cough, Brooklyn four, New York and Boston two each, Pittsburgh and Cambridge one each. From erysipelas, Brooklyn and New York three each, Pittsburgh two, Fall River one. From puerperal fever, Baltimore two, New York and Boston one each. Pittsburgh reports one case of small-pox.

In the 22 cities and greater towns of Massachusetts with a population of 970,769 (population of the State 1,941,465) the total death-rate for the week was 21.05 against 23.05 and 18.14 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending December 4th the death-rate was 21.0. Deaths reported 3,652: infants under one year of age 817; measles 134, scarlet fever 70, whooping-cough 61, diarrhœal diseases 46, fever 36, diphtheria 32.

The death-rates ranged from 14.3 in Brighton to 32.1 in Oldham; Birkenhead 14.2; Birmingham 17.5; Bradford 20.2; Halifax 23.3; Hull 21.8; Leeds 26.0; Leicester 18.3; Liverpool 22.5; London 20.3; Manchester 26.6; Nottingham 16.5; Sheffield 18.1.

In Edinburgh 21.3; Glasgow 27.4; Dublin 28.1.

For the week ending November 4th, in the Swiss towns, there were 32 deaths from consumption, lung diseases 16, diarrhœal diseases nine, diphtheria and croup four, scarlet fever three, measles, erysipelas and typhoid fever each two, whooping-cough one.

The death-rates were: at Zurich 13.4; Geneva 17.2; Basle 18.5; Berne 31.0.

The meteorological record for the week ending December 18, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Dec. 18, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	8.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 12	30.13	40.0	42.0	37.0	84.0	91.0	83.0	86.0	N.E.	N.E.	N.E.	10	18	23	O.	O.	O.	—	—
Monday,... 13	29.569	33.0	40.0	30 0	90.0	95.0	90.0	92.0	N.E.	N.	W.	16	10	3	R.	R.	O.	—	—
Tuesday,...14	29.551	35.0	41.0	29.0	76.0	53.0	57.0	62.0	W.	N.W.	W.	13	16	10	O.	C.	F.	—	—
Wednes... 15	29.652	35.0	46.0	27.0	81.0	68.0	82.0	77.0	S.	W.	N.	4	6	20	O.	O.	T.	—	—
Thursday, 16	29.715	14.0	29.0	12.0	89.0	100.0	64.0	84.0	N.	N.W.	W.	16	24	12	N.	N.	C.	—	—
Friday, ...17	30.292	20.0	26.0	10.0	67.0	56.0	57.0	60.0	W.	S.W.	W.	17	12	10	C.	C.	O.	—	—
Saturday,..18	29.968	38.0	46.0	15.0	78.0	92.0	100.0	90.0	S.W.	S.	S.W.	6	5	12	O.	R.	R.	39	.98
Mean, the Week.	29.844	30.7	39.0	23.0				78.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 18, 1886, TO DECEMBER 24, 1886.

FORWOOD, W. H., major and surgeon. Granted leave of absence for one month. S. O. 129, Department of Dakota, December 16, 1886.

LAUDERDALE, J. V., captain and assistant surgeon. Ordered from Fort Concho to Fort Clark, Tex. S. O. 174, Department of Texas, December 16, 1886.

EVERTS, EDWARD, first lieutenant and assistant surgeon. Ordered from Fort Grant to Fort Apache.

MASON, CHAS. F., first lieutenant and assistant surgeon. Ordered from Fort Huachuca to Fort McDowell.

BANISTER, W. B., first lieutenant and assistant surgeon. Ordered from Fort Wingate to Fort Lowell.

DIETZ, W. D., first lieutenant and assistant surgeon. Ordered from Fort Stanton to Fort Bayard. S. O. 136, Department of Arizona, December 16, 1886.

POLHEMUS, A. S., first lieutenant and assistant surgeon. Ordered for duty as post-surgeon at Fort Gaston, Cal., relieving

RAYMOND, H. I., first lieutenant and assistant surgeon. Ordered for duty at Angel Island, Cal. S. O. 123, Department of California, December 13, 1886.

ANDERSON, C. L. G., first lieutenant and assistant surgeon. Assigned, temporarily, to duty at Whipple Barracks, Ariz. S. O. 132, Department of Arizona, December 7, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING DECEMBER 18, 1886.

BANKS, C. E., passed assistant surgeon. Granted leave of absence for twelve days, December 16, 1886.

CARRINGTON, P. M., assistant surgeon. Granted leave of absence for fifteen days, December 6, 1886.

WILLIAMS, L. L., assistant surgeon. Upon expiration of leave, to proceed to Boston, Mass., for duty, December 17, 1886.

SOCIETY NOTICES.

AMERICAN RHINOLOGICAL ASSOCIATION. — The American Rhinological Association would be pleased to have authors send any monographs, papers, or books, treating of any disease pertaining to the nose, throat or ears, to the librarian, Dr. N. R. Gordon, Springfield, Ill. Due acknowledgment will be made by the Association.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — There will be a meeting of this section at 19 Boylston Place, on Wednesday evening, January 5th, at eight o'clock. Communications: Dr. George W. Gay will report a "Case of Cystitis in a Female, relieved by an Unusual Operation." Dr. F. B. Harrington will report a "Case of Hæmospermatism." Dr. M. H. Richardson will read some "Notes on the Surgical Anatomy of the Œsophagus." GEORGE H. MONKS, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, January 3d, 1887, at eight o'clock. Readers: Dr. C. P. Putnam, "The Feeding of Children." Dr. C. P. Strong, "Amenorrhœa treated by Permanganate of Potash, Clinically Considered." CHARLES P. STRONG, *Secretary.*

APPOINTMENT.

Dr. Charles F. Withington has been appointed Physician to out-patients in the Boston City Hospital.

DEATH.

Died, in Boston, December 22d, 1886, Willard William Codman, M.D., M.M.S.S.

BOOKS AND PAMPHLETS RECEIVED.

Indian Club Swinging. By an Amateur. Printed, Published and Sold by E. L. Freeman & Co. Providence, R. I 1886.

Massachusetts Institute of Technology. President's Report, December 8, 1886. Boston: Rand, Avery & Co. 1886.

Fifth Biennial Report of the Board of Trustees of the State Charitable Institutions of the State of Kansas, for the Two Years ending June 30, 1886. Topeka. 1886.

Manual of Operative Surgery. By Joseph D. Bryant, M.D., Professor of Anatomy and Clinical Surgery, Bellevue Medical College, etc. With 800 illustrations. New York: D. Appleton & Co. 1887.

Diseases of the Blood and Nutrition, and Infectious Diseases: being Vol. IV. of "A Handbook of Practical Medicine," by Dr. Hermann Eichhorst, and Vol. XII of Wood's Library for 1886. Illustrated. New York: William Wood & Co.

Ueber die Indicationen chirurgischer Eingriffe bei internen Krankheiten. Von Dr. M. Heitler, Docent an der k. k. Universität in Wien. Separat-Abdruck aus dem "Centralblatt für die gesammte Therapie." Wien. 1886.

The Methods and Practical Results of Treatment of the Malarial Diseases now prevalent in New England. Fiske Fund Prize Dissertation, No. XXXV. By Charles V. Chapin, M.D., Providence, R.I. Providence, 1886.

On Certain Mooted Points in Gynæcology. Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Brighton. By Thomas Addis Emmet, M.D., Surgeon to the Woman's Hospital of the State of New York. London. 1886. (Reprint.)

New and Altered Forms of Disease, due to the Advance of Civilization in the last Half Century. Fiske Fund Prize Dissertation, No. XXXVI. By Hobart Amory Hare, M.D. (University of Pennsylvania), B.Sc., Demonstrator of Experimental Therapeutics and Instructor in Physical Diagnosis in the University of Pennsylvania; Physician to the Children's Dispensary of the University Hospital and to St. Clement's Dispensary. Philadelphia. 1886.

A Text-Book of Medicine for Students and Practitioners. By Dr. Adolf Strümpell, formerly Professor and Director of the Medical Policlinic at the University of Leipsic. Translated by permission from the Second and Third German Editions by Herman F. Vickery, A.B., M.D., and Philip Combs Knapp, A.M., M.D. With Editorial Notes by Frederick C. Shattuck, A.M., M.D., Visiting Physician to the Massachusetts General Hospital, etc. With 111 Illustrations. New York: D. Appleton & Co. 1887.

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